BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION,
BIDYUT NIYAMAK BHAWAN.
PLOT No-4, CHUNOKOLI, SHAILASHREE VIHAR, BHUBANESWAR-751021

Case No:____/2026

IN THE MATTER OF: Application for approval of Capital Investment Plan for the FY 2027-28 in the Licensed Area of TP Central Odisha Distribution Ltd as per para 3.2 of the OERC (Terms and Conditions for determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022

And

IN THE MATTER OF: TP Central Odisha Distribution Ltd., Corporate Office, Power House, Unit 8, Bhubaneswar- 751012 represented by its Chief-Regulatory.

.... Petitioner

IN THE MATTER OF: M/s GRIDCO, OPTCL, SLDC, Department of Energy, Govt. of Odisha and All Concerned Stakeholders.

.... Respondents

SPECIAL ADHESIVE NOTARY

Affidavit 10 SEP 2026

I, Chandan Singh , aged about 45 son of Mr. Raghunath Singh residing at Bhubaneswar do hereby solemnly affirm and say as follows:

1. I am the Chief –Regulatory of TP Central Odisha Distribution Ltd., the Petitioner in the above matter and I am duly authorized to swear this affidavit on its behalf.
2. The statements made in this submission herein shown to me are based on information provided to me and I believe them to be true.

NOTARY ANIL KR. MOHANTY BHUBANESWAR REGD. No.- ON-116/2009 GOVT. OF ORISSA

Bhubaneswar
Dated: 10.09.2026

Chandan Singh
Chief – Regulatory

Identified by

Advocate

The Deponent above named being duly identified by Sri A. K. Mohanty Advocate at appears before me at 10.09.26 at about 9.40 A.M. and states on oath that the contents of this affidavit are true to the best of his knowledge

ANIL KUMAR MOHANTY
NOTARY, BBSR
REGD. No.-ON-116/2009

File No. TPCODL/Regulatory /2026/108
10th September 2026

To,
The Secretary
Odisha Electricity Regulatory Commission
Bidyut Niyamak Bhawan
Plot No 4, Chunokoli, Shailashree Vihar
Bhubaneshwar 751021

Dear Sir

Sub: Petition for Approval of the Capital Investment Plan for FY 2027-28

We are through this letter submitting a petition to the Hon'ble Commission for approval of the Capital Investment Plan for the FY 2027-28.

We have also submitted this petition vide our email dated 10.09.2026.

We request you to kindly approve the same.

We trust our submissions are in order

Thanking You,

Chandan Singh
Chief – Regulatory

TP Central Odisha Distribution Ltd. TPCODL *BBSR*

Encl: Petition for Approval of Capital Investment Plan for FY 2027-28

BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION,
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And

IN THE MATTER OF: TP Central Odisha Distribution Ltd., Corporate Office, Power House, Unit 8, Bhubaneswar- 751 012 represented by its Chief-Regulatory

.... Petitioner

IN THE MATTER OF: M/s GRIDCO, OPTCL, SLDC, Department of Energy, Govt. of Odisha and All Concerned Stake Holders.

.... Respondents

1. Background for Submission of the Petition

The Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations 2022 (herein referred to as "Tariff Regulations,2022") requires submission of Capital Investment Plan for each year of Control period and also separate annual Capital Investment Plan for each year of Control Period. The relevant extract from the Tariff Regulations,2022 is provided below.

3.2. Capital Investment

3.2.1. The Distribution Licensee shall submit detailed capital investment plan, financing plan and physical targets for each year of the Control Period for strengthening and augmentation of distribution network, meeting the requirement of load growth, reduction in distribution losses, improvement in quality of supply, reliability, metering, reduction in congestion, etc., to the Commission for approval, as a part of the Business Plan applicable for the entire control period and annual proposal for each year of the Control Period.

TP Central Odisha Distribution Ltd. TPCODL BBSR

*3.2.2. The Distribution Licensee shall **file a separate annual Capital Investment Plan** comprising of capital investment plan, financing plan and physical targets for each year of the Control Period as per the timelines specified in Annexure-I.*

(Emphasis Supplied)

In compliance to the Tariff Regulations,2022 ,TPCODL had filed its Business Plan for FY 2023-24 vide submission dated 30.01.2023 (registered as Case 11/2023) and Business Plan for FY 25 to FY 28 vide submission dated 31.05.2023 (registered as Case 45 /2023). The Business Plan application of TPCODL comprised of, among other component of Business Plan as per Tariff Regulation,2022, Capital Investment Plan for the Control Period. The Business Plan application for FY 2023-24 was disposed off by the Hon'ble Commission in the Tariff Order for FY 2023-24 dated 23.03.2023.The Hon'ble Commission has issued order in the matter of Case 45/2023 on 14.09.2023 and has stipulated following with regards submission of Capital Investment Plan.

33. Capital Investment

...

*j. **The Commission opines that the Capital expenditure involves multidimensional aspects which undergoes changes due to rapid urbanization & industrial growth. Ensuring reliability of power supply, reducing interruptions & AT&C loss and providing electricity at an affordable tariff to the consumers etc. are major challenges**. In view of such dynamism in the system, the Commission **directs the DISCOMs to submit the year wise Capex plan for the control period for approval of the Commission.** The Commission also observes that the DISCOMs are required to catch up in capitalization with the approval by the Commission. **(Emphasis Supplied)***

In compliance to the above regulatory requirements, we are submitting this application for approval of Capital Investment Plan for FY 2027-28.

2. Total Capex approved by the Board of TPCODL for FY 2027-28

It is submitted that the Board of Directors of TPCODL in its meeting dated 18th July 2026 has accorded approval for the Capital Investment Plan of Rs. 642 Cr for FY 2027-28 . The certified true copy of the Board Resolution is enclosed as **Annexure-A** to this submission. Board approval for Rs. 9 Cr proposed towards Smart Metering Backend infrastructure under ' Technology & Infrastructure' is being obtained and will be submitted subsequently.

3. Summary of the Capital Investment Plan for FY 2027-28

We are through this petition filing the proposal for approval of the Capital Investment Plan for FY 2027-28 . While the detailed Capital Investment Plan for FY 2027-28 is provided in the **Appendix**, the summary of the proposal is provided in **Table-A** below.

The Capital Investment Plan provided in **Appendix** includes scope and objective, purpose of investment, benefits and location wise details (wherever applicable) .

All the scheme proposed in this petition for FY 2027-28 are prioritized scheme out of the balance scope based on Load flow study, field inputs, high loss and high risk locations etc.

The capital structure of investment will be in the form of debt to equity ratio of 70:30.



Table A: Capital Investment Plan for FY 2027-28 (Hard Cost Only)

Major Head	Activity	Proposed CAPEX Plan for FY 2027-28 (in Rs. Cr)
Statutory & Safety	Technology-enabled Safety, Disaster Resilience, Workforce Training Infrastructure Strengthening & Sustainable Mobility Initiatives	3
	Fire-Wall	2
	Cradle Guard at Road Crossings	1
	Testing Equipment for Meter Testing Labs & Others	2
	Fencing & Boundary Wall for Switchyard and PSS	15
	Defective AB Cable Replacement	1
	Enhancing vertical clearance through interposing Poles	8
	Sub Total: Statutory & Safety	**32**
Loss Reduction	33kV Network Reconfiguration - Power evacuation, Length Reduction	25
	Smart DT Meters	10
	LT Bare to AB Conversion	30
	Damaged / Defective Service Cable replacement for theft elimination,Safety & Reliability	Will be Claimed at Actual in True up
	Sub Total:Loss Reduction	**65**
Reliability	SCADA & Communication Strenghtneing of existing PSS through Replacement of RAPDRP RTU	3
	Grid Sub-station Automation System	15
	FLC Switchgear Van	4
	33kV Network Reliability	75
	11kV Network Reliability	60
	New PSS to meet Network Reliability	25
	Replacement of Aged PTR's to improve reliability	11
	Mitigation of single PTR at 33/11kV PSS	14
	PSS Refurbishment	11
	Mitigate VCB Group Control for 33kV and 11kV network Breakers	21
	LV Protection (63kVA and above)	30
	T-OFF removal from 33KV Network	5
	Sub Total:Reliability	**274**
Load Growth	New Connection Release	Will be Claimed at Actual in True up
	33kV Network Overload mitigation	20
	11kV Network Overload mitigation	40
	Augmentation of PTR to meet load demand	40
	LT Network Strengthening for Load Growth	10
	DTR/ CSS (New & Aug.) to meet load Growth	70
	Sub Total: Load Growth	**180**
Technology & Infrastructure	Admin Infrastructure	2
	Stores Infrastructure	2
	Strengthening of IT & Technology	30
	CCTV installation to improve Security & Safety	5
	Civil Infrastructure	34
	Residential Training Centre Phase-II	15
	Initiatives for a Sustainable Infrastructure	3
	Smart Metering Backend Infrastructure	9
	Sub Total: Technology & Infrastructure	**100**
Grand Total		**651**

Table B: Percentage Break up of Capex proposed for FY 2027-28

Sr No	Major Head	Capex Proposed for FY 2027-28 (Rs. Cr)	% Break up
1	Statutory & Safety	32	5%
2	Loss Reduction	65	10%
3	Reliability	274	42%
4	Load Growth	180	28%
5	Technology & Infrastructure	100	15%
Total		**651**	**100%**

As can be observed ,the network related investment constitute more than 80% of the total Capex proposed for FY 2027-28.

The Capital Investment Plan of Rs. 651 Cr as depicted in Table -A above is hard cost only. Other items like employee cost, interest during construction and other cost exclusively incurred for project related work will be over and above and would be in addition to the amount that would be approved by the Hon'ble Commission under this petition.

The detailed Capital Investment Plan for FY 2027-28 including status of Capex investment already made vis-à-vis the approved amounts is provided in the **Appendix.**

Certain works proposed under the Capital Investment Plan for FY 2027-28 are critical in nature and need to be taken up on priority for improving system reliability, safety and quality of power supply to consumers. Some of these activities may overlap, either fully or partially, with activities proposed under the Licensee's various Capex Petitions, which are presently under consideration by the Hon'ble Commission and are at different stages of hearing.

Since, these activities are of high priority and are essential for the improvement of system reliability and quality of supply. Accordingly, they have also been included in the present Annual Capex Petition.

The Licensee, therefore, respectfully prays that the Hon'ble Commission may kindly take cognizance of above and consider and accord approval for FY 2027-28 either under the present Annual Capex Petition or under the respective Capex Petitions already under hearing before the Hon'ble Commission.

Actual Cost towards 'Damaged Service Cable Replacement' and 'New Connection'

a. Since vesting, TPCODL has been undertaking systematic replacement of damaged and very old service cables to improve safety of households, reliability and eliminate pilferage

of electricity.

However, during site inspections, it has been observed that several service connections continue to operate with defective or jointed cables which not only create risks of electrocution and theft but also result in unmetered consumption and reduced billing efficiency. Such cases are primarily associated with elimination of theft, load enhancement where existing service cables are undersized, meter shifting requirements to facilitate proper installation at designated locations, and defective service cable replacement identified during field inspections. Continuation of these defective connections adversely impacts collection efficiency, increases AT&C losses and poses significant consumer safety hazards, thereby necessitating an extension of the replacement program in a phased manner under the current CAPEX plan.

TPCODL is recovering such expenditure from the consumers wherever it is clearly established that the service cable has been damaged dues to reasons attributable to the consumers. However, in most of the cases the reason of damage is not attributable to the consumers (e.g. service cable damage due to old age, due to outdoor harsh environmental conditions etc.) or it cannot be established, in such cases these service cables need to be replaced under by the DISCOM under CAPEX.

The Hon'ble Commission in Capex Order for FY 2026-27 dated 15.05.2026 in the matter of Case No-77/2025 has stipulated such cost to be allowed at actuals during truing up, relevant extract of the order is produced below.

> *The Commission is of the view that the replacement of service cables is generally recovered from consumers. However, the differential expenditure of service cables (if any) over and above the consumer contribution will be considered at the time of true up exercise based on audited expenditure after prudence check.*

In view of the above, we are not proposing any cost under this head in this petition ,and request the Hon'ble Commission to allow the actual expenditure at time of Truing up in line with above direction given in Capex Order of FY 2026-27.

b. In order to meet the increasing power demand, the existing distribution network infrastructure needs to be augmented/ strengthened/ expanded to release the new connection. Network extension/ augmentation/addition is required as some of the new connection cannot be released from the existing network and require augmentation/addition/extension before release of new connection.

The cost recovered from consumers by way of service connection charges are not

TP Central Odisha Distribution Ltd. TPCODL *BBSR*

adequate in certain new connection release cases and the Hon'ble Commission has been allowing this differential cost associated with new connection release including unrecovered cost of service cable in the capex.

In the Capex order dated 10.07.2025 in the matter of Case No-80/2024 and order dated 15.05.2026 in the matter of Case No-77/2025, the Hon'ble Commission has stipulated that differential cost for new connection release will be allowed during Truing up at actual. Relevant extract from both the orders is provided below.

In the Capex order dated 10.07.2025 in the matter of Case No-80 of 2024 under para 23 (iv), the Hon'ble Commission has stipulated that differential cost for new connection release will be allowed during Truing up at actual.

"

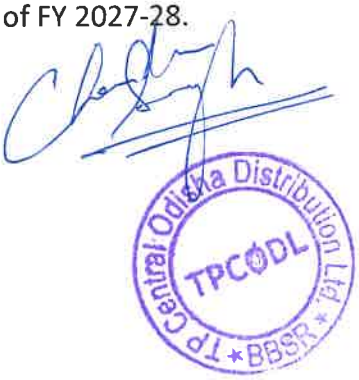
. . . However, the additional expenditure for new connection release would be considered by the Commission during the True Up exercise for the financial year on the actual basis."

In the Capex order dated 15.05.2026 in the matter of Case No-77 of 2025 under para 24 (iv), the Hon'ble Commission has stipulated that differential cost for new connection release will be allowed during Truing up at actual.

"

. . . The Commission in Capex Order dated 10.07.2025 in the Case No.80/2024 has stipulated that the additional expenditure for new connection release would be considered by the Commission during the True Up exercise for the financial year on the actual basis. Following the same principle, the additional expenditure towards new connection release over and above the contribution of consumer(s) will be considered by the Commission during the Truing up exercise based on audited accounts."

In view of the above directive, we are in this petition not proposing any amount towards 'New Connection Release' as the same will be claimed during truing up of FY 2027-28.



Prayers

TPCODL prays that the Hon'ble Commission may kindly be pleased to:

1. Approve the Capital Investment plan of Rs. 651 Cr (Hard Cost) for FY 2027-28.

2. Allow actual expenditure incurred towards 'Damaged Service Cable Replacement' and 'New Connection Release ' at time of Truing up in line with previous Capex Orders.

3. Allow Employee Cost , Interest During Construction and Other Cost related to projects based on actuals to be capitalised over and above the Capex (Hard Cost) for FY 2027-28.

4. Permit Carrying forward of the unspent Capital Expenditure to subsequent years.

5. That, the petitioner craves leave for submission of further /additional submission as and when required by the Hon'ble Commission.

6. To kindly condone any inadvertent omission /errors/shortcoming and allow to make future submission as may be required in future to support this application in terms of modification /clarifications, if any.

7. Grant any other relief as deemed fit and proper in the facts and circumstances of the case.

8. Any other direction as the Hon'ble Commission may think appropriate.

Chandan Singh

Chief – Regulatory

TP Central Odisha Distribution Ltd. TPCODL *BBSR*

Annexure-A

Certified True Copy of the resolution passed at the Board Meeting held on 18th July 2026

"RESOLVED that Capital Expenditure (Capex) of the Company for FY28, be and is hereby approved, as under, subject to the approval of Odisha Electricity Regulatory Commission (OERC):

(₹ in crore)

Sl. No.	Capex Head	FY28
1.	Safety and Statutory	50
2.	Loss Reduction	67
3.	Reliability	274
4.	Load Growth	160
5.	Technology and Infrastructure	91
Total		**642**

Note: *The proposed Capex cost was exclusive of capitalizable project employee cost and interest during construction.*

FURTHER RESOLVED that the Chief Executive Officer and the Chief Financial Officer of the Company be and are hereby severally authorized to take all necessary steps in this regard."

Certified True Copy
For TP Central Odisha Distribution Limited

Suchitra Dash

(Suchitra Dash)
Company Secretary
ACS No. 24156
Address: Power House Square, Unit-8,
Bhubaneswar, Odisha-751012

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1 Capital Investment Proposal for FY 2027-28

1.1. Need for Capital Expenditure

Capital investment is required to improve Power supply reliability, reduce the AT&C losses, ensure the safety and security of network, and make the network adequate enough to cater the load growth and implementation of the technology to bring process efficiency in the operations.

In view of achieving the above objectives, the TPCODL has farmed its Capex Investment plan based upon the following need/requirements:

1. **Statutory & Safety** – Investment required for addressing unsafe conditions and making the network statutory compliant. This covers set up of safety culture through safety and testing equipment, fencing of DSS & switchyards etc, erecting interposing poles etc.
2. **Loss Reduction** – Investment required for taking initiatives for reducing the technical Losses in the network. This includes Energy accounting measures, LT Bare to AB Cable and Defective cable replacement, Network Reconfiguration, Damaged Service Line replacement for theft elimination etc.
3. **Reliability** – Investment required to improve the Reliability and Quality of Power Supply by taking various initiatives like addition / augmentation of 33 kV and 11 kV Network Infrastructure, Addition/upgradation of network components at 33/11 kV PSS, Installation of LV Protection, Grid Sub-Station Automation System with SCADA enablement etc.
4. **Load Growth** – Investment is required to meet the Load Growth in the network and making the network future ready. This includes Augmentation / Addition of Power Transformers and DTs, New Connection release, mitigation of network overloading etc.
5. **Technology and Infrastructure** – Investment related to technology adoption and strengthening of various infrastructure to improve internal as well as external customer satisfaction. This includes IT & Technology infrastructure, civil infrastructure, etc. Initiatives for sustainable future.

As explained in our earlier petitions, TPCODL has identified a number of other challenges related to Network , Metering infrastructure, Customer Services, and Technology usage. These challenges are planned to be addressed through a systematic investment plan prepared by TPCODL, a part of which was proposed by TPCODL for FY 2020-21 in the petition filed in Case No 32 of 2020, Case 05 of 2021 for FY 2021-22 , Case 14 of 2022 and Case 51 of 2022 for FY 2022-23, Case 98 of 2022 for FY 2023-24, Case 102 of 2023 for FY 2024-25 , Case 80 of 2024 for FY 2025-26 and Case No 77 of 2025 for FY 2026-27.

Technologies implemented by TPCODL have been instrumental in improving the overall performance of the company and been able to deliver benefit in terms of lowering losses and improving reliability and better management of business and consumers.

TPCODL considers customers as its most important stakeholders. Hence, it has prepared its strategy to create value for the customers by improving the reliability of supply for better customer experience. So, Capex intervention is required to reinforce the network to enhance the useful life of assets and bring in new technology.

The proposed Capex plan represents a justified and efficient level of total capital investment estimated by TPCODL to meet its service obligation ensuring safe and reliable network, maintaining high level of service standards and to provide customer services at benchmark level through process improvement, capacity building and technology adoption.

1.2. Status of Capex and Capitalization against Capex approved by the Hon'ble Commission for FY 2020-21, FY 2021-22, FY 2022-23, FY 2023-24, FY 2024-25 ,FY 2025-26 and FY 2026-27

The Hon'ble Commission has approved Capex of Rs.280.63 Cr for FY 2020-21 in its order dated 08.09.2020. For FY 2021-22, the Hon'ble Commission has approved a Capex of Rs.298.73 Cr in its order dated 18.09.2021. For FY 2022-23, the Hon'ble Commission has approved a Capex of Rs. 380.56 Cr vide order dated 19.07.2022 and 16.12.2022. For FY 2023-24, the Hon'ble Commission has approved Capex of Rs. 283.72 Cr in order dated 21.06.2023. Further, Rs. 380.68 Cr was approved by the Hon'ble Commission for FY 2024-25 in order dated 12.12.2023.. The Hon'ble Commission has also approved Rs. 429.82 Cr for FY 2025-26 vide order dated 10.07.2025 in the matter of Case No-80/2024 & order dated 24.09.2025 in Case No-61/2025. The Hon'ble Commission has also approved Rs. 485.67 Cr for FY 2026-27 vide order dated 15.05.2026 in the matter of Case No-77/2025.The status of project progress against the Capex approved for FY 2020-21 , FY 2021-22 ,FY 2022-23 ,FY 2023-24 ,FY 2024-25 ,FY 2025-26 and FY 2026-26 as on 30.06.2026 is as provided in table below.

Table 1 : Actual Status as on 30.06.2026 against Capex approved for FY -21 to FY-26 (Rs Cr)

in Rs. Crores

Sr No	Major Heads	Cumulative Capex Approved till 31.03.2026	Actual Status as on 30.06.2026	
			Capex	Capitalization
1	Statutory & Safety	165	162	160
2	Loss Reduction	239	234	229
3	Reliability	879	833	800
4	Load Growth	430	397	376
5	Technology & Infrastructure	394	369	367
Total		**2106**	**1995**	**1932**

* Note-1: The above is Hard Cost Only

Note-2: Rs. 485.67 Cr for FY 2026-27 was approved on 15.05.2026 (Out of which Capex of Rs. 6 Cr done as on 30.06.2026)

It is worthwhile to point out that, in addition to above, TPCODL has incurred substantial Capex under various Government Schemes also.

TPCODL is working towards executing the balance Capex on priority basis so that corresponding benefits to the stakeholders are accrued.

1.3. Summary of the Capital Expenditure for FY 2027-28

TPCODL has considered Capital Expenditure under following five major heads:

a) Statutory and Safety
b) Loss Reduction
c) Reliability
d) Load Growth and
e) Technology and Infrastructure.

The summary of the Capex planned for FY 2027-28 (only Hard Cost i.e. without considering Employee Costs capitalized , Interest During Construction & Other project related Cost) is as summarized below

Table 2: Summary of Capex plan for FY 2027-28 (only Hard Cost i.e. without considering Employee Cost , IDC capitalization & Other project related Cost)

Major Head	Activity	Proposed CAPEX Plan for FY 2027-28 (in Cr)
Statutory & Safety	Technology-enabled Safety, Disaster Resilience, Workforce Training Infrastructure Strengthening & Sustainable Mobility Initiatives	3
	Fire-Wall	2
	Cradle Guard at Road Crossings	1
	Testing Equipment for Meter Testing Labs & Others	2
	Fencing & Boundary Wall for Switchyard and PSS	15
	Defective AB Cable Replacement	1
	Enhancing vertical clearance through interposing Poles	8
	Sub Total: Statutory & Safety	**32**
Loss Reduction	33kV Network Reconfiguration - Power evacuation, Length Reduction	25
	Smart DT Meters	10
	LT Bare to AB Conversion	30
	Damaged / Defective Service Cable replacement for theft elimination,Safety & Reliability	Will be Claimed at Actual in True up
	Sub Total:Loss Reduction	**65**
Reliability	SCADA & Communication Strenghtneing of existing PSS through Replacement of RAPDRP RTU	3
	Grid Sub-station Automation System	15
	FLC Switchgear Van	4
	33kV Network Reliability	75
	11kV Network Reliability	60
	New PSS to meet Network Reliability	25
	Replacement of Aged PTR's to improve reliability	11
	Mitigation of single PTR at 33/11kV PSS	14
	PSS Refurbishment	11
	Mitigate VCB Group Control for 33kV and 11kV network Breakers	21
	LV Protection (63kVA and above)	30
	T-OFF removal from 33KV Network	5
	Sub Total:Reliability	**274**
Load Growth	New Connection Release	Will be Claimed at Actual in True up
	33kV Network Overload mitigation	20
	11kV Network Overload mitigation	40
	Augmentation of PTR to meet load demand	40
	LT Network Strengthening for Load Growth	10
	DTR/ CSS (New & Aug.) to meet load Growth	70
	Sub Total: Load Growth	**180**
Technology & Infrastructure	Admin Infrastructure	2
	Stores Infrastructure	2
	Strengthening of IT & Technology	30
	CCTV installation to improve Security & Safety	5
	Civil Infrastructure	34
	Residential Training Centre Phase-II	15
	Initiatives for a Sustainable Infrastructure	3
	Smart Metering Backend Infrastructure	9
	Sub Total: Technology & Infrastructure	**100**
Grand Total		**651**

2 Annual Capex Plan

2.1 Statutory and Safety

The proposed budget for Safety & Statutory under CAPEX FY 27-28 is Rs. 30 .00 Cr. The details of the same are as given in the table below:

Table 3: Capital Expenditure Safety and Statutory

Sl. No.	Activity	Total Cost (In Rs. Cr)
1	Technology-enabled Safety, Disaster Resilience, Workforce Training Infrastructure Strengthening & Sustainable Mobility Initiatives	3
2	Fire-Wall	2
3	Cradle Guard at Road Crossings	1
4	Testing Equipment for Meter Testing Labs & Others	2
5	Fencing & Boundary Wall for Switchyard and PSS	15
6	Defective AB Cable Replacement	1
7	Enhancing vertical clearance through interposing Poles	8
Total		**32**

The description of the various schemes are as under

2.1.1 Technology-enabled Safety, Disaster Resilience, Workforce Training Infrastructure Strengthening & Sustainable Mobility Initiatives

The proposal under this head is provided in table below.

Table 4: Scope Proposed for Technology-Enabled Safety, Disaster Resilience, Training Infrastructure & Sustainable Mobility Initiatives

Sl. No.	Activity	Qty	Estimated Rate (In ₹ Cr)	Total Cost (In ₹ Cr)
1	Portable Emergency Communication Hubs for Disaster & Emergency Management	20	0.015	0.30
2	Advanced AI Smart Work Monitoring Device for Smart Safety Equipment	50	0.014	0.70
3	Development of Training Yards for Work-at-Height & Vertigo Assessment	5	0.25	1.25
4	3-Wheeler EV Bike	53	0.015	0.75
	Grand Total			**3.00**

Item wise details are provided in following paragraphs.

2.1.1.1 Portable Emergency Communication Hubs for Disaster & Emergency Management

Background

TPCODL operates across a geographically widespread area covering cyclone, flood and disaster-prone regions of Odisha. During major natural calamities, conventional communication networks may become unavailable or unreliable due to damage to telecom infrastructure, impacting coordination between Emergency Control Centres and field restoration teams. To ensure uninterrupted communication during emergency situations and strengthen disaster preparedness, deployment of Portable Emergency Communication Hubs with independent communication capability is proposed. The system will support emergency coordination, restoration activities and business continuity during large-scale disruptions.

Proposal

It is proposed to procure 20 Nos. Portable Emergency Communication Hub devices for deployment during disasters, emergency situations and large-scale restoration activities. The proposed system will provide independent communication capability during failure of conventional networks, enable direct communication between the Emergency Control Centre and field restoration teams, support real-time coordination during cyclone, flood and other disaster restoration activities and improve emergency response and restoration management.

Justification/ Need of the Proposal

Field Operations in Odisha vulnerable to cyclones (Kalabaisakhi), floods and other natural disasters, requiring continuous communication between Emergency Control Centres, field teams and response groups during restoration activities. During above conditions, communication networks may get disrupted, affecting coordination and emergency response.

The proposed Portable Radio Communication Hub system will ensure reliable communication continuity, improve coordination of restoration teams, enable faster decision-making and resource deployment and strengthen disaster management, safety response and business continuity preparedness.

Scope of Work

Deployment of 20 Nos. Portable Radio Communication Hub devices with necessary accessories and communication facilities at the Emergency Control Centre and identified critical restoration locations to ensure reliable communication support during disaster, emergency and large-scale restoration activities

Table 5: Proposed Cost estimate break up-portable emergency device

Description	Qty.	Unit Rate (Rs. In Cr)	Amount (Rs. In Cr)	Remarks
Portable Emergency Communication Hub devices	20 Nos.	0.015	0.3	Data Sheet is enclosed, Price is including rate escalation.

Cost Benefit Analysis

The proposed investment will provide reliable communication support during disasters when conventional communication systems are affected. It will improve restoration coordination, reduce response time, enable effective emergency management and support faster restoration of power supply.

Benefit to the System and Consumers

The initiative will enhance emergency preparedness, emergency response and safety monitoring capability by ensuring reliable communication during critical situations. The advanced communication system will improve coordination, support faster restoration activities and enable safer execution of field operations, ensuring continuity of essential power services to consumers during emergencies.

2.1.1.2 Advanced AI Smart Work Monitoring Devices for Smart Safety Equipment

Background

Field Staff carryout extensive field operations across a geographically area of TPCODL with varying operational challenges. Due to the spread of network, continuous monitoring of field activities is challenging for organization and certain common unsafe practices may go unnoticed during execution of critical electrical works. To strengthen real-time work monitoring and safety assurance, deployment of body worn smart monitoring devices is proposed. The devices will enable live streaming of field activities, geo-fencing-based location monitoring, two-way communication between field personnel and supervisors and AI-based analytics for identifying unsafe practices and improving safety compliance. Phased deployment planned in FY28 – FY32 to cover all the 975 Nos of Field teams.

Proposal

Deployment of 50 Nos. Advanced Smart Work Monitoring Devices in urban areas during FY28 to enable real-time visibility of field activities and strengthen safety monitoring during critical electrical works.

Justification/ Need of the Proposal

The existing monitoring mechanism has limitations in providing continuous visibility of field activities. The proposed devices will provide live work visibility, voltage hazard sensing and two-way interaction, while geo-fencing and AI integration will support improved monitoring of work execution and safety compliance. The recorded information can also support safety review, audit and incident analysis.

Scope of Work

Deployment of 50 Nos. helmet-mountable Advanced Smart Work Monitoring Devices in selected urban areas, including live camera, voltage sensor, two-way interaction, geo-fencing and AI integration.

Table 6: Proposed Cost estimate break up-Advanced AI Smart Work Device

Description	Qty.	Unit Rate (Rs. In Cr)	Amount (Rs. In Cr)	Remarks
Advanced AI Smart Work Monitoring Device	50 Nos.	0.014	0.7	Quotation is Enclosed, Price is including rate escalation.

Cost Benefit Analysis

The proposed investment will improve visibility of critical field activities, strengthen safety monitoring and enable quicker identification of unsafe conditions. It will also provide digital information for safety review and continuous improvement.

Benefit to the System and Consumers

The adoption of AI-enabled safety monitoring technology will demonstrate TPCODL's commitment towards digital transformation and modernization of safety practices in the power distribution sector, aligning with the vision of technology-driven and future-ready utility operations.

2.1.1.3 Development of Training Yards for Work-at-Height & Vertigo Assessment

Background

Field personnel, particularly Linemen, are required to perform work at height activities involving poles and electrical structures. Presently, assessment of competency and suitability of newly deployed field personnel for working at height requires further strengthening through practical evaluation.

Proposal

To ensure competency of new field staff before deployment as Linemen, dedicated Work at Height and Vertigo Assessment Structures are proposed at 5 Circles. The facility will enable practical skill assessment, identification of vertigo-related limitations and improvement of workforce readiness before undertaking height related activities.

Justification/ Need of the Proposal

Working at height is a critical activity for lineman, requiring adequate competency, confidence and suitability of personnel. Deployment of personnel without proper assessment of work-at-height capability and vertigo-related limitations may increase the risk of unsafe situations and incidents. The proposed training yard will enable competency assessment of newly inducted field staff before deployment as Linemen, provide practical evaluation of work-at-height skills, improve confidence of personnel, reduce the possibility of unsafe acts during height-related activities and establish a standardized assessment and training facility across Circles.

Scope of Work

Development of Work at Height and Vertigo Assessment Training Infrastructure at 5 Circle locations, including construction of vertigo assessment structures, installation of safety nets and fall protection arrangements, development of fencing and boundary walls, paved flooring, civil foundation works and other allied infrastructure required for safe practical competency assessment and training of field personnel.

Table 7: Proposed Cost estimate break up-Training Yard Infrastructure

Description	Qty.	Unit Rate (Rs. In Cr)	Amount (Rs. In Cr)	Remarks
Training Yard Infrastructure for Work at Height Vertigo Test structure.	5 Nos.	0.25	1.25	Rate reference from TPNODL, Price is including rate escalation.

Cost Benefit Analysis

The investment will establish a standardized competency assessment mechanism for field personnel, improve suitability verification before deployment, reduce the probability of height-related incidents and strengthen safety culture

Benefit to the System and Consumers

The initiative will enhance workforce competency, ensure deployment of physically and technically suitable personnel for height-related activities and reduce safety risks during field operations. Improved competency of field staff will contribute towards safer maintenance practices and reliable power supply to consumers.

2.1.1.4 3-Wheeler EV Bikes for FCC for Enhancing FCC mobility

Background

At present, FCC teams do not have dedicated vehicles for carrying safety devices, PPE and emergency equipment. Due to dependency on available transportation arrangements, field personnel may hesitate to carry additional safety equipment or may need to return to FCC locations for collecting required safety gear, which can affect timely response and safety compliance. To address this requirement, deployment of 3-Wheeler EV Bikes for FCC teams is proposed for the first time. These vehicles will provide dedicated mobility support for carrying

essential safety equipment, PPE and field tools, enabling teams to remain better prepared and respond effectively during field
activities. Under FY'28 CAPEX, 53 Nos. of EV Maintenance bikes are proposed for deployment as pilot program, Further, phased deployment will be in subsequent FY29 – FY32 to cover all the 975 nos of Field teams.

Proposal

It is proposed to deploy 53 Nos. 3-Wheeler EV Bikes for FCC teams to improve field mobility and ensure availability of safety gear. The EV bikes will facilitate quick movement of FCC personnel for field response & restoration activities while enabling carrying of essential PPE, safety devices and tools at site.

Justification/ Need of the Proposal

FCC teams play an important role in field coordination, restoration support and operational activities. Dedicated EV mobility support will improve field readiness by ensuring availability of required PPE, safety devices and tools during field deployment, while improving mobility and response time. The proposed EV bikes will support field coordination and restoration activities, reduce dependency on hired vehicles and promote adoption of sustainable EV-based mobility solutions for future maintenance operations.

Scope of Work

Deployment of 53 Nos. EV 3-wheeler Bikes for FCC team in FY28.

Table 8: Proposed Cost estimate break up-3 Wheeler EV Bike

Description	Qty.	Unit Rate (Rs. In Cr)	Amount (Rs. In Cr)	Remarks
3-Wheeler EV Bike	53 Nos.	0.015	0.75	Comparison sheet is enclosed, Price is including rate escalation.

Cost Benefit Analysis

The investment will improve FCC mobility, reduce response time and enhance field-monitoring capability. It will reduce dependency on hired vehicles, lower recurring transportation costs and support sustainable operational practices through EV adoption.

Benefit to the System and Consumers

The initiative will enhance FCC mobility, improve emergency response and strengthen field safety monitoring capability. Adoption of EV-based mobility solutions will support sustainable utility operations while enabling faster restoration support and improved continuity of power services to consumers

2.1.2 Fire Wall

Background

Power Transformer installed at sub-station is a critical asset for maintaining reliable power supply to the connected consumers. In the event of a transformer fault or fire, there is a possibility of fire spreading to nearby electrical equipment and other transformers. The existing arrangement does not provide adequate physical fire separation. Hence, provision of a suitable fire wall is required for improving the safety and protection of sub-station.

Proposal

It is proposed to construct a suitable fire-resistant wall between Power Transformer and adjacent equipment as per applicable safety requirements. The fire wall will act as a physical barrier and help restrict the spread of fire in case of any transformer fire incident.

Requirement/ Need of the Proposal

The proposed fire wall is required to provide effective fire separation and prevent the spread of fire from the Power Transformer to adjacent transformers and other critical sub-station equipment. It will help protect breakers, cables and associated electrical assets from fire-related damage and improve the safety of operating and maintenance personnel. The provision of fire wall will also reduce the extent of damage in the event of a transformer fire, minimize the risk of prolonged power interruption and enhance the overall safety and reliability of the sub-station.

Scope of Work

The work will include construction of the required foundation and erection of a fire-resistant RCC/masonry wall of suitable height and length. Necessary structural supports, wherever required shall also be provided. The scope shall further include plastering, finishing and painting of the fire wall, along with all associated civil works required for proper, safe and durable. Cost for construction of each firewall is. Rs. 7.5 Lakhs. The

substation constructed under ODSSP scheme wherever space is available between the PTR for construction of firewall has been considered under below scope.

Table 9: Proposed Cost estimate break up-Firewall

Items Description	Total Scope	Proposed in FY'28	Per Fire Wall Cost in Cr.	Total Cost in Cr. considered in Capex 27-28
Fire Wall	288	27	0.075	**2.00**

The total cost for Fire Wall is approx. 2 cr.

Proposed Cost with Estimate Break-up
Please refer to **Annexure – 1** for details of BoQ for the above cost estimate and Locations covered in this scope.

Benefit to the System and Consumers

i. Restricts the spread of fire from the Power Transformer to adjacent equipment.
ii. Protects nearby transformers, breakers, cables and other critical sub-station assets from fire-related damage.
iii. Improves the safety of operating and maintenance personnel during fire incidents.
iv. Minimizes the possibility of prolonged power interruption due to fire-related equipment damage.
v. Enhances the overall safety, reliability and resilience of the sub-station.

2.1.3 Cradle Guard at Road Crossings

Background

A substantial portion of TPCODL's distribution network operates through overhead feeders, many of which were constructed several years ago and currently lack adequate cradle/guard wire arrangements at road crossings and other vulnerable locations. In the event of conductor snapping, the absence of guard wires may result in live conductors falling onto roads or public areas, thereby posing serious risks of electrocution, accidents, and other public safety hazards.

Further, to enhance the safety of the public and vehicular traffic, TPCODL proposes the installation of underground cable crossings at National Highways (NH), State Highways (SH), and other major road crossings where overhead electrical feeders traverse such routes. This

initiative aims to eliminate the safety risks associated with overhead line crossings in high-traffic areas and ensure compliance with applicable statutory regulations.

Moreover, underground cabling will significantly improve the reliability and resilience of the power distribution network by reducing exposure to external disturbances, minimizing outages, and lowering maintenance requirements. The proposal aligns with TPCODL's commitment to developing a safe, reliable, and regulation-compliant distribution network.

As part of ongoing network strengthening initiatives, a requirement has been assessed for the installation of cradle/guard arrangements at 1,453 locations on 33 kV and 11 kV feeders. No work has been completed focusing under this scope up to March 2026, and phased implementation is proposed during subsequent CAPEX periods.

Proposal

TPCODL proposes the installation of cradle/guard wire arrangements at critical road crossings and other vulnerable locations on 33 kV and 11 kV overhead feeders. The cradle guard arrangement ensures that, in the event of conductor snapping, the fallen conductor comes into contact with the cradle wire, thereby completing the fault circuit and enabling protective relays and circuit breakers to operate promptly. This facilitates immediate isolation of the faulted section and significantly minimizes the risk of electrocution and public accidents.

The proposal also includes the conversion of selected overhead line crossings at NH, SH, and other major crossings into underground cable crossings to further enhance public safety and improve system reliability.

The scope covers the installation of cradle/guard arrangements, DP structures, underground cable crossings, and all associated accessories required for safe and reliable operation.

Justification / Need of the Proposal

To enhance safety, reliability, and protection across the distribution network, several critical gaps have been identified in the existing overhead line infrastructure. Many overhead feeder crossings at National Highways, State Highways, district roads, and other public utility crossings currently lack adequate cradle/guard arrangements.

The absence of guard wires increases the risk of electrocution and public accidents in the event of conductor snapping due to ageing conductors, environmental conditions, or external disturbances. Similarly, overhead crossings at major roads and highways pose potential safety risks to vehicular traffic and the public.

Such failures may lead to serious safety incidents, interruption of power supply, damage to utility assets, legal liabilities, and non-compliance with applicable electrical safety standards.

The proposed investment will address these deficiencies by:

- Providing effective protection against conductor snapping incidents.
- Enhancing public and operational safety.
- Reducing electrocution risks and accident-related hazards.
- Eliminating overhead conductor crossings at critical roads through underground cabling.
- Improving network reliability and continuity of supply.
- Ensuring compliance with statutory safety requirements and regulatory directives relating to overhead line safety and guarding arrangements.
- The proposal is also aligned with initiatives for strengthening distribution safety systems under the Retail Supply Tariff (RST) framework and prevailing electrical safety regulations.

Scope of Work

The overall scope of work in TPCODL is as tabulated below.

Table 10 : Scope of Work

Installation of Cradle/ Guard wire in Overhead feeders at road crossings	UOM	Total requirement	Completed till March'26	Planned in FY'27	Proposed Scope for FY 28	Proposed Budget for FY 28	Balance	Budget for Balance (in Cr)
For 33 kV Feeders	Nos	201	0	0	10	0.43	201	11
For 11 kV Feeders	Nos	1252	0	0	31	0.59	1252	58
33 kV Line Crossing through U/G Cable and DP without AB Switch	Ckm	4	0	0	0	0	4	12
11 kV Line Crossing through U/G Cable and DP without AB Switch	Ckm	33.84	0	0	0	0	34	56
Grand Total					**41**	**1.02**		**137**

In this CAPEX petition, we propose for an amount of Rs 1 Cr only, to cover high priority locations.

Please refer to the **Annexure 2** for location-wise details and the detailed BOQ corresponding to the above cost estimates.

Table 11 : Proposed Cost with Estimate Break-up

Sl. No.	***Description***	***Unit***	***Cost per Unit (In Cr.)***	***Total Qty.***	***Total Cost (In Cr.)***
1	BOQ for 33 kV Line Protecting Guarding on Double Pole (13 Mtr. WPB) for Road Crossing (Span-40 Mtr.)	EA	***0.040***	***10***	***0.40***
2	BOQ for 11 kV Line Protecting Guarding on Double Pole (11 Mtr. WPB) for Road Crossing (Span-40 Mtr.)	EA	***0.032***	***5***	***0.16***
3	BOQ for 11 kV Line Protecting Guarding on Single Pole (11 Mtr. WPB) for Road Crossing (Span- 30 Mtr.)	EA	***0.016***	***26***	***0.43***
				TOTAL	***1.0***

Notes for Cost Estimates:

i. All rates have been considered as per the Cost Data Book (CDB) approved by the Energy Department, Government of Odisha, vide Notification dated 05.05.2026.

ii. For items not covered under the approved CDB, material supply, civil works, and erection rates have been considered based on the latest rate contracts finalized through competitive bidding or budgetary quotations obtained from OEMs.

Cost Benefit Analysis

The proposed scheme will provide the following tangible and intangible benefits:

- Significant reduction in electrocution risks and hazards arising from conductor snapping.
- Enhanced public safety at road crossings and other vulnerable locations.
- Improved protection system performance through timely fault detection and isolation.
- Elimination of safety risks associated with overhead line crossings at critical roads and highways.
- Reduction in accident-related liabilities and compensation claims.
- Improved compliance with statutory electrical safety requirements.
- Enhanced reliability and resilience of the distribution network.
- Long-term improvement in network safety, operational performance, and maintenance efficiency.

Benefits to the System and Consumers

- Enhanced public safety by preventing accidental contact with snapped conductors.
- Improved safety at National Highways, State Highways, and other major road crossings through underground cabling.
- Reduction in feeder shutdowns and service interruptions.
- Improved reliability and continuity of power supply.
- Improved compliance with statutory and regulatory safety requirements.
- Increased consumer confidence through safer network infrastructure.
- Strengthening of overall distribution system resilience and operational reliability.

2.1.4 Testing Equipment for Meter Testing Labs and Others

Capex proposal under this head is provided in table below.

Table 12: Proposed Procurement – Meter Testing Labs & Others

Equipment	Available Qty	Qty proposed under CAPEX FY 28	Per unit cost	Total
Online HT Metering testing Kit	0	5	0.27Cr	1.35Cr
HT Accu-check	5	5	0.05Cr	0.25Cr
3position Meter test bench	0	1	0.40Cr	0.40Cr
Total				**2Cr**

Item wise details are provided below.

2.1.4.1 Procurement of Online HT Testing kit, HT Accu-checks & Insulation Resistance tester.

Background

TPCODL has approximately 3,700 HT Large & Medium category consumers with HT CT & PT metering arrangements. As per Clause 109 of the OERC Distribution (Conditions of Supply) Code, 2025, all HT meters are required to be tested at least once every year. Conventional HT meter testing requires shutdown of the consumer installation, causing supply interruption, operational inconvenience, and potential revenue loss. Online HT testing provides a viable alternative by enabling accuracy and performance testing of CTs, PTs, HT meters, and metering cubicles while the installation remains energized. This will ensure regulatory compliance, minimize consumer interruption, improve testing efficiency, and strengthen revenue protection and metering reliability. Further, additional 15nos. HT Accuchecks and Megger equipment are required so that all 20 Divisions are fully equipped to undertake HT meter testing and associated electrical checks. At present only 5 nos. HT Accucheck & insulation tester available with MMG TPCODL.

Accordingly, procurement and deployment of online HT testing kits, HT Accuchecks, and Megger equipment across all 20 Divisions is proposed.

Proposal & Justification

The procurement and deployment of **5 Nos. Online HT Testing Kits and 5Nos.** of HT Accuchecks across all **20 Divisions** is proposed to facilitate timely and reliable HT meter testing at site, minimize supply interruptions, and ensure compliance with prescribed periodic testing requirements in line with applicable regulation.

Scope of Work

Procurement and deployment of 5 Nos. Online HT Testing Kits and 5 Nos. HT Accucheck across the 20 Divisions for carrying out HT meter testing and related diagnostic activities at site. The equipment will support periodic testing requirements while reducing the need for shutdowns and associated supply interruptions.

Cost Benefit Analysis

Enables online HT testing without shutdown, ensuring uninterrupted supply, faster field testing, improved reliability and revenue assurance.

Benefit to the System and Consumers

This initiative converts a traditionally shutdown-dependent activity into an online diagnostic process. It strengthens network reliability, consumer service, operational efficiency and metering Governance through one integrated solution.
Uninterrupted power supply, improved reliability indices, Revenue assurance Protection of consumer operations; Condition assessment under real load, faster field execution can be achieved.

2.1.4.2 Procurement of 1no. 3position Energy Meter test bench

Background

The Meter Testing Laboratory, Bhubaneswar presently has a 2nos. 20-position test bench for testing three-phase Smart Meters, with a normal testing capacity of approximately 120 meters per day**.**

Consumer challenge testing and other special testing requirement(tender sample, tamper cases) is affecting the regular testing schedule and daily throughput.

To ensure that normal testing of 120 three-phase Smart Meters per day remains uninterrupted**,** it is proposed to procure a dedicated 3-position test bench for consumer challenge and other special testing activities. This will provide operational flexibility while maintaining the required routine testing capacity.

Proposal

It is proposed to procure a dedicated 3-position test bench for three-phase Smart Meters to undertake consumer challenge testing and other special/urgent testing requirements. This will ensure that the normal testing capacity of 120 meters per day on the existing 20-position test bench remains uninterrupted**,** while providing a dedicated facility for challenge testing.

Justification/ Need of the Proposal

The existing 20-position test bench is required to maintain normal testing of approximately 120 three-phase Smart Meters per day. Consumer challenge testing requires dedicated test positions and may otherwise affect the routine testing schedule. A dedicated 3-position test bench will facilitate challenge/special testing without disturbing normal testing activities.
The proposed facility will ensure uninterrupted testing throughput, timely disposal of consumer challenge cases, and better utilization of the existing 20-position test bench.

Scope of the Work

Procurement of 1 No. 3-position three-phase SMART Meter Test Bench to provide a dedicated facility for consumer challenge testing, re-testing and other special testing requirements. The additional test bench will enable such tests to be carried out independently, ensuring that the existing 20-position test bench remains available for routine testing of around 120 meters per day. This will help maintain regular testing throughput and avoid delays in consumer challenge cases.

Cost Benefit Analysis

Enables dedicated consumer challenge/re-testing without affecting routine testing capacity, ensuring faster disposal of cases and uninterrupted laboratory operations & better consumer satisfaction.

Benefit to the System and Consumer

Procurement of the dedicated 3-position SMART Meter Test Bench will enable consumer challenge, re-testing and other special testing activities to be carried out without affecting the routine testing of approximately 120 three-phase SMART Meters per day on the existing 20-position test bench. This will ensure uninterrupted testing operations, reduce testing backlog, facilitate faster resolution of consumer complaints and improve consumer confidence through timely and transparent meter testing. It will also provide greater operational flexibility and optimum utilization of the existing testing infrastructure

2.1.5 Fencing / Boundary Wall of PSS and DSS

Capex proposal under this head is provided in table below.

Table 13: Proposed Cost estimate – Fencing / Boundary Wall

Sl No	Activity planned	No. of Locations Proposed	PuC	Total Cost Proposed (in Cr)
1	Compound walls in PSS	20	Location based	3,00,89,000.00
2	Switchyard Chain-link Fencing in PSS @ 115 mtr/ Location	34	5,22,974.55	2,04,48,305.08

Sl No	Activity planned	No. of Locations Proposed	PuC	Total Cost Proposed (in Cr)
3	DSS Chain-link Fencing	951	1,04,594.91	9,94,69,760.27
Total No of Location Proposed		**1005**		**15,00,07,065.35**
Total No of Location Proposed (Rs. Cr)				**15.00**

The item wise details are provided below.

2.1.5.1 Compound Wall in PSS

Background

There are 386 operational PSS across TPCODL as of today. At the time of takeover, 178 PSS were not having a proper boundary wall. So far from FY 20-21 to 25-26, 99 PSS boundary wall have been constructed / upgraded. 21 compound wall are under for FY 27 plan, 20 Nos are proposed in this petition and remaining 38 to be covered in upcoming years. Besides many of the PSSs are being used as section and sub-division offices and having a customer footfall.

Proposal

It has been planned to construct 1.8 m height compound wall along with 0.6 meter concertina coil fence at remaining PSS to ensure safety and security of TPCODL staff, public, animals and network.

Requirement/ Need of the Proposal

Due to non-availability of boundary wall with concertina coil fence, it is difficult to avoid entry of unauthorized staff, public, and animals into the PSS and there are chances of incident /accidents.

TPCODL intends to provide proper boundary wall at each PSS at the earliest, to ensure safety and security of its employees, public and animals.

Scope of Work

Construction of boundary wall at 20 location.
Detail Location Name attached in **Annexure-3.1**

Proposed Cost with Estimate Break-up

The Total estimated Cost will be **INR 3.00 Cr.**

Total Location: 20 (Detailed Estimate attached in **Annexure-3.1).**

Cost Benefit Analysis

Compound wall prevents unauthorized personnel or animals wandering into the switchyard, where they could be exposed to high-voltage equipment and deters potential intruders or thieves from entering the PSS and tampering with or stealing valuable equipment.

Benefit to the System and Consumers

- Safety of network assets.
- Safety of TPCODL staff, and general public.

2.1.5.2 Switchyard Chain-link fencing

Background

There are 386 operational PSS across TPCODL as of today. So far from FY 20-21 to 24-25, 118Switchyard Fencing have been constructed, 4 under construction in FY 27, 35 Nos proposed for FY 28 and 223 Nos to be proposed in upcoming years.

Besides many of the PSSs are being used as section and sub-division offices and having a customer footfall. TPCODL is providing fencing to the 33KV Switchyard to restrict the unauthorized access to the live network. However, still a large no of PSS requires fencing of the switchyards to safeguard the public.

Proposal

It has been planned to construct metal chain link fence of height 1.8 meter between substation premises and switchyard at PSS to avoid entry of unauthorized persons in live switchyard which may lead to incident / accident.

Requirement/ Need of the Proposal

Due to non-availability of metal fence between control room and 33kV switchyard, it is difficult to avoid entry of unauthorized staff, public, and animals into the live switchyard and there are chances of incident /accidents.

TPCODL intends to provide proper switchyard fence at each PSS at the earliest.

Scope of Work

Construction of Switchyard fencing at 34 location.

Detail Location Name attached in **Annexure-3.2**

Proposed Cost with Estimate Break-up

The Total estimated Cost will be **INR 2.00 Cr.**

Total Location: 34 (Detailed Estimate attached in **Annexure-3.2**)

Cost Benefit Analysis

Chain-link fencing prevents Public or animals from accidents/ unauthorized entry, tampering with or stealing valuable equipment from switchyard area.

Benefit to the System and Consumers

- Safety of network assets.
- Segregation of section office and 33KV switchyard.
- Safety of TPCODL staff, and general public.

2.1.5.3 DSS Chain-link / FRP fencing

Background

As per organization requirement, fencing is being done for existing DSS across TPCODL. Every year TPCODL is installing Fencing to the Distribution Substations to restrict unauthorized access to the Distribution substation.
Out of the total 53620 Nos of DSS requiring fencing in TPCODL licensed area as on 2020, 2263 Nos have been covered till now. 476 Nos under execution plan of FY 27 and 951 Nos are proposed for FY 28. The balance 44930 Nos of DSS fencings will be completed in a phase wise manner over the upcoming years.

Proposal

It has been planned to construct 1.8 m height chain link fencing on a brick toe wall to ensure safety and security of TPCODL staff, public, animals and network.

Requirement/ Need of the Proposal

From safety and security point of view, the DSS area needs to be fenced to avoid public contact and animal accidents and provide secure area for working and maintenance purpose.

Scope of Work

It is proposed to Construct Fencing around 951 DSS for Safety and Security Point of view. For enhancing safety, the DSS shall be barricaded using 1.8 meter high chain-link fencing.

Proposed Cost with Estimate Break-up

The Total estimated Cost will be **INR 10.00 Cr.**

Total Location: 951 (Detailed Estimate attached in **Annexure-3.3**)

Cost Benefit Analysis

Fencing prevents unauthorized personnel or animals getting in contact with live equipment where they could be exposed to high-voltage equipment.

Benefit to the System and Consumers

- By preventing unauthorized access, there is less chance of equipment being tampered with, which will help in providing reliable power distribution.
- DSS fencing will also help in avoiding any unforeseen incident of general public coming in contact with live equipment which otherwise might cause danger to life.
- Safety of employees, stray animals and residential people are one of the most important statutory compliances.

2.1.6 Defective AB Cable Replacement

Background

TPCODL has an extensive LT distribution network of approximately **41,772 Ckm**, comprising LT overhead bare conductors, underground cables, and LT AB cables. Out of the total LT network, approximately **37,746 Ckm** consists of LT AB cable infrastructure. Over time, several sections of the LT AB cable network have deteriorated due to ageing, prolonged exposure to adverse weather conditions, UV radiation, tree contact, mechanical stresses, and other environmental factors.

The deterioration of insulation and cable components has resulted in damaged LT AB cables at multiple locations across the licensed area. Such defective cables pose safety risks to the public and animals, increase the likelihood of electrical faults, and adversely affect the reliability and quality of power supply. Frequent interruptions arising from insulation failures, conductor exposure, and cable damage have led to consumer grievances and increased maintenance requirements.

To address these challenges, phased replacement of defective LT AB cables is proposed under the FY'28 CAPEX plan.

Proposal

TPCODL proposes the phased replacement of deteriorated and damaged LT AB cables with new LT AB cables across critical and vulnerable locations identified through field surveys, maintenance records, and operational feedback.

The proposed work is of an emergent nature and is aimed at ensuring public safety, minimizing electrocution risks, improving network reliability, and reducing supply interruptions caused by defective LT AB cable infrastructure.

The project will prioritize locations experiencing recurring faults, consumer complaints, safety concerns, and reliability issues.

Justification / Need of the Proposal

The presence of deteriorated and defective LT AB cables across the distribution network has resulted in significant safety, operational, and commercial concerns.

Major issues associated with defective LT AB cables include:

- Increased risk of accidents and electrocution to the public and animals.
- Violation of statutory electrical safety requirements and standards.
- Frequent supply interruptions leading to consumer grievances and reduced customer satisfaction.
- Reduced conductor clearances from ground level, posing hazards to humans and livestock.
- Exposure of live conductors due to cracks, tears, and degradation of insulation, thereby increasing the likelihood of fatal electric shocks.
- Increased risk of fire incidents arising from short circuits, electrical arcing, and sparking.
- Water ingress through damaged insulation causing phase-to-phase and phase-to-ground faults, particularly during the monsoon season.
- Voltage fluctuations and voltage drops resulting from increased conductor resistance and insulation deterioration.
- Higher technical losses due to leakage current through deteriorated insulation.
- Increased vulnerability to power theft through damaged cable sheaths and accessible conductors.
- Risk of line snapping due to weakening of cable components and messenger wire arrangements.

The proposed replacement program will address these deficiencies and strengthen the overall safety and reliability of the LT distribution network. The investment is therefore essential from both statutory compliance and public safety perspectives.

Scope of Work

The overall scope of work in TPCODL is as tabulated below:

Table 14: Overall Scope

Proposal	UOM	Total requirement	Completed till March'26 in Capex	Planned in FY'27	Proposed Scope for FY 28	Proposed Budget for FY 28	Left out Qty.	Budget for Left out Qty. in cr
Defective AB Cable Replacement	Ckm	279.16	61.8	0	10.2	1	207	20

In this CAPEX petition, we propose for an amount of Rs 1 Cr only, to cover high priority locations.

Please refer to the **Annexure – 4** for location-wise details and detailed BOQ corresponding to the proposed scope of work.

Proposed **Cost with Estimate Break-up**

Table 15 : Est. Cost Break up- Defective AB Cable replacement

Sl. No.	*Description*	*Per Unit*	*Cost per Unit (In Cr.)*	Qty	Total Cost (In Cr.)
1	Defective AB Cable Replacement - LT ABC 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.11	**3.6**	0.39
2	Defective AB Cable Replacement LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.09	**6.6**	0.60
Total				**10.2**	**1.0**

Notes for Cost Estimates

1. All rates have been considered as per the Cost Data Book (CDB) approved by the Energy Department, Government of Odisha vide notification dated 05.05.2026.
2. For items not covered under the approved CDB, material supply, civil works, and

erection rates have been considered based on the latest rate contracts finalized through competitive bidding or budgetary quotations obtained from OEMs.

Cost Benefit Analysis

Implementation of the proposed scheme is expected to provide substantial technical, operational, and safety benefits, including:

- Improved reliability and continuity of power supply to consumers.
- Significant reduction in accidents involving public and animals.
- Elimination of risks associated with deteriorated insulation and exposed conductors.
- Reduction in electrocution hazards and fire incidents.
- Reduction in frequent outages and consumer complaints.
- Improvement in voltage profile and service quality.
- Reduction in technical losses arising from leakage current and insulation failure.
- Prevention of power theft through replacement of damaged cable infrastructure.
- Strengthening of the 415 V LT distribution network.
- Reduction in maintenance expenditure and emergency breakdown restoration activities.
- Improved compliance with statutory safety standards and regulatory requirements.
- Enhanced operational efficiency and overall network resilience.

Benefit to the System and Consumers

- Reliable and uninterrupted power supply to consumers.
- Enhanced public safety through replacement of unsafe and deteriorated LT AB cables.
- Reduction in electrocution and fire hazards.
- Improved network reliability and service quality.
- Reduction in technical losses and operational inefficiencies.
- Improved voltage regulation and consumer satisfaction.
- Strengthened 415 V distribution network.
- Reduced consumer complaints arising from frequent interruptions.
- Improved compliance with statutory and safety requirements.
- Long-term improvement in safety, reliability, and operational performance of the distribution system.

2.1.7 Enhancing Vertical Clearance through Interposing Pole

Background

TPCODL spanning over a geographical area of 29,354 sq.km has a vast network having 33kV, 11kV and LT network. Different types of Pole infrastructures (like PSC POLES, WPB Poles and H Poles) are majorly installed in the existing network. Several irregularities in the span lengths of these networks are observed in old feeders, where the span length ranges from 70 meter to more than 100 meter at some places. These large span lengths have resulted in:

i. Sagging of conductors,
ii. Low ground clearances - vertical clearance of conductor from ground is lower than the permissible limits for LT Lines - 5.5 m along the Road and 5.8 m across the Road. For HT Lines, permissible limits are 5.8m along the road and 6.5m across the road.
iii. Accidents due to sagging & low ground clearances.

TPCODL has already installed 7754interposing poles under CAPEX since inception in FY 20-21.1691 Nos are under plan of execution under CAPEX FY 27 and another 1854 Nos proposed for FY 28.. Remaining another 39521 locations have been identified, which will be mitigated in a phase-wise manner in upcoming years. The prioritization has been done based on factors such as maintaining phase to ground clearances as per statutory requirement particularly in residential areas, road crossing, high traffic marketplaces, as well as addressing sections with long spans to strengthen the network and considering environmental factors like elephant corridors, thereby ensuring safe operations.

Need of Project

To overcome such scenarios, where the span length is on the higher side and violates the safety and statutory guidelines, it is of utmost importance to provide intermediate poles in between the long spans. Addition of intermediate poles will address the issue of sagging, low gound clearances & accidents caused due to this. Proper upkeep of the feeders is important for ensuring safety and reliability of power supply.

The sagged wires in 33kV and 11kV feeders are posing major threat to the lives of human beings and animals. At some places, due to re-construction / widening of roads, vertical/ horizontal clearances of the feeders have been reduced. This is not only causing violation of statutory guidelines but also increasing the chances of electrical hazards and accidents.

Scope of the Project

For FY 2027-28 , 1854 quantity of interposing poles are proposed at 33 kV, 11 kV and LT lines.

Table 16: Interposing Poles estimate break up

Sl. No.	Description	Unit	Cost per Unit	Total	Total Cost
			(In Cr.)	Qty.	(In Cr.)
1	BoQ for Installation of Interposing poles- (13 Mtr. WPB) at 33 kV line	EA	**0.006**	**161**	**0.988**
2	BoQ for Installation of Interposing poles- (11 Mtr. WPB) at 33 kV line	EA	**0.005**	**325**	**1.728**
3	BoQ for Installation of Interposing poles- (11 Mtr. WPB) at 11 kV line	EA	**0.0051**	**918**	**4.654**
4	BoQ for Installation of Interposing poles- (9 Mtr. PSC) at LT Line	EA	**0.0014**	**450**	**0.632**
Total				**1854**	**8**

Please refer to **Annexure – 5** for details of **BoQ and proposed locations**.

Proposal for CAPEX Investment

To ensure safety and cater reliable power supply to end consumers, TPCODL proposes installation of interposing poles emphasizing critical areas such as schools, hospitals, markets and other key installations of frequent human mobility.

Benefit

With the installation of interposing poles at low clearance locations, statutory compliances will be met and hence safety of employee, public and animals will be enhanced, reducing the chances of electrocution.

2.2 Loss Reduction

The proposed budget for Loss Reduction under Capital Investment Plan FY 2027-28 is as given in the table below:

Table 17: Breakup of Capital Expenditure under Loss Reduction

Activity	Capex Plan for FY 2027-28 (in₹ Cr)
33kV Network Reconfiguration - Power evacuation, Length Reduction	25
Smart DT Meters	10
LT Bare to AB Conversion	30
Damaged / Defective Service Cable replacement for theft elimination, Safety & Reliability	Will be claimed at Actuals at the time of Truing up (in line with Hon'ble Commission's direction given in Capex Order dated 15.05.2026 in Case No 77/2025
Total	**65**

The description of the various schemes are as under

2.2.1 33kV Network Reconfiguration - Power evacuation, Length Reduction Damaged Cable Replacement

Background

In the TPCODL license area, the 33kV network serves as the backbone of the power supply system, interconnecting various 33/11kV primary substations (PSS), where power is stepped down to 11kV for further distribution. However, in many areas, the 33kV feeders are constructed with lower-sized conductors are extended over long distances and are predominantly radial in nature. These characteristics contribute to frequent overloading and low voltage issues, which in turn lead to increased technical losses within the network. There are 18 no's of 33kV feeders which technical loss is more than 3% and 37 no's of feeder length is more than 30 Ckm is a major reason for high losses in 33 kV network.

Proposal

In this proposal, TPCODL intends to implement proposals to reduce technical loss in the 33kV network through augmentation of feeders to strengthen the network, interlinking between 33kV feeders for load balancing and construction of new 33kV feeders nearby existing/ upcoming GSS to reduce the length of existing 33kV feeders.

Requirement/ Need of the Proposal

To reduce the technical loss and improve power supply reliability in the existing 33kV network, the following proposals are considered under capex 27-28 for selected 33kV feeders which cost effective & will also help in for power evacuation from upcoming OPTCL GSS, providing ring connectivity & N-1 connectivity.

i. It is proposed to evacuate power from near by OPTCL Grid substations for feeder load bifurcation and length reduction, for reduction of technical losses and improving the voltage profile at the PSS.

ii. Augment the lower sized conductors in the existing feeder in order to reduce the losses in the feeder and mitigate the overloading issue of the feeder.

iii. It is proposed to have interconnectors in between existing 33kV network for better load balancing and convert the system in ring and perform NOP changes to mitigate the high loss in the network. Further, this interconnection would help in managing the load in case of any exigency and mitigate the issue of overloading.

It is proposed for construction of new 33kV feeder from nearby existing / upcoming OPTCL grids for load bifurcation & length reduction

Scope of Work

Table 18 Scope proposed for Loss Reduction of 33kV through Length Reduction

Summary of Proposal Details for Feeder Loss Reduction								
Sl. No	***Circle***	***Division***	***GSS Name***	***33kV Feeder Name***	***Proposals***	***Estimated Cost (In Cr)***	***Loss Saving with LLF***	***Annexure***
1	BBSR-I	NED	Upcoming Nua Betanda GSS	Proposed Betanda Feeder and Astaranga feeder	Proposal for construction of 2 Nos. 33 kV Feeders from Upcoming OPTCL Betanda GSS to Betenda PSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement	2.94	709.30	Annexure-6.1
2	BBSR-I	BCDD-2	Nayapalli	Nayapalli Feeder-III	Construction of New 33 kV AIS Switchgear Panel at Nayapally PSS along with AIS Panel Board and New Underground Feeders for	6.14	71.26	Annexure-6.2

					Interconnection of ESIC PSS and RRL PSS.			
3	BBSR-II	KHD	Upcoming Hatabasta	Proposed Hatabasta Feeder	Proposal for construction of a New 33 kV Feeder from Upcoming OPTCL Hatabasta GSS to Binodpada for Power Evacuation, Ring Connectivity, Technical Loss Reduction, and Network Reliability Improvement	6.23	392.71	Annexure-6.3
4	Cuttack	CED	Upcoming Nua Betanda GSS	Proposed Kulakapasi Feeder	Proposal for construction of 1No 33 kV Feeders from Upcoming OPTCL Betanda GSS to Kulakapasi PSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement	4.15	368.14	Annexure-6.4
5	Dhenkanal	ANED	Upcoming Chhendipada	Proposed Chhendipada Feeder	Proposal for construction of 1No 33 kV Feeders from Upcoming OPTCL Chhendipada GSS to Chhendipada PSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement	5.54	555.68	Annexure-6.5
Total						**25.00**	**2097.09**	

The total cost for feeder loss reduction through length reduction is₹ 25 Cr.

Proposed Cost with Estimate Break-up

Please refer to **Annexure-6** for details of BoQ for the above cost estimate.

Cost Benefit Analysis

Table 19 Cost Benefit through 33kV feeder Length reduction

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	25.00	RS Cr

B	Additional load due to load growth	-	44785.81	kVA
C	Total kW due to load growth	BXPF(power factor)	42546.52	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	37270751	kWh
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	8.91	RS Cr
I	Revenue owing to tech. loss reduction	From Technical Loss Calculation	6.52	RS Cr
J	Net Revenue Collected	H+I	15.43	RS Cr
K	% revenue return	(J/A)X100	61.7	%
L	Pay Back Period	100/K	1.62	Years

Benefit to the System and Consumers

By executing the proposals as made in this head, loss reduction in the network can be achieved. Following benefits are envisaged from this investment:

i. Reliable Power supply to the Consumers.
ii. Loss reduction in the 33kV network.
iii. Voltage improvement in 33kV network due to load bifurcation & feeder length reduction.
iv. After execution of the above proposals, approx. 2.09 MW reduction in the technical loss is expected in the 33kV network.

2.2.2 Smart DT Meters

Background

Energy Accounting prescribes accounting of all energy inflows at various voltage levels in the distribution periphery of the network, including renewable energy generation and open access consumers, as well as energy consumption by the end consumers. This will help DISCOMs to ascertain high loss making feeders, DT and identify theft pockets to enable corrective actions.

Proposal

Execution plan for balance Smart Metering of all 63kVA DTs of TPCODL licensed area and High Loss 11kV Feeders associated DTRs (Upto 25kVA):

Table 20 : Proposed Execution Plan

Sl No	DT capacity	Total Pending Scope as on March'27	Plan of Execution
1	63 KVA DT	15698	Proposed under CAPEX FY 27-28
2	Utility owned 25 KVA in High loss feeders	1228	Under execution with approved budget of FY 27
3	Pvt 63 KVA DT in high loss feeders	162	
4	Pvt 25 KVA DT in high loss feeders	525	

Justification/ Need of the Proposal

The Bureau of Energy Efficiency with the previous approval of Central Government, in The Gazette of India, has made the following regulations:

- *Bureau of Energy Efficiency (Manner and Intervals for conduct of Energy Audit in electricity distribution companies) Regulation 2021 on 06th Oct 2021.*

As per the regulations, Distribution Companies shall:

a) Ensure that all feeder wise, circle wise and division wise periodic energy accounting shall be conducted by the energy manager of the electricity distribution company for each quarter of the financial year;

b) Submit the periodic accounting report to the Bureau and State Designated Agency and also made available on the website of the electricity distribution company within 45 days from the date of the periodic accounting;

c) Conduct an annual energy audit for every financial year, submit the annual energy audit report to the Bureau and respective State Designated Agency and also made available on the website of the electricity distribution company within a period of four months from the expiry of the relevant financial year.

Further, Hon'ble Commission, in Para- 268, 267 and 272 of Tariff Order for FY'27 have directed TPCODL to complete the metering of DTRs with capacity upto and including 63 kVA in the FY 2026-27, 100% metering of at least 2 to 3 nos. of High Loss 11 kV feeders in each division (with high revenue earning) and associated DTRs & consumers and list out high loss making feeders and prioritize them based on quantum of load catered through such feeders and to take appropriate action to reduce the AT&C loss from present loss level by end of financial year 2026-27. The additional amount approved by the Hon'ble Commission in Capex order FY 2026-27 towards metering of DT with 63 kVA and above capacity will cover only around 11258 nos of 63 kVA DT in FY 2026-27, we are proposing Rs.10 Cr for Smart metering of 4440 DTs in FY 2027-28.

Table 21 : Scope of Work

DT capacity	Total Scope	Qty to be completed in FY'27	Qty proposed in CAPEX FY'28
63 KVA DT	15698	11258	4440

Proposed Cost with Estimate Break-up

Table 22 : **Per Unit Cost of 63kV ST smart Metering**

Sl No	Material Description	Qty	Unit Cost without GST	Total Price Without GST	Total Price With GST
1	3Ph Smart LTCT Meter(100/5) &NIC	1	4717	4717	5566
2	3Ph Smart LTCT Meter Box(200/5)	1	8816	8816	10403
3	4C X 150sq mm XLPE Armoured Cable	Avg 5 Mtr	803	4017	4740
4	LTCT Meter with box Installation	1	1560	1560	1841
5	3Ph Seal (Green seal)	6	4	24	28
Total				**19133.78**	**22578**

Table 23 : **Proposed Scope for Smart Metering at 63kVA DT under CAPEX FY28**

DT capacity	Total Pending Scope as on March'27	Cost Per installation (Rs)	Proposed Qty for CAPEX FY 28	Amt required in FY'28
63 KVA DT	15698	₹ 22,578	4440	₹ 10.02 Cr

Cost Benefit Analysis

This will help DISCOMs to ascertain high loss-making feeders, DT and identify theft pockets to enable corrective actions to reduce AT&C loss.

Benefit to the System and Consumers

- Tracks the parameters of power and distribution transformer
- Keeps the distribution transformers from failing
- Minimizes the losses of power distribution
- Monitors & alerts when the transformer phase fails.
- Can Build Strategies to Reduce Thief
- Puts a Spotlight on High Loss areas

2.2.3 LT Bare to AB Conversion

Background

In power distribution, LT network constitutes a critical element for last mile connectivity to the end consumers. Currently, a significant portion of the LT network relies on bare overhead conductors, which present multiple operational and commercial challenges. Bare conductors are highly susceptible to transient faults caused by external contacts, such as tree branches or accidental falling of foreign objects on the line. These frequent interruptions not only inconvenience consumers but also contribute to higher LT technical losses. In addition, bare LT lines are vulnerable to electricity theft through unauthorized direct hooking, leading to substantial revenue leakage and increased Aggregate Technical & Commercial (AT&C) losses.

Replacing bare LT conductors with Aerial Bunched Cables (ABC) offers a technically superior and commercially secure alternative. ABC provides insulation, ensures adequate safety clearances, minimizes transient faults, and significantly curtails theft, thereby supporting both operational efficiency and financial sustainability.

Proposal

TPCODL proposes to undertake the systematic conversion of LT bare overhead

conductors to LT AB Cable across identified network segments. The adoption of LT AB Cable will help mitigate frequent transient tripping and enhance consumer satisfaction, while simultaneously reducing electricity theft.

With the budgets approved by the Hon'ble Commission in previous years, TPCODL has converted 1,035 Ckm of LT bare lines to LT AB Cable. Another 300 Ckm is currently under execution and is targeted for completion by March 2027.

Of the remaining 3,760 Ckm of LT bare lines, TPCODL has proposed the conversion of 2,150 Ckm in the DPR, in line with the directives of the Hon'ble Commission issued in RST Order dated 24.03.2026 , with a planned utilization over a period of five years. Out of the proposed 2,150 Ckm, 378 Ckm has been included in the present petition.

Requirement/ Need of the Proposal

The conversion from LT bare to LT AB Cable is necessitated by the following factors:

iv. **Reduction of Faults:** LT AB Cable minimizes transient faults caused by external contacts, thereby reducing interruptions to consumers.
v. **Mitigation of Theft:** Direct hooking on bare conductors will be effectively eliminated, reducing pilferage of electricity and lowering AT&C losses.
vi. **Revenue Protection:** By curbing unauthorized connections, the scheme will safeguard revenue and contribute to financial efficiency.
vii. **Improved Safety:** LT AB Cable provides enhanced safety by ensuring adequate clearance from consumer premises and reducing the risk of accidental electrocution.

Statutory Compliance requirement

Hon'ble OERC had given target of AT&C loss reduction for TPCODL and the same has been mandated in vesting order. By implementation of aerial bunched insulated cables instead of bare conductors, pilferage of electricity can be curtailed which subsequently helps in reduction of AT&C losses.

Scope of Work

Table 24 LT AB Cable Size Wise Quantity

Sl. No.	*Description*	*Per Unit*	*Cost per Unit (In Cr.)*	Qty	Total Cost (In Cr.)
1	Conversion Bare to AB Cable using - LT ABC 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.1045788	45	4.71
2	Conversion Bare to AB Cable using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.0870525	115	10.01
3	Conversion Bare to AB Cable using - LT ABC 4C×50 mm² (P)+1C×50 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.0739473	190	14.05
4	Conversion Bare to AB Cable using - LT ABC 4C×35 mm² (P)+1C×35 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.0634270	20	1.27
Total				**370**	**30.04**

The total cost for conversion of LT Bare to LT AB Cable is approx.₹ 30 Cr.

Proposed Cost with Estimate Break-up

Please refer to **Annexure – 8** for details of BoQ for the above cost estimate and Locations covering the scope of work.

Cost Benefit Analysis

Table 25 : **LT Bare to AB Cable conversion – Cost benefit analysis**

Cost Benefit Analysis for LT Bare to LT Ab Cable Conversion			
Sl. No	**Description**	**UoM**	**Value**
A	Span/km (1 span = 40m)	No	25
B	Hooking/ Span	No	5
C = A X B	Hooking/ kM	No	125
D	Units/ hooking (after conversion to new consumers/ increase after parallel hooking removal)/month	Unit/hooking/Month	50
E = C X D	Units recovered per km per month	Unit/kM/ Month	6250
F = E X 12	Units recovered per km per year (12 months)	Unit/kM/Year	75000
G = F / 10^6	Units recovered per km per year (12 months)	MU/kM/Year	0.075
H	Proposed LT Bare to LT AB conversion	Ckm	370
I = G X H	**Total Additional Energy due to reduction in Commercial Losses**	**MU**	**28**
J	**Additional Energy due to reduction in Technical Losses (Estimated)**	**MU**	**3.32**
K = I + J	**Total Additional Energy due to reduction in AT&C Losses**	**MU**	**31**
L	LT ABR Approved in Tariff Order FY 2025-26	Rs/kWh	5.26
M = K X L	Additional Revenue	Rs. Cr.	16.34
N	Total Investment Proposed	Rs. Cr.	30
O = N/ M	**Payback Period**	**Months**	**22.03**

Tangible Benefits

Reduced Theft: ABC systems are designed to minimize electricity theft, which can provide significant financial benefits for power utilities.

Intangible Benefits

i. Improved Safety:
   a. Reduced Electrocutions: The insulation of conductors in ABC cables significantly lowers the risk of accidental electrocutions for people and animals, making the system safer.
   b. Enhanced Fire Prevention: ABC cables are better suited for areas prone to bushfires, like forests and rural regions, reducing fire hazards compared to bare wires.

ii. Increased Reliability and Stability
   a. Fewer Outages: The bundled and insulated design protects against external disturbances like tree branches and lightning strikes, leading to fewer power interruptions.
   b. Better Performance in Harsh Conditions: ABCs are designed to withstand

adverse weather, including intense sunlight, heat, and cold, providing a more dependable supply in all conditions.

iii. Reduced Power Losses & Improved Voltage Regulation

a. Lower Losses: ABC cables have higher energy efficiency and lower overall system losses, as the close proximity of insulated conductors minimizes energy loss through electromagnetic fields (induction and radiation) compared to bare conductors.
b. Better Voltage Regulation: This efficient energy transfer leads to better voltage regulation, providing a more stable and reliable power supply to consumers.

iv. Lower Operational & Maintenance Costs

a. Reduced Maintenance: Less need for frequent tree trimming, fewer fault repairs, and protection against environmental damage translate to lower maintenance costs.
b. Faster Installation: ABCs are easier and faster to install, especially in difficult terrains or congested urban areas, reducing project implementation time.
c. Ease of Connections: Insulation-piercing connectors (IPCs) allow for quick and safe connections to the network without the need to strip insulation.

v. Aesthetic Improvement:

a. In urban areas, bundled cables are often considered more aesthetically pleasing than traditional bare overhead lines.

2.2.4 Damaged /Defective Service Cable Replacement for Safety, Pilferage elimination & Reliability

Background

Since vesting, TPCODL has been undertaking systematic replacement of damaged and very old service cables to improve safety of households, reliability and eliminate pilferage of electricity.

However, during site inspections, it has been observed that several service connections continue to operate with defective or jointed cables which not only create risks of electrocution and theft but also result in unmetered consumption and reduced billing

efficiency. Such cases are primarily associated with elimination of theft, load enhancement where existing service cables are undersized, meter shifting requirements to facilitate proper installation at designated locations, and defective service cable replacement identified during field inspections. Continuation of these defective connections adversely impacts collection efficiency, increases AT&C losses and poses significant consumer safety hazards, thereby necessitating an extension of the replacement program in a phased manner under the current CAPEX plan.

TPCODL is recovering such expenditure from the consumers wherever it is clearly established that the service cable has been damaged dues to reasons attributable to the consumers. However, in most of the cases the reason of damage is not attributable to the consumers (e.g. service cable damage due to old age, due to outdoor harsh environmental conditions etc.) or it cannot be established, in such cases these service cables need to be replaced under by the DISCOM under CAPEX.

The Hon'ble Commission in Capex Order for FY 2026-27 dated 15.05.2026 in the matter of Case No-77/2025 has stipulated such cost to be allowed at actuals during truing up, relevant extract of the order is produced below.

> *The Commission is of the view that the replacement of service cables is generally recovered from consumers. However, the differential expenditure of service cables (if any) over and above the consumer contribution will be considered at the time of true up exercise based on audited expenditure after prudence check.*

Proposal

In view of the criticality of this capex under this head and the Hon'ble Commission above directive given in the Capex order FY 2026-27, it is requested that actual cost under this head may kindly be allowed at time of Truing up .

Replacement shall be undertaken only in specific cases such as:

- Elimination of Pilferage of electricity cases.
- Load enhancement cases.
- Meter shifting to easily accessible area
- Defective cable replacement.

The work will be executed based on inspection and certification by field officers, ensuring that only technically justified cases are taken up.

Justification/ Need of the Proposal

The presence of defective service cables and joints contributes to:

- Safety hazards due to possible electrocution.
- Unauthorized consumption and theft through pilferage points.
- Higher technical and commercial losses.
- Inefficient billing and revenue realization.
- Replacing these cables will reduce risk, improve system reliability, and ensure accurate energy accounting.

Scope of Work

Scope will be ae per actual requirement basis.

Proposed Cost with Estimate Break-up

Table 26 : The approximate estimate for cable replacement at each location

SL No	Material/ Service description	Unit	Unit rate With GST)	Qty	Total Cost (Incl GST)/ 30 mtrs
A	C	D	E	F	G
1	Material- 2C X 6 sq mm cable	Mtr	78	30	2,340
2	Material-1Ph seal (Purple)	No	3.52	3	10.56
3	Service- Installation of 2C*6 sqmm armoured cable	No	830.72	1	830.72
4	Service- Service Cable Removal	No	323.32	1	323.32
Unit cost of service cable replacement including material and services (Rs)-H					**3,504.60**

Cost Benefit Analysis

- Enhanced consumer safety by eliminating risks of electrocution.
- Reduction in electricity theft and pilferage.
- Improvement in billing and collection efficiency.
- Lower AT&C losses leading to better financial health of the utility.
- Improved reliability of supply and consumer satisfaction.

Benefit to the System and Consumers

- Tracks the parameters of power and distribution transformer
- Keeps the distribution transformers from failing
- Minimizes the losses of power distribution
- Monitors & alerts when the transformer phase fails.
- Can Build Strategies to Reduce Thief

- Puts a Spotlight on High Loss areas

2.3 Reliability

The proposed budget for Reliability under CAPEX FY 2027-28 is as given in the table below:

Table 27 : Break up of Capital Expenditure under Reliability

Sr No	Activity	CAPEX Plan Proposed for FY 27-28
1	SCADA & Communication Strengthening of existing PSS through Replacement of RAPDRP RTU	3
2	Grid Sub-station Automation System	15
3	FLC Switchgear Van	4
4	33kV Network Reliability	75
5	11kV Network Reliability	60
6	Replacement of Aged PTR's to improve reliability	12
7	New PSS to meet Network Reliability	25
8	Mitigation of single PTR at 33/11kV PSS	15
9	PSS Refurbishment	10
10	Mitigate VCB Group Control for 33kV and 11kV network Breakers	20
11	LV Protection (63kVA and above)	30
12	T-OFF removal from 33KV Network	5
	Total	**274**

The description of the various schemes are as under

2.3.1 SCADA & Communication Strengthening through replacement of RAPDRP RTU SCADA

Background

TPCODL has been in the forefront, in adoption of latest technology in the power utility sector pan Odisha. Together with its culture of Consumer Service Excellence, Continuous Learning, Performance Orientation, Innovation and Empowerment, it has been able to set benchmarks in accelerated reduction of tripping, equipment failure, enhance consumer satisfaction and improve employee productivity.

One of the significant challenges that the utilities face is restricting the fault at minimum possible section of the electrical network and clearing the fault in minimum possible time. To achieve this feature utility works round the clock to minimize equipment failure, equipment down time and faster restoration thus ensuring reliability and enhanced MTTR. All the utility across the globe moving towards deployment of technology to make

the Grid smarter in order to ensure operation excellence and serve the consumer with green and continuous power supply with any interruption. To achieve the TPCODL Vision and Mission, TPCODL deploying the latest technology for automation of Primary Substation for Centralized monitoring and control of entire distribution network for faster decision making and corrective action for restoration of the network ensuring. TPCODL already deployed Substation Automation System in FY 20-21 and till now **integrated 290 Nos. of 33/11 kV primary substations** in phased manner and remotely monitored and controlled from a centralized location PSCC at Bhubaneswar.

Proposal and Necessity

It is proposed to upgrade and strengthen Substation Automation System & Network Infrastructure by replacing the existing old RTUs in 33/11kV PSS and provisioning of industrial-grade Ethernet switches with structured network cabling (FO/ LAN) for higher system availability and enhanced reliability.

Modernization & Upgradation of 33/11kV PSS Substation Automation & Network Infrastructure under RAPDRP/IPDS/PNP/ODSSP:

The existing RTUs installed under RAPDRP, IPDS, PNP and ODSSP schemes—covering critical areas in Bhubaneswar, Cuttack, and Puri Town—have exceeded their vendor support lifecycle. This has resulted in frequent SCADA system unavailability, data outages, and increased maintenance overhead. Furthermore, the absence of redundant, managed communication switches poses a significant risk to network reliability, introducing single points of failure.
In addition to above following aspects are to be enhanced:

- Non-Redundant RTU
- Obsolesce of Hardware, Spares & Support
- Missing latest upgradation, scalability & flexibility
- Non-compliance of Cybersecurity features & NCIIPC, Cert-IN Standards
- Interoperability Issue with modern protocols like IEC-61850
- Reduced reliability & Performance

The proposed arrangement will ensure improved uptime, SCADA visibility, cyber resilient system, and regulatory compliance across substations.

Statutory Compliance Requirement

All statutory requirement complied as and when required for the proposed CAPEX plan.
The communication infrastructure proposed for the integration of SCADA & Substation Automation System are from the services of Network Bandwidth Service Provider (NBSP).

All statutory compliance with respect to communication infrastructure will be managed by NBSP in consultation with TPCODL.
The proposed SAS System will have the provision to comply all the guidelines issued of CERT-IN, NCIIPC during the implementation.

Proposal for the Capex Investment

TPCODL has identified a number of challenges related to Safety, 33KV/11KV Substation Automation infrastructure and Technology usage. These challenges are planned to be addressed through a systematic investment plan by TPCODL. The proposed "Capex Plan" represents a justified and efficient level of total capital investment estimated by TPCODL to meet the service obligation; improving safety, reliability of network and level of service standards.

Table 28 : CAPEX Proposed for Upgradation of Sub-station Automation System

Sl. No.	Activity Planned	Capex Proposed (FY 28)
1	Upgradation of Substation Automation System at 30 Nos of 33/11kV PSS in BBSR-I	2.82 Cr
2	Strengthening of Network Infrastructure at 30 Nos of 33/11kV PSS in BBSR-I	0.18 Cr
3	**Total Cost**	**3.0 Cr**

Scope of the Proposal:

In TPCODL, there are approx. 52 Nos. of 33/11 kV Sub-stations under RAPDRP/IPDS/PNP/ODSSP and are planned to upgrade the substation automation system & network infrastructure in two subsequent financial years. i.e. FY27 to FY28. In FY 27, Hon'ble Commission has approved ₹ 2 Cr for 22 Sub-stations in Cuttack area. Rest 30 locations in Bhubaneswar area are being proposed in the current financial year.

The proposal of FY28 is for BBSR-I as mentioned in the table below:

Scope of Work	No. of Substation	Execution Plan
Upgradation of Substation Automation System & Network Infrastructure at 33/11kV PSS of BBSR-I	30	FY 28

Cost Estimation and Execution Timelines

Table 29 : **Break-Up of Cost estimate for Upgradation of Substation Automation**

Sl. No.	Proposal	Details	Quantity / PSS	Total PSS	Total Qty	UoM	Unit Price	Total Cost
1	Existing RTU Replacement - under RAPDRP/IPDS/PNP/ODSSP Scheme	RTU Rack	1	30	30	Nos.	6,00,000.00	1,80,00,000.00
2	SITC of Ethernet Switches for PSS - 16 Ports(12 Cu, 4 FO) (52 Nos) 2 Ethernet switches per PSS	Ethernet Switches with LAN Cabling LAN Cabling	2	30	60	Nos.	1,35,000.00	81,00,000.00
3	SITC of Diode - Oring or RAPDRP - ODSSP	20Amp Rating 24/48V Diode Oring Unit: 2 Nos. per PSS	2	30	60	Nos.	10,000.00	6,00,000.00
4	Multi Function Meter	MFM for SAS	3	30	90	Nos.	17,000.00	15,30,000.00
Total								**2,82,30,000.00**

Sl. No.	Proposal	Details	Quantity / PSS	Total PSS	Total Qty	UoM	Unit Price	Total Cost
1	Inter connection of extended substations on Fibre Link	i) 4 Nos. RS485 and 2Nos. Ethernet Ports Serial Server: 1 No./PSS	1	30	30	Nos.	30,000.00	9,00,000.00
		ii) LIU with Adaptor plate & Adaptor: 12 Nos./PSS	2	30	60	Nos.	4,000.00	2,40,000.00
		iii) Pre fab Patch cable 8 Nos./PSS:	6	30	180	Nos.	200.00	36,000.00
		iv) 12 Core SM armoured FO Cable	400	30	12000	Meter	50.00	6,00,000.00
Total								**17,76,000.00**

Table 30 : **Proposed 30 No of Locations for Sub-station Automation**

Sl. No	Circle Name	Division Name	Subdivision Name	Section Name	SS NAME	Lat	Long	Scheme
1	BBSR-1	BCDD-01	SUBDIVISION-3	BOARD COLONY	33/11 kV BOARD COLONY	20.293805	85.833939	RAPDRP
2	BBSR-1	BCDD-01	SUBDIVISION-3	SAHID NAGAR	33/11 kV SAHID NAGAR	20.295214	85.848170	RAPDRP

Sl. No	Circle Name	Division Name	Subdivision Name	Section Name	SS NAME	Lat	Long	Scheme
3	BBSR-1	BCDD-01	SUBDIVISION-3	UNIT-9 ROAD	33/11 kV SATYA NAGAR	20.280239	85.849317	RAPDRP
4	BBSR-1	BCDD-01	SUBDIVISION-1	BRIT COLONY	33/11 kV DELTA	20.276370	85.809123	RAPDRP
5	BBSR-1	BCDD-01	SUBDIVISION-2	UNIT-4	33/11 kV UNIT-4	20.281604	85.833679	RAPDRP
6	BBSR-1	BCDD-01	SUBDIVISION-2	KARVEL NAGAR	33/11 kV UNIT-3	20.278474	85.836820	RAPDRP
7	BBSR-1	BCDD-01	SUBDIVISION-1	UNIT-6	33/11 kV UNIT-6	20.263563	85.826998	RAPDRP
8	BBSR-1	BCDD-01	SUBDIVISION-2	UNIT-1	33/11 kV AIR PORT	20.254509	85.821574	RAPDRP
9	BBSR-1	BCDD-02	PERIPHERI	CS PUR-2	33/11 kV CS PUR-2	20.332987	85.809887	RAPDRP
10	BBSR-1	BCDD-02	PERIPHERI	KANANVIHAR	33/11 kV KANAN VIHAR	20.355301	85.832479	RAPDRP
11	BBSR-1	BCDD-02	PERIPHERI	KANANVIHAR	33/11 kV KALARAHANGA	20.361356	85.831202	RAPDRP
12	BBSR-1	BCDD-02	NAYAPALLI	VSS NAGAR	33/11 kV SAINIK SCHOOL	20.317706	85.831962	RAPDRP
13	BBSR-1	BCDD-02	NAYAPALLI	XAVIER	33/11 kV XAVIER	20.307295	85.818442	RAPDRP
14	BBSR-1	BCDD-02	NAYAPALLI	IRC NAYAPALLI	33/11 kV NAYAPALLI	20.296689	85.811577	RAPDRP
15	BBSR-1	BCDD-02	NAYAPALLI	BARAMUNDA	33/11 kV BARAMUNDA	20.276408	85.795270	RAPDRP
16	BBSR-1	BCDD-02	PERIPHERI	BARANG	33/11 kV BARANGA NEW	20.412199	85.824935	RAPDRP
17	BBSR-1	BCDD-02	PERIPHERI	BARANG	33/11 kV NEW KALARAHANGA IPDS	20.353429	85.841177	IPDS
18	BBSR-1	BED	TEMPLE	DHAULI	33/11 kV BHIMATANGI	20.233824	85.813388	RAPDRP
19	BBSR-1	BED	RASULGARH	RASULAGARH S/O	33/11 kV RASULGARH	20.294677	85.855786	RAPDRP
20	BBSR-1	BED	TEMPLE	UTTARA	33/11 kV UTTARA	20.197806	85.858816	RAPDRP
21	BBSR-1	BCDD-01	SUBDIVISION-2,BBSR	UNIT-2	33/11 kV MASTER CANTEEN/UNIT-2 ODSSP	20.265809	85.834943	ODSSP
22	BBSR-1	BCDD-02	KHANDAGIRI	BHARATPUR	33/11 kV GOTHAPATNA ODSSP	20.293942	85.731970	ODSSP
23	BBSR-1	BCDD-02	KHANDAGIRI	KALINGANAGAR	33/11 kV RANSINGHPUR ODSSP	20.228823	85.780388	ODSSP
24	BBSR-1	BCDD-02	PERIPHERI	BARANG	33/11 kV CHANDAKA (BARANGA)	20.332537	85.771419	ODSSP
25	BBSR-1	BCDD-02	NAYAPALLI	VSS NAGAR	33/11 kV VANIVIHAR ODSSP	20.305584	85.847635	ODSSP
26	BBSR-1	BCDD-02	NAYAPALLI	XAVIER	33/11 kV RRL ODSSP	20.301991	85.823622	ODSSP

Sl. No	Circle Name	Division Name	Subdivision Name	Section Name	SS NAME	Lat	Long	Scheme
27	BBSR-1	BED	TEMPLE	BARAGADA	33/11 kV KALPANA ODSSP	20.254681	85.849696	ODSSP
28	BBSR-1	BED	TEMPLE	DHAULI	33/11 kV PRADHAN SAHI ODSSP	20.185378	85.790341	ODSSP
29	BBSR-1	BED	RASULGARH	MANCHESWAR	33/11 kV CHAKEISIANI ODSSP	20.331361	85.848756	ODSSP
30	BBSR-1	BED	RASULGARH	LAXMISAGAR	33/11 kV KESURA	20.271803	85.876286	RAPDRP

Benefits

- **Tangible and Intangible**

Upgradation of Substation Automation System would ensure optimum resource utilization and functionalities used in the SCADA System along with enhancement reliability and higher system availability. Other benefits include:

- Improved SCADA Data Availability through modern automation hardware and reliable communication architecture.
- Reduction in Maintenance Efforts and Downtime due to supportable, upgraded, and standardized equipment.
- Cost Savings over the long term by eliminating recurring failures and manual interventions.
- Enhanced System Reliability and Uptime, contributing to better grid stability and customer satisfaction.
- Future Scalability and Flexibility to integrate modern substations and advanced protocols (e.g., IEC-61850).
- Cybersecurity and Regulatory Compliance, aligning with guidelines of NCIIPC, CERT-In, and national standards.
- Operational Efficiency through improved data visibility, faster response times, and reduced manual dependency.
- Improved Interoperability across multivendor devices using standardized protocols.

- **Benefits to Customer**

- Reduction in restoration time of outage
- Improved reliability of service
- Better control of power quality and enhanced use of reactive power sources
- Useful feedback information to the customer in terms of expected outage duration time etc.

- Monitoring the potential quality problems and also the reliability problems due to supply interruptions.

- **Indirect Savings/Improvements**

- Reduction in overall maintenance and inventory carrying cost.
- Strengthening of existing operational technology infrastructure.
- Detection and protection of operational system from Cyber Security vulnerabilities.
- Improvement in reliability of power supply to consumers.

2.3.2 Grid Sub-Station Automation System with SCADA Enablement of Conventional Sub-station

Background

TPCODL, began operations on June 1, 2020, after taking over from the erstwhile CESU. The company serves a large distribution area of about 29,354 square kilometres, catering to a population of nearly 1.36 crore people. With a customer base of around 33 lakh, TPCODL is responsible for ensuring reliable electricity supply across Central Odisha. Its extensive distribution network includes approximately 4,082 circuit kilometres of 33 kV lines, 39,350 circuit kilometres of 11 kV lines, and 50,435 circuit kilometres of low-tension lines, 386 no. of Primary Substations**,** making it one of the largest power distribution utilities in the region.

Initial Status at the Time of Inception:

At the time of vesting, TPCODL inherited 33/11 kV conventional Primary Substations (PSS) from erstwhile CESU. The substations were equipped with electro-mechanical/static relays and control panels, which were not SCADA compliant. This limited the monitoring and control capability of the substations, thereby impacting reliability, fault restoration time, and operational efficiency. SCADA was there for 52 No's RAPDRP stations and 4 PNP stations. It was un-utilized for centralized remote control and monitoring.

TPCODL has proposed to upgrade and strengthen Substation Automation System & Network Infrastructure by replacing the existing old RTUs in 33/11kV PSS and provisioning of industrial-grade Ethernet switches with structured network cabling (FO/ LAN) for higher system availability and enhanced reliability. Hon'ble Commission has approved for this upgradation at 22 Nos of PSS in CAPEX FY 27 and remaining 30 Nos are being proposed under CAPEX FY 28. Along with RTU upgradation, the upgradation of non-SCADA compliant electro-

mechanical/static relays and control panels are very essential for complete remote monitoring and SCADA operation.

Scope Completed Since Vesting:

TPCODL has already implemented a state-of-the-art SCADA system, enabling real-time monitoring and operations of the network. Out of 386 PSS, till now **290 PSS** have been automated and integrated with SCADA. By end of FY 27, 333 PSS have been targeted for automation with SCADA with available budgets approved by Hon'ble Commission.

25 Nos are proposed under the CAPEX FY 28 against a budget of ₹ 15.33 Cr.

Volume Balance to be completed under Subsequent CAPEX:

TPCODL has planned to automate and integrate all PSS by FY29 with kind approval from the Hon'ble Commission.

A total of 333 PSS has been planned to be integrated by the end of FY27. 25 Nos are proposed in this CAPEX petition for FY 27-28. Remaining will be proposed under CAPEX FY 29.

Proposal

Implementation of **Grid Substation Automation System (GSAS)** across all Primary Substations (33/11 kV) by replacing obsolete/non-communicable relays and control panels with **SCADA-compliant equipment**, ensuring **real-time remote monitoring and control** from the Power System Control Centre (PSCC).

Requirement/ Need of the Proposal

1. **Deficiency in the Existing System**
    a. Conventional substations with outdated electro-mechanical/static relays are **not SCADA compliant**.
    b. Inability to monitor and control substations remotely delays **fault isolation, restoration, and preventive maintenance**.
    c. Increased **Mean Time to Restore (MTTR)** and reduced network reliability.
2. **Benefits of the Proposed Arrangement**
    a. Centralized monitoring and control from PSCC.
    b. Faster fault detection, isolation, and restoration.
    c. Improved operational efficiency and asset reliability.
    d. Reduction in downtime and customer interruptions.
3. **Statutory Compliance**
    a. Ensures compliance with **CEA guidelines** and regulatory directives for **automation, safety, and reliability**.
    b. Supports the transition towards a **Smart Grid framework** as per national roadmap.

Scope of Work

a. Replacement of non-communicable relays/control panels with IED-based (Intelligent Electronic Device) SCADA-compliant relays.
b. Integration of PSS with the existing SCADA system.
c. Phase-wise execution as per approved roadmap.
d. Installation of State-of-the-art CRP in place of old dilapidated CRP

TPCODL has planned to implement GSAS in 25No's of PSS with 15.33 crore.

Table 31 : ***Proposed Cost with Estimate Break-up***

Sl. No.	Description	Unit	Per Unit Cost (In Cr.)	Total Qty.	Total Cost (In Cr.)
1	BOQ for Installation of CR panel for 3 Feeder Protection (33 kV or 11 kV)-CRP3F	EA	**0.103**	**44**	**4.55**
2	BOQ for Installation of CR panel for 2 Feeder Protection (33 kV or 11 kV)-CRP2T	EA	**0.100**	**23**	**2.30**
3	BOQ for Installation of CR panel (Stand alone) for Feeder Protection (33 kV or 11 kV) (Existing CR Panel to be re-used)	EA	**0.006**	**13**	**0.07**
4	BOQ for Installation of BCPU (33 kV or 11 kV)	EA	**0.014**	**43**	**0.62**
5	BOQ for Installation of 11 kV Switchgear Panel Board	EA	**1.270**	**3**	**3.81**
6	BOQ for different size of Control Cable (Total-400 Mtr./Location)	EA	**0.014**	**194**	**2.64**
7	Battery & Battery Charger	EA	**0.039**	**8**	**0.31**
8	RTU	EA	**0.130**	**8**	**1.04**
				TOTAL	**15.33**

Table 32 : **Station wise estimate is as below:**

Sl No	Circle	Division	PSS name	Estimated Cost (in Rs Cr)
1	BBSR2	Khordha	Sunadeimundia	0.391
2	BBSR2	Khordha	Jatamundia	0.401
3	PDP	JED	Nabapatna	0.415
4	BBSR2	Nayagarh	NUAGAON	0.415
5	DKL	TED	KHAMAR	0.434
6	DKL	TED	Kaniha	0.463
7	DKL	AnED	Bantala	0.458
8	PDP	KED1	Aul	0.473
9	CUTTACK	AED	BADAMBA	0.559
10	DKL	AnED	JARAPADA	0.559
11	PDP	JED	Sova	0.559
12	BBSR2	PED	CHANDANPUR	0.559
13	PDP	KED2	Mahakalpada	0.574
14	BBSR2	Nayagarh	GANIA	0.561

15	PDP	PDP	RAHAMA	1.284
16	BBSR2	PED	SATASANKHA	1.411
17	CUTTACK	AED	NUAPATNA	1.469
18	BBSR1	NED	BALAKATI	0.728
19	DKL	DED	KALIAPANI	0.313
20	DKL	AnED	Anandpur	0.440
21	DKL	AnED	MADHAVPUR	0.459
22	DKL	AnED	CHHENDIPADA	0.652
23	DKL	DED	Kankadahad	0.728
24	PDP	JED	Balikuda	0.728
25	PDP	PDP	Trilochanpur	0.298
				15.333

Attached estimate copies, PSS wise scope has been attached here-with

Table 33 : **Cost-Benefit Analysis**

No. of operators before GSAS	No. of operators after GSAS (7/3PSS)	Salary of operator (INR)	Salary Benefit (Annual)	Calculations	Value	unit
A	B = no. of PSS x 7/3	C	D = (A-B)XCx12			
149	59	22000	2,37,60,000.00	Total Scheme Cost (incl. Taxes)	15.33	Cr.
				Pay Back Period of Scheme (F=Total Project Cost/E)	6.45	Years
				% Rate of Return	15.50	%

The above payback calculation is based solely on manpower optimization. Additional benefits from improved reliability, reduced O&M expenditure, faster fault isolation, reduced equipment damage, and enhanced system availability have not been monetized and therefore the actual project benefits are expected to be significantly higher.

Effective payback is expected to be lower considering additional benefits from reduced outages, avoid equipment failure, lower maintenance costs, and improved reliability.

Benefit to the System and Consumers:

- Centralized monitoring and control through PSCC will enable real-time visibility of substation assets and improve operational safety.
- Reduction in field visits and manual intervention will lead to lower O&M expenditure and improved resource utilization.

- Faster detection, isolation, and restoration of faults will reduce Mean Time to Restore (MTTR).
- Advanced IED/BCPU-based protection system will minimize equipment stress and avoid major transformer/switchgear failures.
- Improved reliability indices (SAIDI/SAIFI) resulting in better consumer service levels.
- Enhanced power system resilience and preparedness for future Smart Grid integration.
- Compliance with statutory and regulatory requirements for communication and automation infrastructure.

Compliance for CEA Guidelines:

The proposed GSAS scheme complies with the provisions of the CEA (Technical Standards for Communication System in Power System Operation) Regulations, 2020, specifically:

- **Regulation 4:** Functional Requirements
- **Regulation 16:** Access to Data
- **Regulation 18:** System Upgradability and Expandability
- **Regulation 19:** Centralised Monitoring

Benefits:

a. Avoided equipment damage and reduced failure rates.
b. Faster restoration → lower SAIDI/SAIFI indices.
c. Lower O&M costs due to remote supervision.
d. Enhanced regulatory compliance and customer satisfaction.

Benefit to the System and Consumers

For the System:

a. Reliable and resilient grid with real-time monitoring.
b. Enhanced control and operational efficiency.
c. Reduced breakdowns and preventive maintenance support.
d. Readiness for Smart Grid integration.

For Consumers:

a. Reduced outage duration (improved MTTR).
b. Improved reliability and power quality.
c. Better customer satisfaction due to faster service restoration.

The Scope of work, estimate with BoQ and Cost Benefit Analysis is enclosed as **Annexure-9.**

2.3.3 Fault Location Van (FLC Switchgear Van)

Background

TPCODL currently has four van-mounted cable fault locator systems deployed for cable fault location, testing, and maintenance activities across its expanding underground cable network. With the continuous growth of the 11 kV and 33 kV underground cable network, along with the increasing deployment of RMUs and Compact Substations, the operational dependency on reliable and readily available cable fault location equipment has increased significantly.

Out of the four systems, two systems, namely Cable Test Vans bearing vehicle numbers MH 02 ER 6726 and MH 02 ER 6725, were purchased in 2018 and are approximately 9 years old. Both systems are M/s Megger India SPG-40 models and have completed more than 2000 cable test cycles. Due to ageing and continuous field operations, these systems are experiencing frequent breakdowns. Further, the OEM has informed that both existing SPG-40 models have become obsolete and that the availability of critical spare parts and electronic components is becoming increasingly difficult, which will make repair of both systems increasingly difficult. Considering the equipment's serviceable life of approximately 10 years (**Annexure-10** attached Letter from BA on service life of the van), continued operation of these ageing systems is expected to result in frequent system breakdowns, longer repair times, and higher repair costs.

Of the remaining two systems, one is a compact system with limited testing capabilities and is not suitable for certain critical applications, particularly testing of long-length cables and locating high-resistance faults.

The existing cable fault locator van details are as follows:

Table 34 : Fault Locator Van Details

Sl. No.	Name of Vehicle	Year of Purchase	OEM	Model	Features
1	Cable Test Van (Force Traveller MH 02 ER 6726)	2018	M/s Megger India	SPG-40	Test: IR & DC Hi-pot; Pre location: ARM, ICE, Decay; Pinpoint: Surging
2	Cable Test Van (Force Traveller MH 02 ER 6725)	2018	M/s Megger India	SPG-40	Test: IR & DC Hi-pot; Pre location: ARM, ICE, Decay; Pinpoint: Surging
3	HT Test Van (Mahindra Camper OD 02 CF 3390)	2022	M/s Techno Ins Pvt. Ltd	SURGEN 8, SURGEN 5	Pre location: ARM; Pinpoint: Surging

4	CENTRIX Fault Locator (Force Traveller OD 02 CJ 9144)	2023	M/s Megger India	Centrix EVO	Test: IR & DC Hi-pot; Conditioning: Burning, Power Burning; Pre-location: ARM, ARM+, ICE, Decay; Pinpoint: Surging, ICE Surging; Diagnosis: VLF, PD, Tan Delta; Cable Tracer: Audio Frequency; Sheath Test: Sheath Fault Pinpoint

TPCODL's underground network has expanded significantly, covering a wide geographical area across multiple operational circles. The extensive deployment of fault locator vans and long-distance mobilisation often results in increased response time, particularly when multiple cable faults occur simultaneously. Equipment breakdowns further increase dependency on the limited available systems, adversely affecting fault response and timely cable fault pinpoint.

Proposal

Procurement of one additional modern van-mounted cable fault locator system with advanced testing and fault location capabilities is proposed to enhance equipment availability, reduce fault response and restoration time, provide operational backup during breakdowns, and strengthen preventive and emergency cable test activities.

Justification/ Need of the Proposal

Considering the continuous growth of the underground cable network, increasing fault incidences, extensive geographical coverage, ageing and obsolete equipment, frequent breakdowns, and limited capability of the existing system, the present fleet is no longer adequate to efficiently meet operational requirements.

The two SPG-40 systems purchased in 2018 are approximately 8 years old and have completed more than 2000 cable test cycles. Due to ageing and continuous field operations, these systems are experiencing frequent breakdowns. Further, the OEM has informed that the existing SPG-40 model has become obsolete and that the availability of critical spare parts and electronic components is becoming increasingly difficult. Continued operation of these ageing systems is therefore expected to result in frequent system breakdowns, longer repair times, and higher repair costs.

Further, one of the remaining systems is a compact system with limited testing capabilities and is not suitable for certain critical applications, particularly testing of long-length cables and locating high-resistance faults.

The extensive geographical coverage of TPCODL's underground cable network and long-distance mobilisation of fault locator vans also results in increased response time, particularly when multiple cable faults occur simultaneously. Equipment breakdowns further increase dependency on the limited available systems, adversely affecting fault response and timely cable fault pinpoint.

In view of the above, procurement of one additional modern van-mounted cable fault locator system with advanced testing and fault location capabilities is required to improve equipment availability, reduce fault response and restoration time, and provide operational backup during breakdowns.

Scope of Work

Procurement of one additional modern van-mounted cable fault locator system with advanced testing and fault location capabilities for deployment across TPCODL's underground cable network.

Table 35 : **Proposed Cost with Estimate Break-up**

Description	QTY	UOM	Unit Price	GST(18%)	Unit Price(With GST)	Rate Reference
Vehicle mounted Megger Fully Automatic 33KV Van Mounted CFL with VLF	1	EA	3,40,00,000.00	61,20,000.00	4,01,20,000.00	Vendor Quotation

Cost Benefit Analysis

The proposed procurement will enhance the availability of cable fault location equipment and reduce dependency on the limited existing systems. It will help reduce fault response and restoration time, particularly during simultaneous cable faults and periods of equipment breakdown.

The additional system will also provide operational backup and strengthen preventive and emergency cable test activities across TPCODL's expanding underground cable network.

Benefit to the System and Consumers

The procurement of one additional modern van-mounted cable fault locator system will enhance equipment availability for cable testing and fault location activities across TPCODL's expanding underground cable network.

The proposed system will help reduce fault response and restoration time, provide operational backup during breakdowns, and strengthen preventive and emergency cable test activities. This will support timely cable fault pinpoint and improve the operational capability of TPCODL's underground cable network.

2.3.4 33 kV Network Infrastructure

Background

In TPCODL licensed area, 33kV network forms the backbone of the power supply system. This network is widely spread across the region and connects various 33/11kV Primary Substations (PSS), where power is stepped down to 11kV for further distribution. The 33kV feeders are critical assets for the distribution utility, as they interconnect power substations and ensure reliable power supply to end consumers.

To strengthen the existing network and address operational challenges, the following key intervention areas have been identified:

- **33kV Network Refurbishment** to replace aging infrastructure and improve network operational performance.
- **Enhancement of Reliability of the 33kV Network**, with a focus on critical areas such as Bhubaneswar city, Cuttack city, industrial zones and other strategically important locations.
- **Providing 33kV second source to the PSS,** to enhance the reliability of the 33kV feeders.

Proposal

In this proposal, TPCODL intends to improve reliability of the 33kV feeders by feeder augmentation, feeder interconnection and construction of new feeders.

Requirement/ Need of the Proposal

33kV Network Refurbishment

The 33kV network in the TPCODL licensed area includes a significant portion of undersized conductors, long spans, dense vegetation in the feeder passage, compromised vertical and horizontal clearances which leads to frequent breakdowns and prolonged shut down to the consumers. Most of these 33kV lines are very old, having porcelain insulators susceptible to repeated failures and pass-through paddy fields, difficult terrains and dense vegetation which requires urgent refurbishment. Refurbishment of this network is essential to strengthen the existing 33kV network by adding additional interposing poles, new conductors and associated accessories to meet the load demands, reliable power quality and safety standards. This initiative will enhance the current carrying capacity of feeders, reduce fault rates, improve voltage regulation and ensure reliable and uninterrupted power supply to consumers. The proposed use of XLPE covered conductors will significantly improve the reliability and safety

of the distribution network by reducing faults caused by tree branches, bird contacts, etc. These conductors provide better insulation and mechanical strength compared to bare conductors, resulting in fewer interruptions, reduced maintenance requirements, enhanced public safety and improved reliability of power supply, especially in densely vegetated and urban areas.

33kV Network Interconnection for ring connectivity

Most of the 33kV feeders and associated feeders are connected in radial nature. The 33kV interconnection enables the ring connectivity and help in load diversion during contingency situations and help in load bifurcation thereby reducing the risk of overloading on individual feeders. This helps provide alternative power supply to affected network during faults, maintenance, minimizing supply interruptions to consumers. This improves restoration time, reduces feeder tripping incidents and supports load growth without the immediate need for large-scale infrastructure expansion. Overall, feeder interconnection contributes to a more resilient and responsive distribution network across the TPCODL licensed area.

Providing 33kV second source to the PSS

Many 33/11kV Primary Substations (PSS) in the TPCODL network have only a single source connectivity, which creates a significant reliability concern. In the event of an upstream feeder fault, maintenance activity or any network contingency, the entire substation and its connected consumers experience prolonged outages due to the absence of an alternate power supply. Single connectivity also reduces operational flexibility, increases restoration time and affect the reliability of power supply to the consumers.

There are 382no's of PSS in summer'26, out of which only 45% of the PSS having dual sources which will be increased to 63% by summer-28 through execution of ongoing schemes as well as CAPEX 27-28.

In CAPEX 27-28 it is proposed, 21nos. 33/11kV PSS are to be provided with second source connectivity are proposed

Table 36 : Proposal Head

PSS with no's of 33kV Sources	Summer' 25	Summer' 26	% PSS with no of sources in summer' 26	Summer' 27	% PSS with no of sources in summer' 27	Summer' 28	% PSS with no of sources in summer' 28	Remark
Dual Source	168	173	45%	220	58%	241	63%	**21**no's PSS second source proposed under CAPEX 27-28
Single Source	205	209	55%	162	42%	141	37%	
Total	**373**	**382**		**382**		**382**		

Table 37 :List of PSS Proposed for dual connectivity in CAPEX FY 27-28

Sl. No.	Circle	Division	Name of 33/11kV PSS	Proposal Head	Remarks
1	BBSR-1	BED	Bhingarpur	33kV Network Reliability	Proposed under CAPEX 27-28
2	BBSR-1	NED	Betanda	Loss Reduction	
3	BBSR-2	BAED	Solari	33kV Network Reliability	
4	BBSR-2	BAED	Nachuni	33kV Network Reliability	
5	CUTTACK	AED	Tigiria	33kV Network Reliability	
6	CUTTACK	CDD-2	Matagajpur	33kV Network Reliability	
7	CUTTACK	CED	Balikuda	33kV Network Reliability	
8	CUTTACK	CED	Kulakapasi	Loss Reduction	
9	CUTTACK	CED	Niali	Loss Reduction	
10	CUTTACK	CED	Pratap Nagari/ Dahaliabag	33kV Network Reliability	
11	DHENKANAL	ANED	Chhendipada	Loss Reduction	
12	DHENKANAL	ANED	Jarapada	Loss Reduction	
13	DHENKANAL	ANED	Badakera	33kV Network Reliability	
14	DHENKANAL	DED	Badasunalo	33kV Network Reliability	
15	DHENKANAL	DED	Dakhinakali	Loss Reduction	
16	DHENKANAL	DED	Dayanbil	33kV Network Reliability	
17	DHENKANAL	DED	Mathakargola	33kV Network Reliability	
18	PARADEEP	KED-1	Chhagaria	33kV Network Reliability	
19	PARADEEP	KED-1	Chokada	33kV Network Reliability	
20	PARADEEP	KED-1	Jahara Barimula/ DK Bhola	33kV Network Reliability	
21	PARADEEP	KED-2	Korua	33kV Network Reliability	

****Out of the 21nos. PSS, 6nos. PSS second source connectivity are covered under 33kV Loss Reduction proposal.**

33 kV Feeder Ring Connectivity

In summer'26 there are total 283no's of 33kV feeders out of which 31no's are dedicated and 78% are in ring connectivity excluding dedicated HT consumers feeders. The ring connectivity will be increased to 88%, 9 no's feeders ring connectivity proposed under CAPEX 27-28. Out of 9 no's feeders 7no's feeders proposed under Network Reliability and 2 no's under Loss Reduction head.

Table 38

No's of 33kV feeders	**Summer' 25**	**Summer' 26**	**% Feeder with no of sources in summer' 26**	**Summer' 27**	**% Feeder with no of sources in summer' 27**	**Summer' 28**	**% Feeder with no of sources in summer' 28**	**Remarks**
Ring	184	196	78%	212	84%	221	88%	**9**no's feeders proposed under CAPEX 27-28
Radial	62	56	22%	40	16%	31	12%	
Total no of feeder	**246**	**252**		**252**		**252**		

** 33kV feeder list excluding 33kV HT consumers dedicated feeders.

Table 39: 33 kV Feeder proposed for ring connectivity under CAPEX FY 27-28

Sl. No	Circle	GSS	33kV Feeder Name	Proposal Head	Remarks
1	BBSR-I	PHULNAKHARA	BHINGARPUR	33kV Network Reliability	Proposed under CAPEX 27-28
2	BBSR-II	BALUGAON	ANKULAPADAR	33kV Network Reliability	
3	BBSR-II	BALUGAON	TANGI	33kV Network Reliability	
4	BBSR-II	CHANDPUR	TANGI-CH	33kV Network Reliability	
5	Cuttack	CUTTACK	FDR-1 (BALIKUDA)	33kV Network Reliability	
6	Cuttack	NUAPATNA	TIGIRIA	33kV Network Reliability	
7	Dhenkanal	BOINDA	JARAPADA	Loss Reduction	
8	Dhenkanal	GUNDICHAPADA	DAKHINAKALI	Loss Reduction	
9	Dhenkanal	KAMAKHYANAGAR	MATHAKARGOLA	33kV Network Reliability	

33kV Feeder length reduction

In summer'26 there are total 283 no's 33kV feeders out of which, 37No's feeders length are more than 30ckm.
Currently 14no's feeders length reduction work in progress under different schemes and 4no's feeders length reduction proposed under CAPEX 27-28.

Table 40

33kV feeder length > 30Ckm in Summer'24	33kV feeder length > 30Ckm in Summer'25	33kV feeder length > 30Ckm in Summer'26 (A)	No of feeders length reduction work in progress in FY'27 (B)	No of feeders length reduction proposed in FY'28 (C)	No of 33kV feeder left out length > 30Ckm after FY'28 (D=A -(B+C))	Remarks
54	45	37	14	4	19	1. 4no's feeders length reduction proposed under CAPEX 27-28. 2. Total no of feeders in summer'26 are 283no's

Table 41: Details of the feeder length proposed under CAPEX 27-28

Sl. No	GSS	33kV Feeder Name	Proposal Head	Existing feeder length (Ckm)	Proposed feeder length (Ckm)
1	PHULNAKHARA	ADASPUR/NIALI	Loss Reduction	51.86	13
2	BOINDA	JARAPADA	Loss Reduction	48.64	5
3	BALUGAON	TANGI	33kV Network Reliability	31.63	10
4	DIGHALO	KAKATPUR	Loss Reduction	31.48	14

Scope of Work

- Construction of new 33kV interconnecting/linking lines and provision of second source (N-1 connectivity) to single-source 33/11 kV PSSs for enhancing network reliability and ensuring uninterrupted power supply.
- Refurbishment and augmentation of existing 33kV feeders by replacing undersized conductors with higher-capacity conductors/ XLPE covered conductors, strengthening line infrastructure, reduction in feeder tripping and improving feeder power supply reliability.

The total cost for 33kV Network Infrastructure is approx. 75cr.

Table 42 : **Proposed Cost with Estimate Break-up**

Sl. No.	*Circle*	*33kV Feeder Name*	*Proposals*	*Cost (In Cr)*	*Annexure no.*
1	BBSR-I	Chandaka O/G	Augmentation of 3 CKM line from Bharatpur PSS to Malima Chawk	0.66	Annexure-11.1
2	BBSR-I	Satyanagar to Satyanagar	Construction of 0.6 KM U/G Line from Satyanagar GSS to Satyanagar PSS	1.60	Annexure-11.2
3	BBSR-I	Assotech	Augmentation of 2 CKM line from AIIMS square to Cosmoplish	0.51	Annexure-11.3
4	BBSR-I	Kalinganagr to Trident	Augmentation of 2.5 CKM line from Kalinganagr to Trident Galaxy	0.54	Annexure-11.4
5	BBSR-I	Baliyanta to Bhingarpur	Construction of New line 10.5 CKM from Baliyanta GSS to Bhingarpur PSS	6.49	Annexure-11.5
6	BBSR-I	Sutan	Refurbishment of 33kV Sutan Feeder from Labanya Chhaka to Eco retreat to providing reliable power supply.	4.50	Annexure-11.6
7	BBSR-I	Dighalo -Gop	Refursbishment and augmentation of 33kV Dighalo-gop Feeder from Dighalo GSS to Gop PSS.	4.50	Annexure-11.7
8	BBSR-II	Balugaon	Proposal for augmentation of 33KV Balugaon Feeder from Blaugaon GSS.	1.53	Annexure-11.8

Sl. No.	Circle	33kV Feeder Name	Proposals	Cost (In Cr)	Annexure no.
9	BBSR-II	Ankulapadar	Provision of 2nd Source to Solari PSS through 33 kV Bay and N-1 Reliability for 33 kV Ankulapadar Feeder	2.48	Annexure-11.9
10	BBSR-II	Tangi-Chandpur	Construction of a New 33 kV Interlinking Line between the 33 kV Tangi Feeder and 33 kV Tangi–Chandpur Feeder to Achieve N-1 Connectivity and Improve Network Reliability.	1.71	Annexure-11.10
11	BBSR-II	Delanga	Refurbishment & augmentation of Existing 33kV Delanga feeder.	7.24	Annexure-11.11
12	BBSR-II	Binodada	Proposal for refubrishment and augmentation of 33KV Binodpada Feeder.	0.86	Annexure-11.12
13	BBSR-II	JBPC	Extension of 33kV JBPC feeder from JBPC to Atharnala PSS and Talabania PSS for relibility improvement of Puri town area.	5.95	Annexure-11.13
14	BBSR-II	Dasplla	Refurbishment for 33kV Daspalla feeder from Daspalla PSS to Banigocha PSS, to improve reliability of network and provide quality power supply.	1.07	Annexure-11.14
15	Cuttack	33 kV Phulnakhra Fdr.	Proposal for 33 kV New linking line from Grand Bazar to Dahaliabag PSS- 6.5 CKM	6.04	Annexure-11.15
16	Cuttack	CRRI-1	Proposal for N-1 connectivity for 33/11KV Matagajpur PSS from CRRI-1 Fdr.	0.74	Annexure-11.16
17	Cuttack	Tigiria/Athagarh	Proposal for 33 kV linking line of 0.1 KM from Athagarh Fdr. to Tigiria PSS for N-1 connectivity nad augmentation of 2.7 CKM of 33 kV Athagarh Fdr. of Khuntuni GSS.	1.65	Annexure-11.17
18	Dhenkanal	33 kV Nihalprasad Fdr.	Proposal for 33 kV New linking line from 33kv Joranda Fdr to 33kV Nihalprasad Fdr	0.21	Annexure-11.18
19	Dhenkanal	33 kV Angul-2 Fdr.	Proposal for Aug of 33 kV Angul -2 fdr from Angul GSS to Industrial PSS	0.15	Annexure-11.19
20	Dhenkanal	33 kV Ganesh Sponge Fdr.	Proposal for Aug of 33 kV Ganesh Sponge fdr from Angul GSS to Badakera 6-Pole	2.54	Annexure-11.20
21	Paradeep	New Danpur	Proposal for construction of 13.6 CKM 33 KV line using 232 Sq.mm XLPE AAA Conductor & 1CX630 Sq.mm. XLPE U/G cable for N-1 connectivity between 33/11 kV Korua & Nagaspur PSS	7.00	Annexure-11.21
22	Paradeep	Mahakalpada	Proposal for construction of 4.8 CKM 33 kV line between 33 kV Luna Fdr. & Thauri Fdr. for N-1 connectivity.	3.49	Annexure-11.22

Sl. No.	Circle	33kV Feeder Name	Proposals	Cost (In Cr)	Annexure no.
23	Paradeep	Gogua	Proposal for refurbishment of 6 CKM line of 33 kV Gogua Fdr. and augmentation from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC	2.36	Annexure-11.23
24	Paradeep	Tirtol	Proposal for refurbishment of 8.3 CKM line of 33 kV Tirtol Fdr. using to 232 Sq.mm. AAAC for N-1 reliability between 33 kV Tirtol & Gorada Fdr.	3.81	Annexure-11.24
25	Paradeep	Naugaon	Proposal for construction of 2 CKM 33 kV O/H line using 232 Sq.mm. AAAC and augmentation of 11.5 CKM line of 33 kV Naugaon Fdr. from 100 Sq.mm. AAAC to 232 Sq.mm. AAAC along with strengthening of 7 CKM 33 kV line & installation of 01 No. of 33 kV O/D bay at Bhatpada PSS.	7.00	Annexure-11.25
26	Paradeep	Nabapatna	Proposal for construction of 0.9 CKM line of 33 kV Nabapatna Fdr. using 232 Sq.mm. XLPE AAAC for shifting of line from forest area. (forest area)	0.45	Annexure-11.26
Total				**75**	

Benefit to the System and Consumers

- Reduction of feeder outages, improving system reliability, enhancing network safety and minimizing power interruptions
- Providing second 33kV source to 33/11kV PSS.
- Enhancing operational flexibility.
- Elimination of frequent vegetation-related interruptions, facilitate easier maintenance and patrolling and enhance the overall reliability the network.
- Ensuring safe, reliable and quality power supply to the consumers by improving N-1 reliability.
- Providig underground network & cyclone resilint overhead network for Disaster resilient.
- Providing XLPE covered condutor for tripping reduction , improve reliability & safety.

2.3.5 11 kV Network Infrastructure

Background

In the TPCODL licensed area, the 11kV network serves as the primary distribution backbone for delivering electricity from 33/11kV primary substations (PSS) to end consumers. This network is extensively spread across both urban and rural regions and plays a crucial role in ensuring last-mile connectivity. The 11kV feeders are vital assets for the distribution utility, as they directly impact the quality, reliability and efficiency of power supply to consumers.

To strengthen the existing 11kV network, reduce the length of the lengthy feeders and address the reliability challenges the following key intervention areas have been identified:

- Enhancement of Reliability of the 11kV Network, with a focused approach in high-density urban areas such as Bhubaneswar city and Cuttack city, as well as industrial belts and other critical zones where uninterrupted power supply is essential.
- Mitigation of issues due to lengthy 11kV feeders in order to mitigate low voltage issues and improve reliability of power supply to the consumers.
- 11kV Network Refurbishment to replace lower sized conductors and associated infrastructure, thereby improving reliability of power supply.

Proposal

In this proposal, TPCODL intends to improve reliability and reduce the length of lengthy 11kV feeders by feeder augmentation, feeder interconnection and construction of new feeders. The proposed works will enhance reliability of the network, provide network redundancy through alternate supply arrangements, reduce length of the lengthy 11kV feeders, improve voltage profile, improve safety in the network. Further, conductor refurbishment works will ensure safe, quality and reliable power supply to the consumers while catering to future load growth.

Requirement/ Need of the Proposal

Enhancement of Reliability of the 11kV Network

The enhancement of the 11kV network is imperative to ensure reliable and uninterrupted power supply in high-density urban areas such as Bhubaneswar and Cuttack, as well as in critical zones including industrial belts and other essential infrastructure over the TPCODL licensed area. These regions are experiencing rapid load growth and host critical services where power outages can lead to significant economic, safety and operational disruptions. The existing 11kV infrastructure faces challenges such as overloading during N-1 contingency condition, limited redundancy, frequent faults due to network inadequacy such as DSS connecting to network without any protection device and inadequate capacity for future expansion. Strengthening the network is essential to improve supply reliability, reduce technical losses and ensure quality power supply.

11kV Network Refurbishment

The 11kV network in the TPCODL licensed area includes a significant portion of undersized conductors which leads to frequent breakdowns, higher technical losses and reduced reliability. Refurbishment of the network is essential to meet peak load demands and upcoming load growth in the areas. This will enhance the current carrying capacity of feeders,

reduce fault rates, improve voltage regulation and ensure reliable and uninterrupted power supply to consumers.

Table 43 : Scope – 11 kV Network Refurbishment (ckm)

Total scope in the network	Work Covered (up to FY:27 DPR)	Balance Requirement	Considered under CAPEX FY: 27-28	Planned for future CAPEX
2246	991	1255	146	1109

11kV Feeder Length Reduction

In the existing TPCODL area, there are some lengthy feeders where the feeder length exceeds 50Ckm. This issue leads to voltage drops, increased technical losses and reduced power supply reliability. To address the issues, the construction of new 11kV feeders and bifurcation of existing lengthy feeders is essential. The proposals required will help in load diversion, reduce feeder length, improve voltage profiles and enhance the overall reliability of the network.

The 11kV network interconnection enables the diversion of load during peak demand or contingency situations, thereby reducing the risk of overloading on individual feeders and improving power quality. They also provide alternative power supply routes in case of faults/ maintenance, minimizing supply interruptions to consumers. Feeder interconnection contributes to a more resilient and responsive distribution network across the TPCODL licensed area.

Table 44 : Consideration in FY 2027-28

No of Feeders length in FY21	No of Feeders length by March '26	To be completed by March'27	Considered under CAPEX FY:2027-28	No's of Feeders left out after FY'28 D=A-(B+C)
191	133	58	4	71

There are 133nos. 11kV feeders where the length is more than 50km in As is condition. Out of the 133nos. feeders, 58nos. of 11kV feeder length reduction will be mitigated either through NOP change or from ongoing proposals WIP under different Govt. and Capex schemes by Mar-27.

Further out of the remaining 75nos. 11kV feeders, length reduction of 4nos. 11kV feeders are considered under CAPEX FY: 2027-28. The rest 71nos. 11kV feeder length reduction will be planned in subsequent schemes.

The length of the 11kV feeders can be reduced by the following 3 categories:

- Reduction of 11kV feeder length by laying new 11kV feeders from existing PSS.
- Reduction of 11kV feeder length by laying new 11kV feeders from approved upcoming PSS

which are presently under execution.

Table 45: List of 11kV feeders proposed for length reduction under CAPEX 27-28

Sl. No	Circle	Division	PSS Name	11kV Feeder Name	Proposals	Existing Feeder length in CKM	Feeder length in CKM after proposal execution
1	Paradeep	JED	Nabapatna PSS	Mansadahi	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Mandasahi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole along with construction of 1 CKM 11 kV line for N-1 connectivity between 11 kV Mandasahi & Jankothi Fdr. for length reduction of Mandasahi Fdr.	56.3	31.3
	Paradeep	JED	Markandapur	Jankoti		22.6	48.6
2	BBSR-II	NYED	Gania	Koska	Proposal for reliability improvement as well as length reduction of 11KV Kuska feeder by construction of new 11kV feeder of 0.7 CKM from Gania PSS.	65.7	23.7
	BBSR-II	NYED	Gania	Proposed Mainsibandha		-	42
3	BBSR-II	NYED	Kirialanji	Similisahi	Proposal for reliability improvement as well as length reduction of 11KV Similisahi feeder by construction of interlinking line of 0.04 CKM with 11kV Old town feeder.	51.8	47.5
	BBSR-II	NYED	Nayagarh	Old town		10.08	14.38
4	Cuttack	AED	Narsinghpur	Kamaldiha Old	Proposal for interlinking line of 1.2 CKM between 11 kV Kamaladiha and Kamaladiha Old feeder for length reduction of length of 11 kV Kamaladiha Old Fdr.	63.8	48.3
	Cuttack	AED	Mardamukha	Proposed Kamaladiha		-	15.7

11 kV feeder Ring Connectivity

In summer'26 there are total 1459no's of 11kV feeders out of which 19no's are dedicated and 57% are in ring connectivity excluding dedicated HT consumers feeders. The ring connectivity will be increased to 63% in Summer'28, 27 no's feeders ring connectivity proposed under CAPEX 27-28. Out of 27 no's feeders 23 no's feeders proposed under Network Reliability and 4 no's under Overloading mitigation head.

Table 46

No's of 11kV Feeders	Summer'25	Summer'26	% Feeder with no of sources in summer'26	Summer'27	% Feeder with no of sources in summer'27	Summer'28	% Feeder with no of sources in summer'28	Remarks
Radial	643	622	43%	564	39%	537	37%	**27**no's feeders proposed under CAPEX 27-28
Ring	758	818	57%	876	61%	903	63%	
Total	**1401**	**1440**		**1440**		**1440**		

Scope of Work

- Construction of new 11kV lines and interlinking arrangements to provide ring connectivity, feeder bifurcation, feeder length reduction and alternate source connectivity for improved reliability & safety of the network.
- Augmentation and refurbishment of existing 11kV feeders by replacing aged/ undersized conductors with higher-capacity AAAC/XLPE covered conductors and strengthening the distribution network.

The total cost for 11kV Network Reliability is approx. 60cr.

Proposed Cost with Estimate Break-up

Table 47 : Proposed Scope and Cost estimate

Sl. No.	Circle	Division	Proposal Details	Costing (In Cr.)	*Annexure*
1	BBSR-I	BED	Proposed 3km augmentation	0.46	Annexure-12.1
2	BBSR-I	BED	Proposed Augmentation for 1.1km from O/H to U/G due to unsafe condition	1.08	Annexure-12.2
3	BBSR-I	BED	Proposed 2nos RMU for N-1 Linking	0.76	Annexure-12.3
4	BBSR-I	BED	Proposed 1 no Rmu,1km U/G cable and 3.5 km augmentation	1.98	Annexure-12.4
5	BBSR-I	BED	Proposed 3km augmentation	0.59	Annexure-12.5

6	BBSR-I	BED	Proposed 4km augmentation	0.25	Annexure-12.6
7	BBSR-I	BED	Proposed 0.7km augmentation	0.14	Annexure-12.7
8	BBSR-I	BCDD-I	New UG Line from Kharvel Nagar PSS. Covered conductor required 3.5 CKM Interlinking Line with 11kV market building feeder of length 0.2 CKM near SDO-2 office	2.53	Annexure-12.8
9	BBSR-I	BCDD-I	Linking with 11kV unit-8 Feeder of Length CKM(OH-0.8 CKM, UG 1 CKM) for Feeder Bifurcation, Covered conductor required 4 CKM, near Tarini Temple, Soubhagya Nagar branch, Shatabdi nagar Branch	2.07	Annexure-12.9
10	BBSR-I	BCDD-I	Covered conductro from JP CM 52 to IDCO Tower, 0.7 CKM UG for Linking 0.2 CKM & 1 RMU. New Feeder from Shantipalli of length 0.8 CKM & 1RMU.	1.56	Annexure-12.10
11	BBSR-I	BCDD-I	New Linking Line from medical OH feeder.& 2nos. RMU	0.84	Annexure-12.11
12	BBSR-I	BCDD-II	New Feeder from ranasingh Pur 0.8 CKM & Augmentation 5 CKM(For Branch Line)	2.58	Annexure-12.12
13	BBSR-I	BCDD-II	Bifurcation from Bharat Pur PSS 3.5 CKM. Augmentation of 6.5 CKM	4	Annexure-12.13
14	BBSR-I	BCDD-II	Bifurcation from Bharat Pur PSS 3.5 CKM. Augmentation of 6.5 CKM	4	Annexure-12.14
15	BBSR-I	BCDD-II	New UG cable of length 2.4 KM from Bharat Pur PSS to 78th Dream Avenue.(Existing Conductor augmentation is not feasible) Augmentation of 4.5 CKM. Linking with 11kV Ghagudi feeder of length- 0.3 CKM with 1 no. of RMU	3.58	Annexure-12.15
16	BBSR-I	BCDD-II	Augmentation with 100mm2 5 CKM & Linking .	1.24	Annexure-12.16
17	BBSR-I	NED	Construction of new 11kV Feeder from Astaranga PSS to bifurcate Kaktpur-2 Feeder	3.02	Annexure-12.17

18	BBSR-I	NED	Proposal for line augmentation of 1 CKM line	1.15	Annexure-12.18
19	BBSR-II	PED	Augmentation of 11kV Brahmagiri Feeder	1.06	Annexure-12.19
20	BBSR-II	PED	Bifurcation of existing Sakhigopal Bajar Feeder	0.92	Annexure-12.20
21	BBSR-II	BAED	Refurbishment required from Singheswar Tower to Ghiakola (4.5 CKM) and Sikharpadar Line AB Switch to Kanduapata Village (2 KM)	0.51	Annexure-12.21
22	BBSR-II	KHD	Proposal for line augmentation of 5.5 CKM line	0.5	Annexure-12.22
23	BBSR-II	KHD	Proposal for line augmentation of 8.5 CKM line	0.5	Annexure-12.23
24	BBSR-II	NYED	Bifurcation by constructing 3 Km new line from PSS	0.6	Annexure-12.24
25	BBSR-II	NYED	Linking with 11 kV MACHHIPADA BAZAR Fdr. (MACHHIPADA PSS)-KUSHAVHANDARI 100kVA DTR to SIALIKHAL 25 kVA DTR	0.04	Annexure-12.25
26	Cuttack	CDD-1	Proposal for refurbishment of 1 CKM O/H line of 11 kV collage square Fd	0.12	Annexure-12.26
27	Cuttack	CDD-1	Proposal for refurbishment of1 .4 CKM O/H line of 11 kV ganeshghat Fdr	0.19	Annexure-12.27
28	Cuttack	CDD-2	Proposal for refurbishment of 1.8 CKM O/H line of 11 kV AIR Fdr. along with construction of 2.26 CKM new line for reliability improvement & safety issue mitigation	0.76	Annexure-12.28
29	Cuttack	AED	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV Badamba town Fdr. along with construction of 0.08 CKM U/G line for N-1 connectivity between 11 kV Badamba town & Badabarsingha FDR	0.15	Annexure-12.29
30	Cuttack	AED	Proposal for refurbishment of 3 CKM O/H line of 11 kV panchgaon Fdr from 55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC	0.41	Annexure-12.30
31	Cuttack	SED	Proposal for bifurcation of 11 kV Laxminarayanpur Fdr by	0.34	Annexure-12.31

			constraction of 01 No. of new 11 kV Indoor Bay at 33/11 kV Erkana PSS		
32	Cuttack	SED	Proposal for refurbishment of 1.5 CKM O/H line of 11 kV Bahugram Gopinathpur Fdr. Along with construction of 1.4 CKM new line for reliability improvement.	0.54	Annexure-12.32
33	Cuttack	SED	Proposal for refurbishment of 4 CKM O/H line of 11 KV Orikanta Gopinathpur Fdr. using 100 Sq.mm AAA Conductor along with construction of 1 CKM 11 kV new line to improve reliability	0.62	Annexure-12.33
34	Cuttack	CED	Proposal for refurbishment of 1.2 CKM O/H line of 11 kV Barang fdr . along with construction of 1.74 CKM new line for reliability improvement	1.12	Annexure-12.34
35	Cuttack	CED	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV choudwar local Fdr. along with construction of 0.68 CKM U/G line for reliability improvement & safety issue mitigation.	0.67	Annexure-12.35
36	Cuttack	SED	Proposal for augmentation of of 5 CKM O/H line of 11 kV Bilahata Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole (interposing)	0.68	Annexure-12.36
37	Cuttack	AED	Proposal for interlinking line of 1.2 CKM between 11 kV Kamaladiha and Kamaladiha Old feeder for length reduction of length of 11 kV Kamaladiha Old Fdr.	0.28	Annexure-12.37
38	Dhenkanal	DED	Proposal for 11 kV New linking line from 25kVA Alusingh DSS to 25kVA Sani Mandap Nua sahi and 25kVA OLIC Kadalipal to 25kVA CSC Centre	0.43	Annexure-12.38
39	Dhenkanal	ANED	Proposal for 11 kV New linking line from 16kVA Panipurna to 16kVA New Aryan Sumantakumar	1.05	Annexure-12.39
40	Dhenkanal	ANED	Proposal for 11 kV New linking line from 63kVA Sana Rohilla to 25kVA Mundabeda Gosala Sahi	0.58	Annexure-12.40
41	Dhenkanal	DED	Proposal for Aug of 11 kV Bhapur Fdr from sarakhapatna primary school to Chandrasekharprasad	0.15	Annexure-12.41

42	Dhenkanal	TED	Proposal for 11 kV New linking line from Eknatala 10kVA DSS to Hotel Kalia 16kVA	0.49	Annexure-12.42
43	Dhenkanal	TED	Proposal for 11 kV New linking line from Eknatala 10kVA DSS to Hotel Kalia 16kVA	0.55	Annexure-12.43
44	Paradeep	PDP	2.6 CKM interlinking line required between 11 kV Posal Fdr. and Garadpur-1 Fdr. for bifrcation of load of Garadpur-1 feeder.(At present Garadpur-1 Fdr. of KED-2 division feeding part load of PDP which made difficulties during maintenance)	0.69	Annexure-12.44
45	Paradeep	KED-II	Proposal for diversion of existing O/H line of 11 kV Ortaghat Fdr. from Waterlogging area/dense forest area and construction of 2.3 CKM new 11 kV line to improve reliability.	0.63	Annexure-12.45
46	Paradeep	KED-II	Proposal for Augmentation of 3 CKM line of 11 Kv Angulai Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 2.5 CKM linking line for N-1 reliability with 11 kV Kurtanga Fdr.	0.78	Annexure-12.46
47	Paradeep	KED-II	Proposal for construction of 0.9 CKM 11 KV line using 100 Sq.mm AAA Conductor for N-1 connectivity between 11 kV Jamboo & Marine Fdr. and reduction of length of 11 kV Jamboo Fdr.	0.34	Annexure-12.47
48	Paradeep	KED-I	Proposal for refurbishment of 6 CKM O/H line of 11 kV Jaynagar Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole. (Aged conductor)	0.92	Annexure-12.48
49	Paradeep	KED-I	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Bairi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement. (Aged conductor)	1.16	Annexure-12.49
50	Paradeep	KED-I	Proposal for construction of 0.8 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Block	0.74	Annexure-12.50

			& Town-2 Fdr. along with refurbishment of 1.6 CKM 11 kV O/H line of 11 kV Town-2 Fdr.		
51	Paradeep	KED-I	Proposal for construction of 1.1 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Thakurpatna & Chhata Fdr	0.42	Annexure-12.51
52	Paradeep	KED-I	Proposal for construction of 2 CKM 11 kV new line for N-1 reliability between 11 kV Rajnagar & Balarampur Fdr. along with installation of 01 No. of 11 kV 4-way RMU (LVVV) at Kurundi for improvement of reliability.	1.02	Annexure-12.52
53	Paradeep	PDP	Proposal for Augmentation of 4.1 CKM O/H line of 11 kV Sandhakuda Fdr. from 80 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC along with shifting of 1 CKM 11 kV line from water logging area.	0.99	Annexure-12.53
54	Paradeep	PDP	Proposal for conversion of 11 kV O/H line to U/G line using 3CX400 Sq.mm. XLPE U/G cable for the length of 0.57 kM for unsafe to safe.	0.49	Annexure-12.54
55	Paradeep	PDP	Proposal for Augmentation of 1 CKM line of 11 kV Rangiagarh Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC. (short height pole & aged conductor)	0.18	Annexure-12.55
56	Paradeep	PDP	Proposal for refurbishment of 1.2 CKM line of 11 kV Erasama Bazar Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC. (short height pole & aged conductor)	0.24	Annexure-12.56
57	Paradeep	JED	Proposal for refurbishment of 11.5 CKM O/H line of 11 kV Dengapola Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 1.5 CKM 11 kV line for N-1 connectivity between 11 kV Govindpur and Dengapola Fdr. for improvement of reliability.	2.36	Annexure-12.57
58	Paradeep	JED	Proposal for refurbishment of 6.1 CKM line of 11 kV Chhapada Fdr. from 34/55 Sq.mm. AAAC to 100	0.97	Annexure-12.58

			Sq.mm. XLPE AAAC. (Rusted conducter due to aging effect)		
59	Paradeep	JED	Proposal for refurbishment of 6.12 CKM O/H line of 11 kV Machegaon Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC. (Rusted conducter due to aging effect)	0.94	Annexure-12.59
60	Paradeep	JED	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Mandasahi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole along with construction of 1 CKM 11 kV line for N-1 connectivity between 11 kV Mandasahi & Jankothi Fdr. for length reduction of Mandasahi Fdr.	1.29	Annexure-12.60
61	Paradeep	JED	Proposal for refurbishment of 4.5 CKM O/H line of 11 kV Tarikund Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	0.65	Annexure-12.61
62	Paradeep	PDP	Proposal for refurbishment of 0.5 CKM line of 11 kV Atharabanki Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for unsafe to safe.	0.19	Annexure-12.62
Total				**60**	

Please refer to **Annexure-12** for details of BoQ for the above cost estimate.

Benefit to the System and Consumers

Implementation of the proposals under this section will significantly strengthen the 11kV network, thereby enhancing the overall quality and reliability of power supply to consumers.

- 11kV proposals will help in managing the load in case of any exigency.
- Strengthening of the 11kV feeder and ensure lower interruption.
- Improving the tail-end voltage of the feeder.
- Ensure reliable, safe and quality power supply hence leading to satisfaction of the consumers.

2.3.6 New PSS to meet Network Reliability

Background

Background

The Gadakana and Patharagadia areas have emerged as rapidly developing urban load centres in Bhubaneswar City witnessing sustained growth in load demand due to increasing infrastructure development. The existing load in these areas is presently catered through multiple 11kV feeders originating from nearby substations, which are experiencing progressively higher loading levels, frequent trippings and increasing operational stress, thereby adversely affecting supply reliability for a large number of consumers. Further, substantial additional loads are expected to be connected in the near future and projected demand growth indicates that several of the existing feeders will approach or exceed their current carrying capacities by Summer'28. Considering the densely developed urban environment, limited right-of-way availability and the requirement for extensive underground cabling, construction of new 11kV feeders from existing substations would entail significant capital expenditure while providing only a short-term solution. Accordingly, the construction of new 33/11kV Primary Substations at Gadakana and Patharagadia, along with associated lines and network strengthening works including feeder augmentation, underground cabling, RMU installations and load bifurcation, has been identified as the most technically feasible and viable solution to relieve feeder overloading, reduce interruptions, improve voltage profile and supply reliability, accommodate future load growth and strengthen the overall distribution infrastructure in these rapidly expanding urban areas.

Proposal

New PSS (2X12.5MVA) at Gadakana:

To address the rapidly growing load demand and recurring reliability issues in the Gadakana, Kanan Vihar and nearby area, it is proposed to construct a new 33/11kV Gadakana Primary Substation (2X12.5 MVA PSS) along with associated network strengthening works. This PSS will cater 12MVA load out of which 4MVA is upcoming load and 8MVA load diversion from the existing 11kV nearby feeders of different PSS (C.s.pur-1 PSS, Sainik School PSS).

The scope of the scheme includes construction of the 33/11kV PSS, laying of 3.5Ckm of 33kV underground cable from Mancheswar-A with tapping from the existing 33kV Xavier feeder, and development of 11kV underground cable links for integration with the Kelucharan Park, Pokharan, and Shree Vihar feeders. The proposal also includes augmentation of the existing Pokharan, Shree Vihar and Info-Shree Vihar feeders to facilitate load redistribution and network reinforcement. Further, two 12.5 MVA Power Transformers are proposed to be installed at the new substation through asset optimization by utilizing transformers becoming available from Unit-8 PSS and Badagada PSS following planned augmentation works (under CAPEX FY:2027-28). The scheme will facilitate effective load bifurcation from heavily loaded

feeders, support future load growth, improve voltage profile and significantly reduce feeder outages and supply interruptions in the area.

New PSS (2X8MVA) at Patharagadia:

Similarly, to strengthen the distribution network in the rapidly developing Patharagadia area, it is proposed to construct a new 33/11kV Patharagadia Primary Substation (PSS) with associated feeder strengthening and load transfer arrangements. This PSS will cater 7.5MVA load out of which 3MVA is upcoming load and 4.5MVA load diversion from the existing 11kV nearby feeders of different PSS (Chandaka PSS, Infocity PSS).

The proposed works include laying of 0.6Ckm of 33kV underground cable for LILO connectivity of the 33kV Chandaka underground feeder, development of 11kV underground cable links for integration with the Patharagadia, Rajvatika and Polymer Complex feeders, installation of Ring Main Units (RMUs) at strategic locations, augmentation of the Rajvatika and Polymer Complex feeders, and installation of an E-House relocated from Mulapadia Substation (spare). The substation will be equipped with two 8 MVA Power Transformers proposed to be sourced through transformer swapping from Samanga PSS and Balugaon PSS after completion of planned augmentation works (under CAPEX FY: 2027-28). The proposed scheme will enable effective load bifurcation, enhance operational flexibility, improve voltage regulation, reduce feeder trippings and outage duration, and ensure reliable, quality power supply to existing and future consumers while meeting the long-term demand growth requirements of the Patharagadia. In future, load growth increases, only the transformer will be upgraded to higher rating.

Requirement / Need of the Proposal

The proposed 33/11kV Primary Substation at Gadakana and Patharagadia is necessitated by sustained load growth, increasing feeder overloading in the existing distribution network, which cannot be effectively addressed through further feeder augmentation due to urban right-of-way constraints and high underground cabling costs. The proposal is therefore required as it will improve system reliability, ensure quality power supply, enhance network resilience and cater to the load demand growth of the approval.

Scope of Work

The scope of work proposed under CAPEX FY: 2027-28 as follows:

i. Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS along with associated 33kV and 11kV lines.
ii. Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS along with associated 33kV and 11kV lines.

The approx. costing for New PSS is given below:

Table 48: Proposed Cost with Estimate Break-up

Sl. No.	Name of Circle		Name of Division	Name of New 33/11kV PSS	Proposal Details	Amount (in cr.)
1	BBSR-1		BCDD-2	Gadakana	Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS along with associated 33kV and 11kV lines. (Existing PTR will be utilized, cost is not included)	16
2	BBSR-1		BCDD-2	Patharagadia	Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS along with associated 33kV and 11kV lines. (Existing PTR and switchgear will be utilized, cost is not included)	9
					Total Cost (Cr.)	**25**

Benefit to the system and consumers

- To improve reliability and quality of power supply.
- Create additional load centre with adequate transformation capacity to cater to the existing load, upcoming loads as well as future load growth in the area.
- To improve voltage profile.
- To improve operational flexibility and network redundancy.

The detailed proposal , scenario analysis, justification , cost estimate , BoQ and benefits are provided at **Annexure-14.**

PSS Reliability Improvement

Background

For any distribution company, apart from a strong 33kV & 11kV network, healthy & trouble-free network equipment or asset base is a requisite. It forms the base for reliable power supply to the consumer.

In TPCODL, based on the detailed survey reports, it was found that at some place's intervention at equipment level is required to make the network strong & trouble free so as to ensure reliable power distribution till customer point.

Proposal

To provide uninterrupted power supply to customers, we need to replace the old and unreliable equipment. OEMs have stopped providing spares and services for many equipment. As a result, it is becoming difficult to ensure trouble free operation of these equipment. In order to keep the overall expenditure minimum, useful parts from the old equipment are planned to be used to service the same make of equipment installed at other PSS to extend their useful life.

Table 49 **Activities Proposed for PSS Reliability Enhancement**

Sl. No.	Description	Unit	Per Unit Cost (In Cr.)	Total Qty.	Total Cost (In Cr.)
1	Replacement of Aged PTR's to improve reliability				**11.49**
	Replacement of Sick 12.5MVA PTR with new 12.5/16MVA PTR	EA	**3.41**	**2**	**6.83**
	Replacement of Sick 7.5MVA PTR or 8MVA PTR with new 8MVA PTR	EA	**2.33**	**2**	**4.66**
2	Single PTR	EA		**6**	**13.50**
3	PSS refurbishment Battery Charger cum DCDB	EA	**Lot** **0.039**	**5** **32**	**10.00** **1.25**
4	33kV and 11kV Feeder Group Control Mitigation				**20.81**
4.1	33 kV Feeder group control	EA	**0.37**	**44**	**16.37**
4.2	11 kV Feeder Group control	EA	**0.27**	**2**	**0.54**
4.3	Control Room to accommodate CRP Panels to eliminate Group Control	EA	**0.45**	**8**	**3.60**
4.4	CR panel for 3 Feeder Protection (33 kV or 11 kV) for elimination Group Control	EA	**0.10**	**3**	**0.30**
				TOTAL	**57.05**

2.3.7 Replacement of Aged PTR to improve reliability

The detailed scope & proposal under this head is provided below.

Table 50: Cost Estimate

Sl. No.	Description	Unit	Per Unit Cost (In Cr.)	Total Qty.	Total Cost (In Cr.)
1	Replacement of Sick 12.5MVA PTR with new 12.5/16MVA PTR	EA	**3.41**	**2**	**6.83**
	Replacement of Sick 7.5MVA PTR or 8MVA PTR with new 8MVA PTR	EA	**2.33**	**2**	**4.66**
	Grand Total				**11.49**

Power Transformers in 33/11 kV PSS are critical components in power distribution networks. Over time certain PTR models have been identified as vulnerable due to aging infrastructure, obsolete technology and lack of manufacturer support.

By phasing out transformers that have exceeded their designated service life, the initiative will minimize the risk of outages, equipment failure, and potential safety hazards. New efficient PTRs will reduce technical losses, improve voltage stability, power supply reliability and lower maintenance costs. Moreover, the investment supports regulatory compliance, strengthens asset health management and ensures readiness for uninterrupted power supply.

Total 126 Nos. of PTRs different rating has completed 25 years and more and installed in different PSS across TPCODL distribution licensed area.

After 25 years of the useful life, power Transformers Insulation Breakdown increases, Core degradation started increasing and mechanical wire become significant which causes increase in Transformer failure rates. Theses transformer are required frequent maintenance and testing to keep the transformer in running condition.

a. Out of 126 Nos. PTR, there are 25 Nos. PTRs having capacity 7.5 MVA and above.

b. Out of these 25 Nos. of PTRs, 5 Nos. of PTRs is planned for replacement under approved Capex 26-27.

c. In Capex 27-28, 4 Nos. of PTRs are proposed for replacement.

d. Rest 16 Nos. PTRs above 7.5 MVA will be considered for replacement in phase manner in sub-sequent Capex.

e. After replacement completion of these higher rating PTR (7.5 MVA and above), further replacement planning will be done for lower rating PTR (5 MVA and below- 101 Nos. PTRs) in future Capex.

Table 51

Items Description	Total No. of PTR more than 25 Years	No. of PTR rating 5 MVA & below	No. of PTR rating 7.5 MVA & above	No. of PTR replace till now	Planned in FY'27	Proposed in FY'28	Total Cost in Cr. considered in Capex 27-28	Left out Qty. PTR rating 7.5 MVA & above	Left out Qty. PTR rating 5 MVA & below
PTR Ageing more than 25 Years	126	101	25	0	5	4	**11.49**	16	101

*4 locations (Harirajpur, Paradeep, Ranpur & New Barang) proposed under Capex 27-28

Table 52

Sl. No.	Name of Division	PSS Name	PTR rating in MVA	MAKE	SL NO	YOM	PTR age (in Years) as on FY 26	Proposed PTR rating in MVA	Remarks
1	KED	Harirajpur	7.5	ELECTRA	ET-406/1	1988	38	8	
2	BED	RANPUR	7.5	IMP	PT-1826	1989	37	8	
3	PDP	Paradeep	7.5	IMP	PT-1825	1989	37	16	Considering future load growth 16 MVA is proposed
4	BCDD2	New Barang	8	Vijai	191516	1994	32	16	

The summary of the proposal , detailed cost estimate and locations are provided at **Annexure-13.**

2.3.8 Single PTR Augmentation

In the TPCODL area, some PSS were originally designed with a single Power Transformer. Due to this design limitation the power supply must be shut down if the transformer fails or is taken out of service for maintenance as there is no standby transformer available to ensure continuity.

As a standard design practice, it is recommended to have a minimum of two Power Transformers at each PSS to address such deficiencies. Installing a second transformer enhances system resilience, improves load-sharing capabilities, and supports future capacity expansion. It also facilitates the transition to a more robust and future-ready grid, allowing utilities to maintain service continuity, meet increasing demand, and achieve N-1 compliance.

In the TPCODL licensed area, there are 23 Nos. PSS currently operating with a single PTR.

Of these 7 Nos. PSS do not have sufficient space for installation of a second PTR. At these 7 Nos. locations mitigation will be done through 11 kV interlinking lines from nearby PSS.

Status of Single PTR Mitigations through 11 kV interlinking-

a) Out of 7 Nos. PSS, 2 Nos. have been mitigated through 11 kV interlinking lines from nearby PSS.

b) For remaining 5 Nos. PSS, 11 kV interlinking lines are required to be established to enable load transfer and will be considered in future Capex.

Status of Single PTR Mitigations by installing 2nd PTR-

a) Out of the remaining 16 Nos. of PSS where a second PTR can be installed.

b) 3 Nos. of PSS already have the second PTR installed.

c) 2 Nos. of PSS have ongoing work for installation.

d) In 4 Nos. of PSS, installation of a second PTR is planned Capex 2026–27.

e) In 6 Nos. PSS, installation of a second PTR is proposed in Capex 2027-28. Out of these 6 Nos. locations, at 5 nos. of locations PTR cost is not considered in the estimate, PTRs which are available spare after swapping plan is proposed for used at these PSS locations to optimize the Capex cost and sweating of existing asset to the optimum level whereas at One location only PTR cost is included in the estimate.

f) The remaining 1 Nos. of PSS will be considered in a phased manner under subsequent Capex plans.

Table 53: Scope

Items Description	No. of PSS Locations where 2nd PTR can be installed	Completed till March'26	WIP	Planned in FY'27	Proposed in FY'28	Total Cost in Cr. considered in Capex 27-28	Left out Qty.
Installation of 2nd PTR on Single PTR PSS	16	3	2	4	6	**13.50**	1

Table 54: Cost Estimate

Sl. No.	Name of Circle	Name of PSS	Existing PTR rating (MVA)	2nd PTR rating (MVA)	Cost in Cr.	Remarks
1	CUTTACK	Khuntakanta	8	5	2.07	PTR cost is not part of the estimate
2	DHENKANAL	Dayanbil	3.15	3.15	2.07	
3	PARADEEP	22 Mouza	5	5	2.07	
4	PARADEEP	Paruna	5	3.15	2.07	
5	PARADEEP	Patrapur	5	5	2.07	
6	PARADEEP	Sahupada	5	5	3.15	PTR cost included in the estimate
	Total				**13.50**	

Out of 16 locations, after completions of Capex 27-28 only One PSS location will be left out for addition of 2nd PTR where space is available.

Out of total 23 Nos. of Single PTR locations, mitigation will be completed for 17 Nos. of locations till Capex 27-28. Total Left out are 6 Nos. of PSS. (2nd PTR addition-1 No. + 11 kV interlinking- 5 Nos.)

The detailed proposal, justifications, locations, detailed cost estimate and benefits are enclosed at **Annexure-15.**

2.3.9 PSS Refurbishment: Life Extension and refurbishment of existing 33/11 kV Primary substations

A large number of 33/11kV primary substations are more than 30-35 years old and are in dilapidated / unsafe condition. Due to No / inadequate maintenance during erstwhile CESU period, and excessive fault operations, most of the circuit breakers have exceeded their designed mechanical endurance.

Many PSS don't have earth mat, gravels, trenches, and control room buildings. At few PSS, there is no space for addition of control panels. The bus bars and risers have undersize conductors.

TPCODL extended the life of these PSS / equipment through extensive maintenance but the same now requires replacement for ensuring safe and reliable power supply to all customers.

VCBs age beyond their designed service life (typically 15–25 years), several performance and safety issues begin to emerge. Normally VCB is built with 10k to 15k operations. In TPCODL, most of the feeders in Overhead and several transient fault reduces the life span of VCB based on the no. of operation. So, new VCB is proposed for minimizing the faults at PSS.

DC battery banks installed at many primary substations are 12V Batteries. As a result, they are required to be replaced every 5-6 years. TPCODL intends to use 2V batteries designed for

installation in substations and having a useful life of 10+ years. This action will ensure safety and reliable operation of equipment at primary substations.

In addition to age, the AB switches installed on feeders have a lower rating of 400 A. There is a need to upgrade these AB switches with isolators of higher capacity to avoid frequent burning of contacts. Besides, parts of these AB switches are not available for maintenance and upkeep.

PSS Refurbishment:

Several power sub-stations under TPCODL's jurisdiction were found to be in deteriorated condition due to prolonged exposure to harsh environmental factors, such as high humidity and saline atmosphere. Many of these assets, including steel structures, equipment supports, and foundations, have suffered significant corrosion and wear, compromising structural integrity and operational safety.

The scope includes:

a) Replacement of 33 kV and 11 kV Switch gear Panel Board along with modification of Control room Buildings.

b) Replacement of severely corroded steel structures (gantries, equipment supports, cable trays, etc.)

c) Strengthening of foundations and earthing systems

d) Surface treatment (sandblasting, anti-corrosive painting, galvanization)

e) Retrofitting of outdated panels and protection systems.

f) Replacement of corroded clamps, connectors, and busbars.

Atharnal PSS:

At Atharnala PSS, the existing 33 kV and 11 kV outdoor auto-recloser type breakers are in dilapidated and obsolete condition. Further, OEM support is no longer available for repair and maintenance of these breakers, resulting in increased risk of equipment failure and prolonged restoration during faults. Atharnala PSS is a critical source for supplying power to Puri Town and other important loads, and failure/non-functioning of the existing breakers during a fault can affect the entire PSS, thereby adversely impacting the reliability and continuity of power supply to Puri Town. Frequent or prolonged fault conditions may also increase the stress on the power transformers and adversely affect their operational life.

In view of the above, it is proposed to replace the existing 33 kV and 11 kV outdoor breakers with new indoor switchgear panels along with construction of a new control room building. The proposed modernization will improve operational safety, fault isolation, protection system performance, and supply reliability. The indoor switchgear arrangement, along with

the new control room, will also provide better protection against adverse weather conditions and support the development of a cyclone-resilient distribution network, thereby enhancing the overall reliability and resilience of power supply to Puri Town.

Sunamuhi PSS:

Sunamuhi PSS is located in a low-lying area, resulting in frequent ingress of rainwater into the PSS premises and control room. The recurring moisture/water ingress has led to frequent breakdowns of the switchgear due to moisture-related issues and repetitive flashovers. The existing switchgear panels are also in a severely deteriorated condition, thereby affecting the reliability and safe operation of the substation. To improve system reliability and prevent recurrence of such failures, it is proposed to replace the existing switchgear panels and raise/heighten the existing control room building by more than 1.0 m above the existing road level, thereby minimizing the risk of water ingress.

For optimum utilization of available resources and to minimize CAPEX expenditure, removed spare 33 kV Indoor GIS Panel Board and 11 kV AIS Panel Board from other PSS will be reutilized at Sunamuhi PSS. Accordingly, estimate has been restricted to building/civil modifications, dismantling, shifting, installation and associated works required for commissioning of the re-used panels. The proposed work will enhance the operational safety, reliability, and resilience of Sunamuhi PSS while ensuring economical utilization of existing spare assets.

Itamati PSS:

At Itamati PSS, existing switchgear panels are in a severely deteriorated condition, thereby affecting the reliability and safe operation of the substation. To improve system reliability and prevent recurrence of such failures, it is proposed to replace the existing switchgear panels and modification the existing control room building thereby minimizing the risk of water ingress.

So, construction of a new control room with essential facilities, strengthening of 11 kV DP structures, PCC and metal spreading, covered cable trench, rainwater drainage, strengthening of the earthing system with earth mat and provision of water pump, sump and overhead tank. These works are necessary to address existing infrastructure deficiencies, prevent equipment deterioration, facilitate safe operation and maintenance and ensure reliable operation of the PSS.

Balikuda PSS:

At Balikuda PSS, improvement of existing switchyard and electrical arrangement is required for safe and reliable operation. The proposed works include development of 33 kV bay areas, re-orientation of 33 kV and 11 kV equipment, construction of earth pit chambers, busbar

upgradation with bus-coupler arrangement and painting of existing structures. These works will improve the layout, safety, accessibility and maintainability of the substation and ensure reliable operation of Balikuda PSS.

Parjang PSS:

At Parjang PSS, the existing civil and electrical infrastructure requires refurbishment and improvement to ensure safe, reliable and efficient operation of the substation. The existing control room, busbar arrangement, earthing system, switchyard fencing, cable trenches and associated facilities require upgradation. Accordingly, renovation of the control room with new store room and toilet, busbar upgradation with bus-coupler arrangement, new earth mat, switchyard fencing, covered cable trench, earth pit chambers, 33 kV bay development, transformer plinths, painting of existing 33 kV/11 kV structures, approach road improvement and water supply arrangement are proposed. These proposed works will address existing infrastructure deficiencies, improve safety, protect electrical equipment and ensure reliable operation of Parjang PSS.

Table 55: Cost Estimate- PSS Refurbishment

Sl. No.	Description	Total Cost in Cr. considered in Capex 27-28
1	PSS refurbishment at Atharnala PSS	4.67
2	PSS refurbishment at Sunamuhi PSS	2.50
3	PSS refurbishment at Itamati PSS	1.29
4	PSS refurbishment at Balikuda PSS	0.50
5	PSS refurbishment at Parjang PSS	1.05
	TOTAL	**10.00**

Battery Charger cum DCDB

Existing Battery Charger with DCDB is required to be upgraded/replaced to ensure reliable and uninterrupted DC supply for protection, control, tripping, closing, indication and communication systems of PSS.

Battery Charger with DCDB is a critical auxiliary system as the availability of reliable DC supply is essential for proper operation of circuit breakers, protection relays and other control equipment during normal as well as emergency conditions. Existing arrangement has limited capacity and requires augmentation to meet the present and future DC load requirements.

Accordingly, it is proposed to provide new Battery Charger with DCDB which will improve the reliability and availability of PSS DC auxiliary supply and minimize the risk of failure of protection and control equipment due to DC supply interruption.

Table 56 : **Proposed Scope for Battery Cum DCDB**

Description	Qty.	Total Cost in Cr. considered in Capex 27-28
Battery Charger with DCDB	32	1.25

Total cost considered in Capex 27-28 is Rs. 1.25 Cr.

The detailed proposal, justifications, locations, detailed cost estimate and benefits are enclosed at **Annexure-16**.

2.3.10 Mitigate VCB Group Control for 33kV and 11kV network Breakers through enhancement of Protection of equipment

A number of 1.6, 3.15, and 5 MVA power transformers, 33, and 11kV feeders at 33/11kV primary substation don't have required circuit breakers along with associated protection equipment's. 33 and 11kV feeders, and power transformers are controlled through group circuit breaker leading to poor reliability.

Controlling multiple feeders with a single breaker introduces several critical challenges in safety, reliability, power system design and operation. This configuration is significantly hampering the reliability and operational risks, especially for the PSS. Relay settings and coordination become more complex, increasing the risk of maloperations, un coordinated tripping or slow fault clearance and stress on the equipment's life cycle. Each feeder with individual VCB can be switched on or off independently without affecting to other feeder. Where as in case of Group Control system, multiple feeders' shutdown is required whenever there is a breakdown or preventive work. It also causes delay in restoration and fault finding.

Since FY'21, TPCODL has taken the initiative for eliminating Group control by installing individual circuit breakers and its associated protections for each individual 33kV feeders, Power Transformers, and 11kV feeder. However, a substantial portion of this equipment's are still operating with group-control arrangement. Total requirement of VCB to eliminate the Group Control is given.

Table 57: Status of Group Control Mitigation in TPCODL Network

Items Description	Total requirement	Completed till March'26	Planned in FY'27	Proposed in FY'28	Total Cost in Cr. considered in Capex 27-28	Left out Qty.
33KV Breaker with bay equipment	176	84	18	44	**20.81**	30
11 KV Breaker with bay equipment	172	109	61	2		0

Total	**348**	**193**	**79**	**46**	**20.81**	**30**

Table 58 : Proposed Scope and Costing for Mitigation of Group Control

Sl. No.	Description	Unit	Per Unit Cost (In Cr.)	Total Qty.	Total Cost (In Cr.)
1	33 kV Fdr. group control	EA	0.37	44	16.37
2	11 kV Group control	EA	0.27	2	0.54
3	Control Room to accommodate CRP Panels to eliminate Group Control	EA	0.45	8	3.60
4	CR panel for 3 Feeder Protection (33 kV or 11 kV) for elimination Group Control	EA	0.10	3	0.30
				TOTAL	**20.81**

Total 46 Nos. of VCB has been planned for removing Group Controls, modification of 8 Nos. PSS Control Room to accommodate CR panels, installation of new CR panel to address Group control issues. Total budget requirement is Rs. 20.81 Cr. in Capex 27-28.

The detailed proposal, justifications, locations, detailed cost estimate and benefits are enclosed as **Annexurte-17.**

2.3.11 LV Protection (63 kVA and above DTs)

Background

In the existing scenario, due to the absence of LTDB or LT ACB, it is not possible to individually control the LT feeders and any fault on LV side leads to the tripping of 11 kV feeder breaker at DSS.

Proposal

Distribution Substation (DSS) comprises of various equipment, which perform specific task to ensure delivering the power supply at appropriate voltage to the end consumers. Main components are 11kV AB Switch, 11kV HG Fuse, Transformer, LV Protection, Earthing, Fencing and LT Distribution Box.

The most expensive equipment in the DSS is Transformer and its life depends upon the healthy condition of all other components, be it LV Protection, HV Protection, Earthing or fencing. It is observed at various locations that the LT side & HT Side protection is bypassed through GI wires. Due to this bypassed scenario, for any maintenance or corrective work at LT level, due to non-availability of switching equipment, outage / Hand trip is taken from the 33/11kV PSS resulting into interruption to all the consumers connected on that 11KV feeder even though for a short duration. Similarly, for any fault on LV side leads to tripping of 11kV feeder breaker at DSS.

However, this can be addressed by installing a LTDB after the Distribution transformer so that only that LT feeder needs to be taken into outage where the work is supposed to be

carried out. The main function of LTDB is to individually control the LT feeders thus helping in attending the complaint of any feeder without disturbing the power supply to other LT feeders from same distribution transformer. This will help in reducing the affected consumers count and thus improving the reliability indices.

Requirement/ Need of the Proposal

This scheme is proposed to ensure flexibility to the field teams in 11kV & LT operation. At some locations there is no LT protection at Distribution Transformers and therefore to attend/work at LT feeder, outage to be taken from 33/11kV PSS which results into interruption to all consumers connected to the particular 11kV feeder.

Scope of Work

In this scheme, it is proposed to install LT DB's for all 63 kVA and above rating DTRs, where LT side protection is not available, across the five city divisions of Bhubaneswar and Cuttack.

In proposed scope DSS refurbishment work also considered to improve the overall condition and reliability of Distribution sub-station. The scope includes replacement of damaged AB Switch and HG Fuse, improvement of earthing arrangements, replacement of deteriorated structures and supports, LT cable laying, zero pole installation, DSS fencing work and other civil works as required.

The refurbishment will help reduce equipment failure, improve operational safety, minimize breakdowns and maintenance requirements and ensure reliable power supply to connected consumers. The proposed CAPEX investment is therefore essential for strengthening the existing distribution infrastructure and improving the overall reliability and quality of power supply.

Table 59 : Scope of LV protection for FY 2027-28

Items Description	Total requirement	Completed till March'26	Planned in FY'27	Proposed in FY'28	Total Cost in Cr. considered in Capex 27-28	Left out Qty.
LV Protection (63kVA and Above DTs)	37358	7985	2008	711	**30**	27365

The total cost for LTDB work is approx. 30 cr.

Proposed Cost with Estimate Break-up

Please refer to **Annexure – 18** for details of BoQ for the above cost estimate and Locations covered in this scope.

Benefit to the System and Consumers

- Improve in reliable power supply to consumers.
- Reduction in un-coordinated and hand Tripping during LT fault.
- Ease and flexibility for operation to the field teams.
- Improving the safety in terms of Equipment operation
- Field engineers would have flexibility to isolate the faulty LT feeder locally instead of switching off entire 11kV feeder.

2.3.12 T-OFF Removal from 33 kV Network

Background

In the existing 33kV network, several HT consumers are connected through T-off arrangements at 33kV feeders. These T-off connections presently do not have dedicated switching and protection facilities at the tapping points. Consequently, any fault occurring in the T-off section results in tripping of the 33kV feeder breaker at the PSS/GSS, leading to interruption of supply to all consumers connected on the 33kV feeder, even though the fault may be localized to a specific branch. This not only affects supply reliability but also increases outage duration due to the time required for fault identification, sectionalization and restoration of supply. As the number of connected consumers and critical loads continues to increase, there is a growing need to strengthen the network with suitable switching arrangements to improve reliability and operational flexibility. The installation of 33kV Ring Main Units (RMUs) at strategic T-off locations has therefore been identified as an effective solution for faster fault isolation, minimizing feeder shutdowns and ensuring faster restoration of supply.

Proposal

To improve supply reliability and operational flexibility in the existing 33kV network, it is proposed to install 33kV Ring Main Units (RMUs) at identified T-off locations feeding HT consumers.

The proposed 33kV RMUs will provide switching, isolation and protection facilities at the tapping points, enabling quick identification and isolation of faulty sections without affecting the healthy portion of the 33kV feeder. During any fault in the T-off section, only the affected branch can be isolated while maintaining power supply to the remaining consumers connected to the 33kV feeder. This will considerably reduce outage duration, minimize consumer disruptions and improve the overall reliability of the network.

Requirement / Need of the Proposal

The proposed installation of 33kV RMUs is required to strengthen the existing 33kV network by providing dedicated switching, protection and sectionalizing facilities at T-off points, thereby enabling faster fault isolation and restoration of supply. At present, faults occurring in T-off sections result in tripping of the entire 33kV feeder, causing unnecessary supply

interruptions to a large number of consumers connected to the feeder. Further, fault identification and restoration activities consume considerable time, leading to prolonged outage duration. The proposed RMUs will improve network reliability and operational flexibility by localizing the impact of faults, facilitating efficient fault management and maintenance activities, minimizing feeder-wide outages and ensuring reliable power supply to consumers.

Scope of Work

The scope of work proposed under CAPEX includes installation of 33kV RMUs with FRTU at identified T-off locations in the existing 33kV network, including all associated accessories and SCADA integration facilities.

The approx. costing for T-Off removal from 33kV Network is given below:

Table 60 : Proposed Cost with Estimate Break-up- T-OFF Removal

Sl. No.	Circle	Proposed Location for 33kV RMU	Quantity (in nos.)	Cost (in Cr.)	Total Cost (in Cr.)
1	BBSR-1	Near IOCL (33kV C.s.pur-1 and C.s.pur-2 Feeder)	2	0.625	1.25
2	BBSR-1	Eco. Railway (33kV Railway Feeder)	1	0.625	0.62
3	BBSR-1	Xavier Square (33kV Xavier Feeder)	1	0.625	0.62
4	BBSR-1	Govindpur 6-Pole (33kV Govindpur Feeder)	2	0.625	1.25
5	BBSR-1	Utkal Builders (33kV Naharkanta Feeder)	1	0.625	0.62
6	BBSR=2	Bharat Electrical T-Off point (33kV Bhusandapur Feeder)	1	0.625	0.62
Total			**8**		**5.00**

The detailed Cost estimate is provided at **Annexure-19.**

Benefit to the system and consumers

- Improvement in reliability and quality of power supply by minimizing 33kV feeder outages.
- Enabling faster identification and isolation of faulted T-off sections.
- Prevent unnecessary tripping of the entire 33kV feeder for localized faults and ensures uninterrupted supply to healthy sections of the feeder during fault conditions.
- Enhancement of operational flexibility and ease of maintenance.
- Improvement of network redundancy.
- Ensuring uninterrupted supply to healthy sections of the feeder during fault conditions.
- Increase in consumer satisfaction through reliability of power supply.

2.4 Load Growth

The proposed budget for Load Growth under Capital Investment Plan FY 2027-28 is as given in the table below:

Table 61 *:* Capital Expenditure for Load Growth

Sr No	Activity	CAPEX Proposed for FY 27-28 in Rs. Cr
1	New Connection Release	Will be Claimed at Actual in True up
2	33kV Network Overload mitigation	20
3	11kV Network Overload mitigation	40
4	Augmentation of PTR to meet load demand	40
5	LT Network Strengthening for Load Growth	10
5	DTR/ CSS (New & Aug.) to meet load Growth	70
Total		**180**

The description of the various schemes are as under

2.4.1 New Connection Release

In order to meet the increasing power demand, the existing distribution network infrastructure needs to be augmented/ strengthened/ expanded to release the new connection. Network extension/ augmentation/addition is required as some of the new connection cannot be released from the existing network and require augmentation/addition/extension before release of new connection.

The cost recovered from consumers by way of service connection charges are not adequate in certain new connection release cases and the Hon'ble Commission has been allowing this differential cost associated with new connection release including unrecovered cost of service cable in the capex.

In the Capex order dated 10.07.2025 in the matter of Case No-80/2024 and order dated 15.05.2026 in the matter of Case No-77/2025, the Hon'ble Commission has stipulated that differential cost for new connection release will be allowed during Truing up at actual. Relevant extract from both the orders is provided below.

In the Capex order dated 10.07.2025 in the matter of Case No-80 of 2024 under para 23 (iv), the Hon'ble Commission has stipulated that differential cost for new connection release will be allowed during Truing up at actual.

"

. . . However, the additional expenditure for new connection release would be considered by the Commission during the True Up exercise for the financial year on the actual basis."

In the Capex order dated 15.05.2026 in the matter of Case No-77 of 2025 under para 24 (iv), the Hon'ble Commission has stipulated that differential cost for new connection release will be allowed during Truing up at actual.

"

. . . The Commission in Capex Order dated 10.07.2025 in the Case No.80/2024 has stipulated that the additional expenditure for new connection release would be considered by the Commission during the True Up exercise for the financial year on the actual basis. Following the same principle, the additional expenditure towards new connection release over and above the contribution of consumer(s) will be considered by the Commission during the Truing up exercise based on audited accounts."

In view of the above directive, we are in this petition not proposing any amount towards 'New Connection Release' as the same will be claimed during truing up of FY 2027-28.

2.4.2 33 kV Network Overload Mitigation

Background

In TPCODL licensed area, 33kV network forms the backbone of the power supply system. This network is widely spread across the region and connects various 33/11kV Primary Substations (PSS), where power is stepped down to 11kV for further distribution. The 33kV feeders are critical assets for the distribution utility, as they interconnect power substations and ensure reliable power supply to end consumers.

Some of the 33kV feeders are experiencing overloading conditions with 2years load growth scenario. Prolonged overloading of 33kV feeders leads to increased technical losses, voltage drops at consumer and PSS ends, overheating of conductors and a higher frequency of feeder tripping. These factors collectively impact the reliability and quality of power supply, resulting in increased customer complaints and reduced network reliability.

Proposal

In this proposal, TPCODL intends to mitigate overloading and improve reliability of the 33kV feeders by feeder augmentation, feeder interconnection and construction of new feeders.

Requirement/ Need of the Proposal

33kV Feeder overloading Mitigation

In the existing condition (Summer-26), out of 283nos. 33kV feeders, 15nos. 33kV feeders are identified to be overloaded (loading≥100%). All these feeder overloading mitigations are work under progress under different schemes (CAPEX & Govt. schemes).

With 2 years load growth in summer 28, 54nos. 33kV feeders will be overloaded (loading ≥100%) in summer'28.

Table 62 : 33 kV Feeders Overloading Details

Sl. No.	Circle	GSS	33kV Feeder	Loading (A)	Loading (%) in summer'28	Scheme Name
1	BBSR-I	Ransinghpur	ASOTECH	433.42	141.64	CAPEX 26-27
2	BBSR-I	Kesura	BALAKATI(LINGIPUR)	451.68	147.61	CAPEX 26-27
3	BBSR-I	Chandaka-A	BARAGARH	633.00	136.42	Govt Funded
4	BBSR-I	Ransinghpur	BHIMATANGI	607.12	130.85	Govt Funded
5	BBSR-I	Chandaka-A	CHANDRASEKHARPUR-1	452.82	100.63	CAPEX 25-26
6	BBSR-I	Mancheswar-A	FDR-2 (KHARABELA NAGAR)	548.65	118.24	Govt Funded
7	BBSR-I	Kesura	KESURA(PANDRA)	451.57	163.62	CAPEX 25-26
8	BBSR-I	Mancheswar-A	NBCC	381.18	124.57	Others
9	BBSR-I	Nimapada	NIMAPARA	367.34	135.05	Govt Funded
10	BBSR-I	Nimapada	PATALADA (KAKATPUR)	496.52	107.01	Govt Funded
11	BBSR-I	Mancheswar-B	RASULGARH MAN-B	315.11	102.98	CAPEX 25-26
12	BBSR-I	Ransinghpur	RNSG-BARAMUNDA	640.95	138.14	Govt Funded
13	BBSR-I	Ransinghpur	RNSG-NAYAPALLI	650.93	140.29	Govt Funded
14	BBSR-I	Ransinghpur	VIPUL	507.11	109.29	Govt Funded
15	BBSR-I	Chandaka-A	XAVIER	627.24	135.18	CAPEX 26-27
16	BBSR-II	Samuka	ALARNATH	328.18	107.25	Govt Funded
17	BBSR-II	Atri	BAGHAMARI-1	317.57	116.75	Govt Funded

18	BBSR-II	Balugaon	BALUGAON	399.96	147.04	CAPEX 26-27
19	BBSR-II	Nayagarha	BINODPADA	371.80	136.69	Govt Funded
20	BBSR-II	Khorda	DELANG	320.42	117.80	Govt Funded
21	BBSR-II	Infosis-II	INFOSYS- JATANI	502.75	108.35	CAPEX 25-26
22	BBSR-II	Khorda	KHURDA	481.28	103.72	CAPEX 25-26
23	BBSR-II	Argul	NUAGAON	495.24	161.84	CAPEX 25-26
24	BBSR-II	Nayagarha	ODAGAON	238.65	100.70	Govt Funded
25	BBSR-II	Puri	PURI-3	389.92	127.43	CAPEX 26-27
26	BBSR-II	Khorda	TANGI/JANKIA	517.21	111.47	Govt Funded
27	Cuttack	Phulnakhra	ADASPUR/NIALI	309.07	113.63	Govt Funded
28	Cuttack	Cuttack	BADAMBADI NEW	468.11	149.08	CAPEX 26-27
29	Cuttack	CDA	CDA-1	503.92	108.60	Govt Funded
30	Cuttack	Bidanasi	FDR-2 (TULASIPUR 2)	504.42	108.71	Govt Funded
31	Cuttack	Cuttack	FDR-3 (JAGATSINGHPUR RURAL)	331.14	108.22	CAPEX 26-27
32	Cuttack	Choudwar	FDR-4 (BAHUGRAM)	319.10	104.28	CAPEX 25-26
33	Cuttack	Cuttack	FDR-6 (CHAULIGANJ-2)	354.81	113.00	CAPEX 25-26
34	Cuttack	Phulnakhra	KAJALPUR/ GOBINDAPUR/ DAMODARPUR	337.21	123.97	CAPEX 26-27
35	Cuttack	Balia	SALIPUR	375.83	138.17	Govt Funded
36	Cuttack	Bidanasi	SISHUBHABAN NEW	413.01	134.97	CAPEX 26-27
37	Dhenkanal	Angul	ANGUL-2	420.48	120.14	Others
38	Dhenkanal	Chainpal	BANARPAL	337.97	124.26	CAPEX 26-27
39	Dhenkanal	Gundichapada	DHENKANAL	436.00	124.70	CAPEX 27-28
40	Dhenkanal	Goda	GODA	253.33	106.89	CAPEX 27-28
41	Dhenkanal	Gundichapada	HINDOL ROAD	203.08	109.18	Govt Funded

42	Dhenkanal	Chainpal	INDUSTRIAL	302.16	111.09	Govt Funded
43	Dhenkanal	Boinda	JARAPADA	287.24	105.60	CAPEX 25-26
44	Dhenkanal	Rengali	KANIHA	241.72	101.99	CAPEX 25-26
45	Dhenkanal	Chainpal	PARJANG	328.97	107.51	CAPEX 26-27
46	Dhenkanal	Chainpal	TALCHER	424.83	121.38	CAPEX 25-26
47	Paradeep	Jagatsinghpur	BALIKUDA (NEW)	376.45	158.84	CAPEX 25-26
48	Paradeep	Jagatsinghpur	JAGATSIGHPUR	276.70	101.73	Govt Funded
49	Paradeep	Kendrapada	KENDRAPADA	478.70	175.99	Govt Funded
50	Paradeep	Kendrapada	DANPUR	279.46	102.74	CAPEX 27-28
51	Paradeep	Marsaghai	LUNA	363.25	133.55	Govt Funded
52	Paradeep	Marsaghai	MAHAKALPADA	343.15	126.16	Govt Funded
53	Paradeep	Rajnagar	NEW RAJNAGAR FDR	356.20	114.31	CAPEX 27-28
54	Paradeep	Tirtol	TIRTOL/BODHEI	328.66	121.72	Govt Funded

However, there are 50 nos of 33 kV feeders overloading mitigation proposal are ongoing ,only 4 nos 33 kV feeders for which no proposal is available and same has been considered under Capex FY 2027-28.

Table 63 : Overloaded Feeders and Mitigation Schemes

Circle	Total no. of Overloaded Feeders	Overloaded Feeder and Mitigation Scheme				
		CAPEX 25-26	CAPEX 26-27	Govt. Schemes	Others	CAPEX 27-28
BBSR-I	15	3	3	8	1	
BBSR-II	11	3	2	6		
Cuttack	10	2	4	4		
Dhenkanal	10	3	2	2	1	2
Paradeep	8	1		5		2
Total	**54**	**12**	**11**	**25**	**2**	**4**

Overloading of 33kV feeders leads to increased technical losses, frequent voltage fluctuations and a higher risk of feeder tripping, especially during peak demand periods.

Scope of Work

In order to mitigate the overloading of the 33kV feeder proposals are identified after subsequent interaction with field teams. Overloading mitigation done through below initiatives:

b) Augmentation of feeder capacity by upgrading conductor size and associated infrastructure – 3nos.
b) Interconnections with nearby feeders to enhance load-sharing capability and enhance network reliability – 1no.

These initiatives will contribute significantly to improving the reliability of the network, also reducing technical losses and improving quality of power supply for consumers.

The overloading mitigation of 4Nos. overloaded 33kV feeders is proposed under CAPEX FY: 2027-28.

Table 64 : Proposed Cost with Estimate Break-up

Sl. No.	Circle	33kV Feeder Name	Proposal Detail	Cost (In Cr)	Annex. No.
1	Paradeep	Old Danpur Feeder	Proposal for augmentation/refurbishment of 13 CKM line of 33 kV Danpur Old Fdr. from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC to improve reliability and mitigate overloading issue.	5.00	Annex.-20.1
2	Paradeep	New Rajnagar PSS	Proposal for Augmentation of 7.1 CKM line of 33 kV New Rajnagar Fdr. from 100/148 Sq.mm. AAAC to 232 Sq.mm. AAAC/232 Sq.mm. XLPE AAAC to improve reliability and mitigate overloading issue.	2.00	Annex.-20.2
3	Dhenkanal	Gondia, College and Dakhinakali Fdr.	Proposal for augmentation of 33kV Gondia feeder from Gundichapada GSS to College PSS, to mitigate college feeder overloading, providing 2nd source to PSS and improve network reliability.	7.00	Annex.-20.3
4	Dhenkanal	Goda Fdr.	Proposal for New 33kV linking line from 33/11kV MK Gola PSS to 33/11kV Dayanabili PSS, to enabling ring connectivity and provide 2nd 33kV source to PSS, mitigate overloading and improve network reliability.	6.00	Annex.-20.4
Total Cost for 33kV Overloading Mitigation (Cr.)				**20.00**	

Cost Benefit Analysis

The detailed cost benefit analysis is attached in **Annexure-20.**

Benefit to the System and Consumers

- Overloading mitigation of 33kV Feeders.
- Reduction in technical loss of network and improve the voltage profile.
- Ensure reliable & improved voltage supply to the consumers area.
- Improving the vertical clearances and other safety statutory requirements complying to CEA safety guidelines.

2.4.3 11 kV Network Overloading Mitigation

Background

11kV feeders are the main power link between Primary substations (PSS) with the distribution substation (DSS) and give power supply to 11kV HT consumers. In the TPCODL licensed area,

some of 11kV feeders are experiencing overloading conditions with 2years load growth scenario. Prolonged overloading of 11kV feeders leads to increased technical losses, voltage drops at consumer ends, overheating of conductors and transformers and a higher frequency of feeder tripping. These factors collectively impact the reliability and quality of power supply, resulting in increased customer complaints and reduced network reliability.

Proposal

In the existing condition (Summer-26), out of 1459nos. 11kV feeders, 90nos. 11kV feeders are overloaded (loading≥100%). All these feeder overloading mitigations are work under progress under different schemes (CAPEX & Govt. schemes).

In the annual network load flow study, 157nos. 11kV feeders overloading are identified (loading ≥100%) with 2years load growth during Summer'27 out of which in CAPEX FY: 2027-28 we have considered only 50nos. feeders. For the rest 107no's feeders, work in progress under different schemes and expected to be completed by March-2027.

Table 65

Circle	CAPEX 24-25	CAPEX 25-26	CAPEX 26-27	Govt funded	CAPEX 27-28	Total
BBSR-I		**12**	**15**	**1**	**28**	**56**
BBSR-II	**1**	**5**	17	1	4	**28**
Cuttack	**3**	**14**	7	3	**6**	**33**
Dhenkanal	2	**9**	**10**		**8**	**29**
Paradeep	1	3	2	**1**	**4**	**11**
Total	7	43	51	6	50	**157**

In order to mitigate the overloading of the 11kV feeder proposals were identified after subsequent interaction with field teams.

Overloading mitigation are done through below initiatives:

a) Conductor upgradation

b) Load transfer through feeder interconnection

c) New 11KV Feeder for load bifurcation/ diversion

Requirement/ Need of the Proposal

The conductor augmentation, feeder interconnections, feeder bifurcation and new feeders are required to mitigate the overloading of 11kV feeders resulting due to continuous load growth.

Scope of Work

In Summer’28, 157 nos. 11kV feeders will be overloaded, out of which 50nos. are considered in CAPEX FY:27-28. Out of these 50nos. 31nos. are considered under load growth category whereas rest 19nos. are proposed under Reliability. Under reliability these 19nos. 11kV feeders are serving both serving overloading mitigation and reliability purpose.

Table 66 : **Proposed Cost for 31no.s 11kV feeders (under Load Growth) with Estimate Break-up**

Sl. No.	Circle	Division	Existing PSS name	Existing Feeder Name	Proposal Details	Costing (In Cr.)	*Annexure*
1	BBSR-I	BED	Uttara	Kaushalyaganga	Proposed 3kms new U/G line from Siula PSS	3.14	**Annexure-21.1**
2	BBSR-I	BED	Kesura	Kesura	Proposed 3.5kms new U/G line from Kesura PSS	2.84	**Annexure-21.2**
3	BBSR-I	BED	Laxmisagar	Laxmisagar U/G	Proposed 3.8kms new U/G line from Laxmisagar PSS	3.89	**Annexure-21.3**
4	BBSR-I	BED	Pandra	Pandra village	Proposed 1.8km new feeder from Pandra PSS	3.21	**Annexure-21.4**
5	BBSR-I	BED	Pandra	Prachi Vihar	Proposed 2kms new U/G line from Pandra PSS	2.59	**Annexure-21.5**
6	BBSR-I	BED	Laxmisagar	Laxmisagar O/H	Proposed 3kms new U/G line from Laxmiagar PSS	3	**Annexure-21.6**
7	BBSR-I	BCDD-I	Substation: 33/11 KV UNIT 8 S/S :	11KV-BM RMU 15(ASHOK NAGAR)_14011213	Linking with BM RMU-19 for Feeder Bifurcation near Bhubaneswar Club. Covered conductor required of 0.7 CKM for 3 nos. Branch Line, (SECM 11 to rammandir DP, SE CM 26 to Treasury, SECM 28 to High level DP.)	1.06	**Annexure-21.7**
8	BBSR-I	BCDD-I	Substation: 33KV SS AIRPORT :	11KV-JP RMU-34_14215204	Linking With RMU-1 Ganganagar near Airport PSS For load bifurcation. Covered conductor required for Branch line	1.71	**Annexure-21.8**
9	BBSR-I	BCDD-I	Substation: 33/11 KV UNIT 8 S/S :	11KV-TELEPHONE BHAVAN FEEDER_14011204	New UG Line from Kharvel Nagar PSSof length 1CKM.	1.34	**Annexure-21.9**
10	Paradeep	KED-I	Kendrapada PSS	Town-2 & Block	Proposal for construction of 0.8 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Block & Town-2 Fdr. along with refurbishment of 1.6 CKM 11 kV O/H line of 11 kV Town-2 Fdr.	0.88	**Annexure-21.10**
11	BBSR-I	BCDD-II	Substation: 33/11 KV SS CS PUR -1 :	11KV-BDA_14001203	Bifurcation from Dumduma PSS 1.5 CKM & Augmentation 1.5 CKM	2.14	**Annexure-21.11**
12	BBSR-I	BCDD-II	Substation: 33/11 KV SS INFOCITY :	11KV-INFO PATIA_14003206	Bifurcation from Bharat Pur PSS 2 CKM. Augmentation of 2 CKM	0.87	**Annexure-21.12**
13	BBSR-I	BCDD-II	Substation: 33 KV SS RANASINGHPUR :	11KV-SIJUA_14235203	Augmentation of 3 CKM & Linking of 1 KM.	0.96	**Annexure-21.13**
14	BBSR-I	NED	Nimapada	OMFED	Augmentation & Bifurcation of 11kV OMFED Feeder	1.46	**Annexure-21.14**
15	BBSR-I	BCDD-I	Delta PSS	Shatabdi Nagar	Linking with 11kV unit-8 Feeder of Length CKM(OH-0.8 CKM, UG 1 CKM) for Feeder Bifurcation, Covered conductor required 4 CKM, near Tarini Temple, Soubhagya Nagar branch, Shatabdi nagar Branch	2.07	**Annexure-21.15**
16	BBSR-II	BAED	Kuhudi	Chandeswar	Bifurcation by construction of New 11kV Feeder from Kuhudi PSS. 2KM NEW XLPE 1 4 POLE	0.64	**Annexure-21.16**
17	BBSR-II	KHD	Binodpada	SANAPADAR	Proposal for line augmentation of 11.6 CKM line	1.8	**Annexure-21.17**
18	BBSR-II	NYED	Itamati	Itamati	Proposal for line augmentation of 3 CKM line	0.35	**Annexure-21.18**

19	Cuttack	CED	Niali PSS	BILASUNI (TOLA)	Proposal for augmentation/refurbishment of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor along with construction of 0.16 CKM 11 kV line for N-1 connectivity between 11 kV Bilasuni(Tola) & Kaliaghai Fdr to mitigate overloading issue.	0.48	**Annexure-21.19**
20	Cuttack	AED	Narangbasta PSS	MEGHA	Proposal for refurbishment of 3 CKM O/H line using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) along with conversion of O/H to 0.25 CKM U/G in college premises to mitigate overloading	0.61	**Annexure-21.20**
21	Cuttack	SED	Salipur PSS	NAIGUAN	Proposal for augmentation of of 4 CKM O/H line of 11 kV Naiguan Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) to mitigate overloading issue	0.42	**Annexure-21.21**
22	Cuttack	CED	Damodarpur PSS	SUNDERGRAM	Proposal for refurbishment of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor	0.33	**Annexure-21.22**
23	Cuttack	CED	Adaspur PSS	Adaspur	Proposal for augmentation of of 2 CKM O/H line of 11 kV adaspur Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing	0.28	**Annexure-21.23**
24	Cuttack	SED	Mahanga PSS	Mahanga	Proposal for augmentation of of 2 CKM O/H line of 11 kV Mahanga Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing)	0.28	**Annexure-21.24**
25	Dhenkanal	DED	Hindol PSS	11 kV Hindol Fdr.	Proposal for 11 kV New linking line from 25kva Mahidharpur Petrol Pump to 25kva Madhia Munda	0.33	**Annexure-21.25**
26	Dhenkanal	DED	Collage PSS	11 kV Gudianali Fdr.	Proposal for 11 kV New linking line from Jawahar chowk 500kAV to Suji Hotel 500kVA	0.52	**Annexure-21.26**
27	Dhenkanal	TED	Ghatipiri PSS	11 kV Kamalchuin Fdr.	Proposal for 11 kV New linking line from Natada Village to Kochianali Village	0.88	**Annexure-21.27**
28	Dhenkanal	TED	Danara PSS	11kV Balher fdr	Proposal for Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.	0.51	**Annexure-21.28**
29	Dhenkanal	ANED	Collage PSS	11kV Bantala Feeder	Proposal for 11 kV New linking line from 1CKM LINKING LINE FROM 11KV KHINDA FEEDER (KALEIPADA AGRO 25 KVA DT) WITH KHALAGOAN AGRO-2 25 KVA DT	0.51	**Annexure-21.29**
30	Dhenkanal	ANED	Khamar PSS	11kV PTC Feeder	Proposal for 180 MTR LINKINKING LINE with AB Switch at 11kv PTC Feeder near RAAZ CHAKA SIMILIPADA 500 KVA DTC4212DT089) for linking from 11KV RCMS THANA feeder near NEAR JUDGE QUARTER 10 kva DTC 4212DT163	0.23	**Annexure-21.30**
31	Dhenkanal	ANED	Industrial	11kV Kurudol Fdr	Proposal for NEw linking line 1.5 CKM LINKING LINE FROM 11KV MCLFEEDER (PETROL PUMP ALEKHAPATANA 25 KVA DT) WITH 11KV KURDUL NEAR SAKOSINGHA CANAL ROAD NEAR (SHAKTI FLY ASH BRICKS DTC 4213DT211 25 KVA)	0.67	**Annexure-21.31**
				Total cost (Cr.)		**40**	

Cost Benefit Analysis

The proposal, justifications, locations, detailed cost estimate and benefits is attached in the **Annexure-21.**

Benefit

These proposals will help to eliminate overloading on identified feeders, improve voltage profiles, reduce technical losses and enhance network reliability. These measures will also support future load growth, reduce the risk of feeder tripping, improve operational flexibility and ensure reliable and quality power supply to consumers across the TPCODL licensed area.

2.4.4 Power Transformer Augmentation and Addition to meet Load Growth

Background

Overloading of Power Transformers is an alarming issue and need immediate attention for implementing overloading mitigation proposals. PTR overloading issue can be mitigated by below measures:

i. 11kV Feeder load diversion to lightly loaded PTR.
ii. 11kV Feeder swapping with lightly loaded feeder in other lightly loaded PTR.
iii. PTR Swapping with higher rating PTR.
iv. Augmentation of existing PTR with higher rating of PTR.

To carry out the detailed study of the PTR, inputs were collected from existing log sheet data, Smart meter data and SCADA data from each 33/11 kV substations. Then we analyzed the loading pattern and fixed the load growth and conducted load flow analysis taking into consideration the peak loading experienced during Summer'26. As per the load flow analysis, the loading of different PTRs overloading under TPCODL jurisdiction has been identified. Since the priority of Power transformer overloading mitigation is crucial, we have prioritized and considered Power Transformer overloading mitigation wherein PTR loading is greater than 80% in Summer'26 which will be subsequently overloaded in Summer'28 with load growth. Additionally, 1no. proposal considered for supply and installation of 11kV Switchgear panel board for enabling 11kV power evacuation from Delta PSS and 1no. proposal considered for installation of 11kV Switchgear panel board for enabling 11kV power evacuation from Gurujanga PSS and installation of 33kV Switchgear panel board.

As per the trend, load growth year-on-year basis for BCDD-1, NED and ANED has been considered as 10%, BCDD-2 and BED have been considered as 15%, PED and CDD-2 have been considered as 13%, KHD and BAED have been considered as 12%, CDD-1, KED-1,

KED-2 and PDP have been considered as 11%, JED has been considered as 9%, AED, DED and TED load growth has been considered as 8%, CED has been considered as 7%, NYED and SED have been considered as 6% and for AED, DED and TED load growth has been considered as 8%.

As per the PTR loading analysis, 62nos. PTRs are loaded beyond 80% in Summer'26 as follows :

Table 67 : Details of overloaded PTRs beyond 80% loading in Summer'26

Sl. No.	Name of Circle	Name of Division	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Sum'26 Loading (MVA	% Loading (Sum'26)	Loading with 2yrs LG (Sum'28)	% Loading with 2yrs LG (Sum'28)	Scheme	Proposal Head
1	BBSR-1	BCDD-1	Unit-8	PTR-2	12.5	10.36	83%	12.54	100.3%	CAPEX FY: 2027-28	PTR Augmentation
2	BBSR-1	BCDD-2	Chandaka	PTR-2	8	6.97	87%	9.22	115%	CAPEX FY: 2025-26	11kV Feeder Load diversion
3	BBSR-1	BCDD-2	Infocity	PTR-1	16	14.35	90%	18.98	119%	CAPEX FY: 2025-26	11kV Feeder Load diversion
4	BBSR-1	BCDD-2	Niladri Vihar/ Lumbini Vihar	PTR-1	5	4.63	93%	6.13	123%	Deposit	PTR Augmentation
5	BBSR-1	BCDD-2	Ransinghpur	PTR-1	8	7.54	94%	9.98	125%	CAPEX FY: 2025-26	11kV Feeder Load diversion
6	BBSR-1	BCDD-2	CS Pur-2	PTR-3	8	6.40	80%	8.46	106%	OPEX	11kV Feeder Swapping
7	BBSR-1	BED	Badagada	PTR-1	12.5	11.96	96%	15.82	127%	CAPEX FY: 2027-28	PTR Augmentation
8	BBSR-1	BED	Bhimatangi	PTR-4	12.5	10.21	82%	13.50	108%	CAPEX FY: 2025-26	11kV Feeder Load diversion
9	BBSR-1	BED	Mancheswar	PTR-1	12.5	10.90	87%	14.41	115%	CAPEX FY: 2025-26	11kV Feeder Load diversion
10	BBSR-1	BED	Naharkanta	PTR-2	8	6.97	87%	9.22	115%	CAPEX FY: 2026-27	PTR Augmentation
11	BBSR-1	NED	Balakati	PTR-2	8	7.31	91%	8.85	111%	ODSSP Ph-IV	11kV Feeder load diversion
12	BBSR-1	NED	Balipatna	PTR-1	5	4.08	82%	4.93	99%	OPEX	11kV Feeder Swapping
13	BBSR-1	NED	Kakatpur	PTR-1	8	7.92	99%	9.59	120%	CAPEX FY: 2027-28	11kV Feeder load diversion

14	BBSR-1	NED	Pipili	PTR-3	8	7.54	94%	9.13	114%	CAPEX FY: 2026-27	PTR Augmentation
15	BBSR-2	BAED	Ankulapadar	PTR-1	5	4.18	84%	5.25	105%	OPEX	PTR Swapping
16	BBSR-2	BAED	Balugaon	PTR-1	8	7.16	90%	8.98	112%	CAPEX FY: 2027-28	PTR Augmentation
17	BBSR-2	BAED	Kuhudi	PTR-1	5	4.49	90%	5.63	113%	CAPEX FY: 2026-27	11kV Feeder Load diversion
18	BBSR-2	KHD	Khordha Town/ 10-Pole	PTR-1	12.5	11.20	90%	14.05	112%	CAPEX FY: 2027-28	PTR Augmentation
19	BBSR-2	KHD	Gurujanga	PTR-2	5	4.29	86%	5.38	108%	CAPEX FY: 2027-28	11kV Feeder Load diversion
20	BBSR-2	KHD	Kalapathar	PTR-1	3.15	2.59	82%	3.25	103%	OPEX	PTR Swapping
21	BBSR-2	KHD	Kalapathar	PTR-2	3.15	2.67	85%	3.35	106%	OPEX	PTR Swapping
22	BBSR-2	NYED	Daspalla	PTR-3	5	4.13	83%	4.64	93%	OPEX	PTR Swapping
23	BBSR-2	PED	Baliapanda	PTR-3	8	6.82	85%	8.71	109%	CAPEX FY: 2027-28	PTR Augmentation
24	BBSR-2	PED	Samanga/ Jail Road	PTR-1	8	6.40	80%	8.18	102%	CAPEX FY: 2027-28	PTR Augmentation
25	BBSR-2	PED	Talabania	PTR-1	16	13.64	85%	17.41	109%	CAPEX FY: 2025-26	11kV Feeder load diversion
26	CUTTACK	CDD-1	DRDA	PTR-1	8	6.52	82%	8.04	100%	OPEX	11kV Feeder Swapping
27	CUTTACK	CDD-1	Matamatha	PTR-2	8	6.48	81%	7.98	100%	OPEX	11kV Feeder load diversion
28	CUTTACK	CDD-1	Old Jail	PTR-1	5	4.11	82%	5.07	101%	OPEX	PTR Swapping
29	CUTTACK	CDD-1	Sector-6/ CDA	PTR-1	8	6.70	84%	8.26	103%	OPEX	11kV Feeder load diversion
30	CUTTACK	CDD-2	Kandarpur	PTR-1	5	4.11	82%	5.25	105%	OPEX	11kV Feeder load diversion
31	CUTTACK	CED	Badachana	PTR-1	3.15	3.01	96%	3.45	109%	OPEX	PTR Swapping
32	CUTTACK	CED	Balichandrapur	PTR-4	5	4.93	99%	5.64	113%	OPEX	PTR Swapping
33	CUTTACK	CED	Choudwar	PTR-2	12.5	10.91	87%	12.50	100%	CMPDP	11kV Feeder load diversion
34	CUTTACK	CED	Niali	PTR-2	5	4.27	85%	4.88	98%	CAPEX FY: 2026-27	11kV Feeder load diversion

35	CUTTACK	CED	Tangi_CED	PTR-3	5	4.11	82%	4.71	94%	OPEX	11kV Feeder Swapping
36	CUTTACK	CED	Tangi_CED	PTR-4	5	4.15	83%	4.75	95%	OPEX	11kV Feeder Swapping
37	CUTTACK	AED	Athagarh	PTR-1	8	6.70	84%	7.82	98%	CAPEX FY: 2027-28	PTR Augmentation
38	CUTTACK	AED	Kanpur/ Kandhabareni	PTR-2	3.15	2.70	86%	3.15	100%	OPEX	PTR Swapping
39	CUTTACK	SED	Orikanta	PTR-1	5	4.72	94%	5.31	106%	ODSSP Ph-IV	11kV Feeder load diversion
40	CUTTACK	SED	Orikanta	PTR-2	5	4.91	98%	5.52	110%	OPEX	11kV Feeder Swapping
41	DHENKANAL	DED	Dakhinakali	PTR-2	8	7.60	95%	8.86	111%	CAPEX FY: 2025-26	11kV Feeder load diversion
42	DHENKANAL	DED	College	PTR-2	8	7.28	91%	8.49	106%	OPEX	11kV Feeder Swapping
43	DHENKANAL	DED	Hindol Road	PTR-3	8	7.37	92%	8.60	108%	CAPEX FY: 2025-26	11kV Feeder load diversion
44	DHENKANAL	ANED	Badakera	PTR-2	5	4.80	96%	5.81	116%	OPEX	PTR Swapping
45	DHENKANAL	ANED	Jarapada	PTR-2	5	4.15	83%	5.02	100%	OPEX	PTR Swapping
46	DHENKANAL	ANED	RCMS	PTR-1	12.5	11.73	94%	14.19	114%	CAPEX FY: 2026-27	PTR Augmentation
47	DHENKANAL	TED	Balanda	PTR-1	5	4.76	95%	5.55	111%	OPEX	PTR Swapping
48	DHENKANAL	TED	Meramundali	PTR-2	8	6.86	86%	8.00	100%	CAPEX FY: 2025-26	11kV Feeder load diversion
49	DHENKANAL	TED	Parjang	PTR-3	5	4.32	86%	5.04	101%	OPEX	11kV Feeder Swapping
50	DHENKANAL	TED	Talcher Town/ Bhaghuabol	PTR-2	8	6.91	86%	8.06	101%	OPEX	11kV Feeder Swapping
51	PARADEEP	KED-1	Ayatan	PTR-2	5	4.19	84%	5.16	103%	OPEX	PTR Swapping
52	PARADEEP	KED-1	Indupur	PTR-2	5	4.11	82%	5.07	101%	OPEX	11kV Feeder Swapping
53	PARADEEP	KED-1	Kendrapada	PTR-4	5	4.27	85%	5.26	105%	CAPEX FY: 2026-27	PTR Augmentation
54	PARADEEP	KED-1	Kendrapada	PTR-5	5	4.34	87%	5.35	107%	CAPEX FY: 2026-27	PTR Augmentation
55	PARADEEP	KED-1	Pattamundai	PTR-2	8	6.67	83%	8.21	103%	CAPEX FY: 2026-27	11kV Feeder Load diversion
56	PARADEEP	KED-2	Garadpur/ Pakhada	PTR-1	3.15	2.59	82%	3.19	101%	OPEX	PTR Swapping

57	PARADEEP	KED-2	Korua/ Kudanagari	PTR-1	8	6.93	87%	8.53	107%	ODSSP Ph-IV	11kV Feeder load diversion
58	PARADEEP	PDP	Krishnanandapur	PTR-1	5	4.11	82%	5.07	101%	CMPDP	11kV Feeder load diversion
59	PARADEEP	PDP	Rahama	PTR-1	5	4.50	90%	5.54	111%	OPEX	11kV Feeder Swapping
60	PARADEEP	PDP	Trilochanpur	PTR-2	5	4.57	91%	5.63	113%	OPEX	11kV Feeder Swapping
61	PARADEEP	JED	Balikuda	PTR-1	8	6.68	84%	7.94	99%	OPEX	11kV Feeder Swapping
62	PARADEEP	JED	Jagatsinghpur	PTR-4	5	4.57	91%	5.43	109%	CAPEX FY: 2026-27	11kV Feeder Load diversion

Proposal

In order to mitigate the overloading of the PTRs, instead of considering the Power Transformer augmentation of all the overloaded PTRs, we have considered for optimally utilizing our existing assets by 11kV load transfer or 11kV feeder swapping or PTR swapping schemes are undertaken under OPEX. The PTRs which are getting augmented under CAPEX schemes are further utilized under Power Transformer Swapping (OPEX) scheme to mitigate overloading of the transformers at locations required augmentation.

Out of 62nos. overloaded PTRs only 7nos. PTRs are proposed for augmentation under CAPEX FY 2027-28 for overloading mitigation. The PTR overloading mitigation plan scheme-wise is given in the below table:

Table 68 : PTR Overloading Mitigation Plan

Proposal	Schemes						Total
	CAPEX FY: 2025-26 (WIP)	CAPEX FY: 2026-27 (WIP)	CAPEX FY: 2027-28	Govt Funded	OPEX	Others	
11kV Feeder Load diversion	9	4	2	5	3		23
11kV Feeder Swapping					13		13
PTR Swapping					13		13
PTR Augmentation		5	7			1	13
Total	**9**	**9**	**9**	**5**	**29**	**1**	**62**

Requirement/ Need of the Proposal

Power transformer augmentation is required to mitigate the overloading of Power Transformers resulting due to continuous load growth and to ensure compliance with the N- 1 contingency criteria feeding critical loads.

Scope of Work

The scope of work proposed under CAPEX FY: 2027-28 as follows:

i. Upgradation of 7nos. Power transformers are considered under load growth.
ii. Supply and installation of 11kV Switchgear panel for 11kV feeder power evacuation.
iii. Installation of 11kV Switchgear panel for 11kV feeder power evacuation along with installation of 33kV Switchgear panel.The approx. costing for PTR overloading mitigation is given below:

Proposed Cost with Estimate Break-up

Table 69 : **Scope of PTR Augmentation with Cost**

Sl. No.	Name of Circle	Name of Division	Name of 33/11kV PSS	PTR No.	Proposal Details	Amount (in cr.)
1	BBSR-1	BCDD-1	Unit-8	PTR-2	Augmentation of Power Transformer (PTR-2) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Unit-8 PSS.	3.60
2	BBSR-1	BCDD-2	Badagada	PTR-1	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Badagada PSS.	3.60
3	Cuttack	AED	Athagarh	PTR-1	Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Athagarh PSS.	3.31
4	BBSR-2	PED	Samanga	PTR-1	Augmentation of Power Transformer (PTR-1) from 8 MVA to 16/20 MVA PTR along with expansion of existing Control Room Building at Samanga PSS.	8.75
5	BBSR-2	PED	Baliapanda	PTR-3	Augmentation of Power Transformer (PTR-3) from 8 MVA to 20 MVA along with accessories at Baliapanda PSS.	3.29

6	BBSR-2	KHD	Khordha Town/ 10-Pole	PTR-1	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at Khorda-10 Pole PSS.	3.75
7	BBSR-2	BAED	Balugaon	PTR-1	Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Balugaon PSS.	4.47
8	BBSR-1	BCDD-1	Delta		Supply and Installation of 11 kV Panel Board along with Control Room Building extension at Delta PSS. Proposal for Bifurcation of existing 11kV IRC-3 feeder for mitigation of Overloading. Proposal for Bifurcation of existing 11kV Baramunda Delta feeder for mitigation of Overloading.	5.95
9	BBSR-2	KHD	Gurujanga		Installation of 33kV and 11kV Panel Board at Gurujanga PSS.	3.29
					Total Cost (Cr.)	**40.0**

Cost Benefit Analysis

The detailed proposal, justifications, locations, detailed cost estimate and benefits are enclosed as **Annexure-22.**

Benefit to the System and Consumers

i. To mitigate overloading condition on the power transformers.
ii. To cater future load growth of the consumers connected to network.
iii. To ensure quality and reliable power supply to the consumers.

2.4.5 LT Network Strengthening for Load Growth Power

Background

TPCODL has an extensive LT distribution network of approximately 41,772 Ckm, comprising LT overhead conductors, underground cables, and LT AB cable systems. Out of the total LT network, approximately 37,746 Ckm consists of LT AB cable infrastructure.

With the continuous growth in consumer demand and load addition across urban, semi-urban, and developing areas, several existing Distribution Transformers (DTs) have either been upgraded or identified for capacity augmentation. However, increasing transformer capacity alone does not adequately address the limitations of the downstream LT distribution network. At several locations, the existing LT AB cable feeders have become overloaded or are of inadequate size to evacuate the enhanced transformer capacity effectively.

Further, in many areas, the existing LT feeder network is unable to accommodate the increased load demand, resulting in voltage drop issues, feeder overloading, higher technical losses, reduced reliability, and consumer complaints regarding poor quality of supply. Accordingly, installation of additional LT AB cable feeders has become necessary to ensure efficient power evacuation and distribution from upgraded DTs.

To address these challenges, phased installation of additional LT AB cable feeders is proposed under the FY'28 CAPEX Plan.

Proposal

TPCODL proposes the phased installation of additional LT AB cable feeders across critical locations identified through field surveys, load studies, maintenance records, and operational feedback.

The proposed work is aimed at strengthening the LT distribution network to cater to increasing consumer demand, improve power evacuation from upgraded Distribution Transformers, reduce technical losses, improve voltage regulation, and enhance system reliability.

The scheme shall prioritize urban and high-load-density areas experiencing recurring overloading, frequent interruptions, excessive voltage drops, consumer grievances, and reliability concerns.

Justification / Need of the Proposal

The growing demand for electricity across the TPCODL network necessitates strengthening of the LT distribution infrastructure in addition to DT augmentation. Installation of additional LT AB cable feeders is essential for efficient utilization of transformer capacity and reliable delivery of power to consumers due to the following critical reasons:

1. Thermal and Current Carrying Capacity

Overcoming Cable Overloading

The existing LT feeder network has fixed current-carrying limits. While upgrading a DT increases the power available for distribution, the downstream LT network may not be capable of safely carrying the additional load. Overloaded cables operate at higher temperatures, leading to insulation deterioration, accelerated ageing, and eventual failure.

Distribution of Load Current

Installation of additional LT AB cable feeders allows the connected load to be distributed across multiple circuits, thereby keeping conductor loading within permissible limits and improving overall network performance.

2. Voltage Regulation and Tail-End Voltage Improvement

Reduction in Voltage Drop

With increasing load growth, current drawn by consumers increases correspondingly. Higher current flow through long LT feeders results in significant voltage drops, adversely affecting consumers located at far-end locations.

Shortening of LT Circuits

The proposed additional feeders will facilitate network bifurcation and load segregation, thereby reducing circuit length and feeder loading. This will significantly improve voltage profile and supply quality for consumers.

3. Mitigation of Technical Losses

Reduction in I^2R Losses

Technical losses in LT networks are directly proportional to the square of current flowing through the conductor. By distributing the load through additional feeders, current on individual circuits is reduced substantially, resulting in lower technical losses and improved energy efficiency.

4. Improvement in Reliability and Fault Management

Enhanced Network Reliability

Dependence on a single heavily loaded feeder increases the risk of widespread outages due to faults or cable failures.

Load Segregation and Operational Flexibility

Provision of additional feeders allows utilities to segregate load, balance phases effectively, and isolate faults impacting only a limited section of consumers while maintaining supply to the remaining network.

5. Safety

Enhanced Public Safety

Additional LT AB cable feeders improve mechanical and electrical safety by minimizing conductor overloading, reducing cable burnout incidents, and lowering the risk of electrocution during adverse weather conditions.

The proposed investment is therefore technically justified and essential for supporting load growth while ensuring safe, reliable, and efficient power distribution.

Scope of Work

Table 70 : **Scope of work for LT Network strengthening based on current loading of network**

Proposal	UOM	Total requirement	Completed till March'26 in Capex	Planned in FY'27	Proposed in FY'28	Budget for FY'28 in cr	Left out Qty.	Budget for Left out Qty. in cr
LT Network Strengthening for Load Growth	Ckm	355.985	79.395	0	91.6	10	184.99	20

Please refer to **Annexure 23** for location-wise details and detailed BOQ corresponding to the proposed scope of work.

Table 71 : **Proposed Cost with Estimate Break-up**

Sl. No.	Description	Unit	Per Unit Cost (In Cr.)	Qty.	Total Cost in Cr.
1	Construction of 1 CKM LT line using 9 Mtr. PSC pole and 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) LT AB Cable	KM	0.12	77.00	9.10
2	Construction of LT Line using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	KM	0.10	9.00	0.91
	Total				**10.00**

Notes for Cost Estimates

1. All rates have been considered as per the Cost Data Book (CDB) approved by the Energy Department, Government of Odisha vide Notification dated 05.05.2026.

2. For items not covered under the approved CDB, material supply, civil works, and erection rates have been considered based on the latest rate contracts finalized through competitive bidding or budgetary quotations obtained from OEMs.

Cost Benefit Analysis

Implementation of the proposed scheme is expected to provide substantial technical, operational, and commercial benefits, including:

- Improved reliability and continuity of power supply to consumers.
- Enhanced capacity utilization of upgraded Distribution Transformers.
- Reduction in feeder overloading and cable burnout incidents.
- Improvement in voltage profile and quality of supply, particularly at tail-end locations.
- Reduction in technical losses through effective load distribution.

- Improved load balancing and operational flexibility.
- Reduction in supply interruptions and consumer grievances.
- Enhanced public safety through utilization of insulated LT AB cable systems.
- Reduction in power theft opportunities and associated commercial losses.
- Strengthening of the 415 V LT distribution network to cater to projected load growth.
- Reduction in maintenance expenditure and emergency restoration activities.
- Improved overall network resilience and operational efficiency.

Benefit to the System and Consumers

- Reliable and uninterrupted power supply to consumers.
- Improved voltage regulation and enhanced quality of supply.
- Increased network capacity to accommodate future load growth.
- Reduction in feeder congestion and overloading.
- Enhanced reliability and operational flexibility of the LT network.
- Reduced technical losses and improved energy efficiency.
- Reduced consumer complaints relating to low voltage and interruptions.
- Enhanced public safety through strengthened LT infrastructure.
- Better utilization of upgraded Distribution Transformers.
- Long-term strengthening of the LT distribution system to support sustainable demand growth and consumer satisfaction.

2.4.6 Distribution Transformer / CSS (New & Augmentation)

Scheme Proposed	To cater the increasing load demand DT augmentation and addition is required to avoid overloading of transformers leading to transformer failure and power interruptions.
Capex Amount	Rs. 70 Cr.

Background

To cater the increasing load demand DT augmentation and addition is required to avoid overloading of distribution transformers leading to transformer failure and power interruptions.

In order to ensure reliable power supply to our consumers, Distribution Transformers loading have to be maintained at optimum loading so as to avoid any mechanical stress on the transformers due to overloading.

When a distribution transformer loading exceeds 80% of the rated capacity of the transformer, then it is considered to be "overloaded". After capturing the loading data of the Distribution Transformers, it has been observed that at several locations, DTs are operating at overloaded condition or will be overloaded considering the load growth in the respective areas.

Therefore, to avoid these distribution transformer overloading issues where the load growth is high, it is required to augment the capacity of the Distribution transformers or addition in order to mitigate the overloading issues. The removed DTs after augmentation will be utilised at other locations to mitigate DT overloading.

Proposal

In this proposal, TPCODL intends to carry out Distribution Transformer's augmentation and addition for those DTs, which are identified as overloaded and low voltage issues based on the peak load served.

Requirement/ Need of the Proposal

The overloading of the Distribution Transformers not only hampers the power supply to the consumers but also may cause pre-mature failure of DT which occurs due to operating for long hours on overloaded condition. Thus, to abide by the safe loading limits, augmentation of distribution transformers or DT addition are proposed for locations, where loading is exceeding the maximum value.

When a distribution transformer loading exceeds 80% of the rated capacity of the transformer, then it is considered as trigger point for replacement as the DT will be overloaded in next 2years considering natural load growth.

Table 72 : DTR Overloading & Mitigation

DTR Rating (in KVA)	Total No. of Overloaded DTR (loading> 80%)	No. of DTR Overloading mitigation planned in FY-27	No. of DTR Overloading mitigation proposed in FY-28	Left out DTR
25	142	1		141
63	231	2	1	228
100	1224	131	119	974
150	3	0		3
160	1	0	1	0
200	36	8	15	13
250	352	80	106	166
500	99	27	16	56
630	3	1	2	0
750	2	0	2	0
Total	2093	250	262	1581

a. Total of 2,093 DSS locations have been identified where the DTR loading is above 80% in Summer-26.
b. Out of these, 250 DTR augmentation works are currently in progress under the approved CAPEX plan for FY-27.
c. Under the CAPEX Plan for FY-28, overloading mitigation has been proposed for 262 DTRs. This includes procurement of 126 new DTRs, comprising 20 Nos. of 1000 kVA DTRs and 106 Nos. of 500 kVA DTRs. 136 Nos. of DTRs removed during augmentation will be re-utilized for further overloading mitigation works.
d. Wherever DTR swapping is proposed, required HT and LT protection accessories have also been considered in CAPEX estimate to ensure safe and reliable operation of the system.
e. Priority has been given to the overloading mitigation of all 500 kVA and above DTRs having loading exceeding 100%, considering higher risk to system reliability and equipment life.
f. For the remaining 1,581 overloaded DTRs, mitigation works will be taken up progressively under subsequent CAPEX plans based on loading conditions and system requirements.
g. In locations where LT line length is high and consumers are experiencing low-voltage issues, new DSSs have been proposed closer to the load Centre to improve voltage profile and supply reliability. Accordingly, 64 Nos. of new DSSs have been proposed along with the required HT and LT line extensions. Out of these, only 9 new DTRs will be procured, while the remaining 55 DTRs will be sourced through re-utilization of DTRs removed during augmentation, thereby optimizing the utilization of existing assets and reducing the overall CAPEX requirement.

Table 73 : Scope of Work

New CSS					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Installation of 1 No. 11/0.4 KV, 1000 KVA CSS along with accessories.	EA	0.60	20	12.01
A	**Total (In Cr.)**				**12.01**
New DT					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Installation of 1 No. 11/0.4 KV, 250 KVA DTR (Cu) along with accessories.	EA	0.17	9	1.56
2	Installation of 1 No. 11/0.4 KV, 500 KVA DTR (Cu) along with accessories.	EA	0.35	105	36.73
3	Construction of 11 kV Line using 100 SQ.MM. -AAA XLPE Conductor and 11 Mtr. WPB pole.	CKM	0.23	9.0	2.08

4	Construction of 11 kV line using 3C, 400sqmm U/G Cable	KM	1.38	0.3	0.41
5	Construction of 1 CKM LT line using 9 Mtr. PSC pole and 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) LT AB Cable	KM	0.12	5.00	0.59
6	Construction of LT Line using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	KM	0.10	24.40	2.45
B	**Total (In Cr.)**				**43.83**
DT Augmentation (DTR Swapping- Existing DTR to be re-used)					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Augmentation of DTR from 11/0.4 KV, 100 kVA to 250 kVA DTR (Cu) along with accessories. (DTR cost not considered in estimate, Existing DTR to be re-used in swapping)	EA	0.064	121	7.76
2	Augmentation of DTR from 11/0.4 KV, 250 kVA to 500 kVA DTR (Cu) along with accessories. (DTR cost not considered in estimate, Existing DTR to be re-used in swapping)	EA	0.182	16	2.92
C	**Total (In Cr.)**				**10.68**
New DSS (DTR Swapping- Existing DTR to be re-used)					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Installation of 11/0.4 kV 100 kVA New DSS along with accessories. (DTR cost not considered in estimate, Existing DTR to be re-used in swapping)	EA	0.063	55	3.49
D	**Total (In Cr.)**				**3.49**
E= A+B+ C+D	**Total Amount (In Cr.)**				**70.00**

The total cost for DT augmentation and new DT addition is approx. Rs. 70 Cr.

Proposed Cost with Estimate Break-up

Please refer to **Annexure-24** for details of BoQ for the above cost estimate.

Cost Benefit Analysis

Table 74 : Cost Benefit Analysis

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	70.00	RS Cr
B	Total Load Growth in 5Yrs. (in MVA)	-	40.49	MVA
C 1	Total Load Added (in MW)	B*pf(power factor)	38.46	MW
C 2	Total Load Added (in KW)		38462.25	KW
D	Total units consumed yearly (Load x days x Hrs x load factor-30%)	C*365*24*LF	101078799	kWH
E	Power Purchase cost per unit	-	3.55	Rs./KWH
F	Avg. Power Sale cost per unit	-	5.94	Rs./KWH
G	Diff. (Sale-purchase)	F-E	2.39	Rs./KWH
H	Revenue owing to serving additional load	(G*D)/10^7	24.16	RS Cr
I	Pay Back Period	A/H	2.90	Years

Benefit to the System and Consumers

To cater the increasing load demand, DT augmentation and DT addition is required to avoid overloading of transformer leading to transformer failures and power interruptions. Further, in order to ensure reliable power supply to our consumers, Distribution Transformers has to be kept at optimum loading to avoid any mechanical stress on the transformers due to overload.

Reliable power supply by reducing chances of fault in network, thereby reducing power interruptions

Reduce over-burdening of existing Distribution transformers thereby reducing power cuts.

2.5 Technology & Infrastructure

The proposed budget for Technology & Infrastructure under Capital Investment Plan FY 2027-28 is as given in the table below:

Table 75 : Capital Expenditure for Technology & infrastructure for FY 27-28

Sr No.	Activity	Capex Plan for FY 2027-28 (in Rs. Cr)
1	Admin Infrastructure	2
2	Stores Infrastructure	2
3	Strengthening of IT & Technology	30
4	CCTV installation to improve Security & Safety	5
5	Civil Infrastructure	34
6	Residential Training Centre	15
7	Initiatives for a Sustainable Infrastructure	3
8	Backend Infrastructure for Smart Metering	9
	Total	**100**

2.5.1 Admin Infrastructure

Background:

Office Furniture: Furniture and fixture's available in many offices are from CESU period which are in poor condition. Even though with the approved budgets from Hon'ble Commission since FY 20-21, we have equipped many offices with the proper infrastructure, but still a major scope is yet to be covered.

Air-Conditioner: In most Sub-Division offices, A.C. is available only in SDO cabins and other SDO office staffs have no access to AC and also the AC's available in most of the PSS's are very old and need replacement. The repair and maintenance charges are becoming high day by day due to frequent breakdown of old AC's.

Water Purifier/Water Cooler: The Water purifiers & Coolers are available in most of the offices, but due to unavailability of water sources and water connections, some of the offices are left out. We propose to install water purifier to provide RO drinking water to the employees after ensuring proper water connections.

Photocopier: Photocopiers are installed in Corporate, Circle, and Division Offices, with standalone printers in various offices which need to be replaced with centralized printers to have better control on printing activity.

Display Screen: TVs are to be installed in the conference and meeting rooms in different offices to conduct meetings and communications across the company.

E-vehicle (Car) for Business use as pool vehicle incl. Charger installation : The two available vehicles (Tata Harrier) were procured in 2020 and currently not in good condition. Therefore, two new e-vehicles are proposed be procured along with charger installation for business usage.

Proposal:

A total CAPEX investment of ₹ 2 Cr, is proposed for CAPEX FY 27-28.

The item wise break up is as below:

Table 76 : Capital Expenditure for Admin Infra for FY 27-28

S. No.	Activity	Budget Proposed of FY 27-28 (in ₹)
1	Office Furniture	20,00,000.00
2	Air-Conditioner	87,50,000.00
3	Water Cooler	4,00,000.00
4	Water Purifier	2,80,000.00
5	Photocopier	12,50,000.00
6	TV (Display Equipment) & Digital Podium	4,00,000.00
7	E-vehicle (Car) with Charger installation [Pool vehicle for Business use]	70,00,000.00
	Proposed Budget (in Rs.)	**2,00,80,000.00**
	Proposed Budget (in Rs. Cr)	**2.00**

Justification/ Need of the Proposal:

The proposed CAPEX is intended to strengthen the office infrastructure, improve operational efficiency, facilitate effective communication, and provide essential facilities for employees, visitors, consumers and Senior Management.

The requirement of the proposed assets is justified as under:

a) Office Furniture

Adequate and functional office furniture is essential for providing a proper working environment and ensuring efficient utilization of office space. Existing furniture are inadequate, old, damaged or not aligned with the present manpower and functional requirements. Procurement of suitable workstations, tables, chairs, storage units and other essential furniture will facilitate effective workplace management and improve employee productivity and comfort.

b) Air-Conditioner

Air-conditioning is required to maintain a comfortable and suitable working environment, particularly in offices, meeting rooms, customer-facing areas and other critical workspaces. Considering the climatic conditions and operational requirements, installation of energy-efficient air-conditioners will improve employee comfort and facilitate uninterrupted working.

The same is also required to be installed in the PSS wherein high value relays are installed to get uninterrupted functioning of the relays resulting in uninterrupted power supply to the consumers.

c) Water Purifier / Water Cooler

Provision of safe and hygienic drinking water is an essential employee and workplace facility. The proposed Water Purifier/Water Cooler will ensure availability of potable drinking water for employees, visitors and consumers visiting the office premises. This will also reduce dependency on packaged drinking water and support a cleaner and more sustainable workplace.

d) Photocopier

A dedicated photocopier is required for regular printing, scanning and copying of official documents, records, correspondence, forms and other operational documents. Availability of an in-house photocopier will reduce dependency on external service providers, minimize turnaround time and ensure confidentiality of official documents.

e) Display Screen (TV)

The proposed display screen will be utilized for displaying important operational information, safety messages, consumer awareness information, organizational communication, presentations, dashboards, notices and other relevant information. It will also support effective communication during meetings, review sessions and management presentations.

f) EV Vehicle (Car) as Pool Vehicle for Business use

The existing vehicles are of 6 years old and the condition is deteriorating day by day resulting in huge maintenance expenses. The proposed e- vehicles shall facilitate timely mobility of team and enable effective supervision and monitoring of organizational activities across different locations.

Accordingly, procurement of the above assets , incl. charger installation is considered necessary for strengthening the existing infrastructure and ensuring smooth, efficient and professional functioning of the organization.

Scope of Work:

The scope of the proposed CAPEX shall include procurement, supply, installation, commissioning and/or deployment of the required assets, as applicable.

The broad scope shall comprise:

1. **Office Furniture**
    - Workstations and office tables.
    - Executive/visitor chairs and other seating arrangements.

- Storage cabinets, pedestals and related furniture.
- Meeting room/conference room furniture, wherever required.
- Any other essential office furniture based on approved layout and requirement.

2. **Air-Conditioners**
   - Supply and installation of suitable capacity air-conditioners and stabilizers.
   - Required electrical and installation accessories.
   - Testing and commissioning.
   - Warranty and after-sales support as per applicable terms.
3. **Water Purifier / Water Cooler**
   - Supply and installation of suitable-capacity water purifier/water cooler.
   - Necessary plumbing/electrical connections and accessories.
   - Testing and commissioning.
   - Warranty and maintenance support as applicable.
4. **Photocopier**
   - Supply of suitable multifunction photocopier with printing/scanning/copying functionality.
   - Installation and commissioning.
   - Necessary accessories and initial consumables, as applicable.
   - Warranty and after-sales service support.
5. **Display Screen (TV)**
   - Supply and installation of suitable-size commercial/LED display screen.
   - Necessary mounting arrangement, connectivity accessories and installation.
   - Testing and commissioning.
   - Warranty support.
6. **EV Vehicle (Car) as pool vehicle for business use including charger installation**
   - Procurement of a suitable vehicle as per the approved organizational requirement and applicable procurement norms.
   - Registration, insurance and other statutory requirements, as applicable.
   - Necessary accessories and delivery of the vehicle in operational condition.
   - Warranty and after-sales service support.
   - Installation of Charger

All procurement shall be undertaken in accordance with the applicable procurement policy, technical specifications, budgetary provisions and approval matrix of the organization.

Table 77 : **Proposed Cost with Estimate Break-up**

Asset / Item	Quantity	Indicative Unit Cost (in ₹)	Estimated Cost (in ₹)
Office Furniture	Lumpsum	NA	20,00,000.00
Air-Conditioner	175	50000	87,50,000.00
Water Purifier	40	10000	4,00,000.00
Water Cooler	8	35000	2,80,000.00
Photocopier	5	250000	12,50,000.00
Display Screen (TV)	8	50000	4,00,000.00
E-vehicle (Car) with Charger installation	3	2334000	70,00,000.00
Total Proposed CAPEX (Rs.)			**2,00,80,000.00**
Total Proposed CAPEX (Rs. Cr)			**2.00**

The above estimate shall be finalized based on approved technical specifications, budgetary quotations/market assessment and applicable taxes, duties, installation charges, registration, insurance and other associated costs, wherever applicable.

Cost Benefit Analysis

The proposed investment is expected to provide both direct financial benefits and indirect operational benefits to the organization.

a) Office-Furniture: Proper furniture will improve workplace utilization, employee comfort and productivity. Replacement of obsolete or damaged furniture will also reduce recurring repair and maintenance expenditure and improve the overall working environment.

b) Air-Conditioner: Energy-efficient air-conditioning systems will provide a comfortable working environment and support uninterrupted operations. Selection of appropriate energy-efficient equipment will help control long-term operating and maintenance costs. Also, it will help in enhancing the equipment efficiencies in the control rooms / PSS.

c)Water-Purifier / Water Cooler: The facility will provide safe drinking water while reducing recurring expenditure on packaged drinking water. It will also provide a convenient and sustainable drinking-water facility for employees and visitors.

d) Photocopier: The in-house photocopier will reduce expenditure incurred on outsourced photocopying/printing services and minimize time lost in sending documents outside the office. It will also improve document confidentiality and operational turnaround time.

e) Display Screen (TV): The display screen will provide an effective platform for real-time communication of operational information, consumer awareness messages, safety

information and management presentations. This will improve information dissemination and reduce dependency on conventional communication methods.

f) E-Vehicles (Car) as pool vehicle for Business use (incl. Charger installation): A dedicated good conditioned vehicle will facilitate business need like attending official meetings, site visits, inspections and operational reviews. It will improve time utilization, mobility and responsiveness while reducing dependency on ad-hoc/hired transportation for recurring official requirements.
Overall, the proposed CAPEX will provide long-term operational utility and is expected to generate value through improved productivity, reduced recurring expenditure, better resource utilization and enhanced service delivery.

Benefit to the System and Consumers:

- Installation of AC in PSS will increase the lifespan of PSS equipment.
- Use of water purifier is a statutory compliance and will be beneficial for employee's health
- Installation of projector and screen will lead to have communication with senior leadership and guidance to achieve organizational target in terms of BE, CE, Safety etc.
- The proposal suggests capital investment for office furniture, ACs, water coolers and purifiers, projectors, TVs, photocopiers, and other upcoming offices Enhance workplace quality and employee satisfaction
- Enhance workplace quality and employee satisfaction. Improve employee efficiency with on-site printing and scanning.
- Boost motivation through interaction with corporate leadership. Enhance employee skills. Equip offices with necessary amenities.

Conclusion

In view of the above, procurement of Office Furniture, Air-Conditioners, Water Purifier, Water Cooler, Photocopier, Display Screen (TV) and e-vehicle Car as pool vehicle **for** business usage is proposed under CAPEX for strengthening the required infrastructure and supporting smooth and efficient operations.

The proposed investment is considered necessary from the perspective of operational efficiency, employee and consumer facilitation, management effectiveness, infrastructure improvement and long-term cost optimization**.**

2.5.2 Store Infrastructure

Background

At the time of vesting and commencement of operations, all central stores and sub-store yards were predominantly unpaved and lacked proper approach roads. The absence of adequate hard surface storage areas created operational difficulties during material handling, vehicle movement, loading and unloading activities. During the monsoon season, the storage yards frequently became waterlogged and muddy, adversely impacting operational efficiency, worker safety, and material preservation.

Further, adequate covered warehouse facilities for indoor storage of materials and consumables were not available, resulting in a constant risk of deterioration, damage, pilferage, and loss of inventory value.

Substantial infrastructure improvements were undertaken to enhance stores operations utilizing the approved budgets by Hon'ble Commission over the past years since FY 20-21. Concrete flooring and paver block paving were developed in major storage yards, and warehouses were constructed at the Central Stores located at Chaudwar and Bhubaneswar as well as the Sub-Stores located at Khurda, Kendrapada, and Banarpal. These initiatives significantly improved material handling efficiency and storage conditions.

However, the storage yards at Janla Sub-Store and Bidanasi Scrap Store continue to remain unpaved, resulting in operational constraints, especially during adverse weather conditions. In addition, the growing volume of CAPEX inventory, smart meters, and critical electrical materials has created a requirement for warehousing facilities equipped for enhance storage capacity and protection of indoor electrical materials.

The existing warehouses at Bhubaneswar are also not equipped with automatic fire sprinkler systems and fire detection & alarm systems. Although fire hydrant systems have already been installed at Stores, additional automatic fire suppression and detection arrangements are essential to safeguard critical utility assets and ensure business continuity.

Proposal

1. Construction of paver block paving at Bidanasi Scrap Store Yard and Janla Store Yard.
2. Construction of Shed (25X12X5M) at Choudhwar Store.
3. Fire Sprinkler system with fire detector & fire Alarm in existing sheds at BBSR Store, Kendrapada and some of CDR Store.

Justification/ Need of the Proposal

a. **Paver block yard development** will provide a stable surface for equipment and personnel, reducing operational delays and safety risks and avoid deterioration of stored materials and scrap inventory.

b. To **enhance storage capacity** by optimizing vertical and horizontal space with protection of critical electrical materials like jointing kits, meters, LTDB, and consumable materials.
c. To provide **protection from fire** for storage materials at Sheds

Table 78 : Scope of Work

Scope of Work	Store Location
Yard Development with Paver Block in side the Store (Total Area: 12000 SQM+4200 SQM)	Bidanasi Scrap Store, Janla Store
Weather-Resistant Storage Shed for the critical materials- Smart Meters, Battery bank & Charger , Jointing Kits, LTDBs, Consumable materials (Size: 25X12x5 M)	Chaudhwar Store
Fire Sprinkler System with fire detector and fire alarm in existing shed	BBSR Store

Table 79 : Proposed Cost with Estimate Break-up

Scope of Work	Store Location	Approximate Budget (Cr.)	Remarks (Source of Estimate)
Yard Development with Paver Block in side the Store (Total Area: 12000 SQM+4200 SQM)	Bidanasi Scrap Store, Janla Store	1.45	Refer to PO 3200030485 – Paver Block executed at Bhimatanki
Weather-Resistant Storage Shed for the critical materials- Smart Meters, Battery bank & Charger , Jointing Kits, LTDBs, Consumable materials (Size: 25X12x5 M)	Chaudhwar Store	0.4	As estimate received from Civil Department
Fire Sprinkler System with fire detector and fire alarm in existing shed	BBSR Store	0.15	Quotation received from Excel Engineering
Total Estimated Cost in Cr.		**2.00**	

Cost Benefit Analysis

A. Yard Development with Paver Block

- Elimination of waterlogging and muddy conditions during monsoon.
- Improved movement of trucks, cranes, forklifts, and material handling equipment.
- Reduction in unloading/loading time and handling cost.
- Prevention of damage and corrosion of materials stored in open yards.
- Improved housekeeping, safety, and accessibility within stores.

B. Weather-Resistant Storage Shed

- Protection of critical and high-value inventory from rain, sunlight, dust, and moisture.
- **Enhanced storage capacity**
- Optimized utilization of storage space and reduced risk of material deterioration

C. Fire Sprinkler System with Fire Detector & Fire Alarm

- Early detection and automatic suppression of fire incidents.
- Protection of high-value materials stored inside warehouses
- Improved compliance with industrial safety and risk-management practices.

Benefit to the System and Consumers

- Reduced Material Handling Time
- Optimized Space Utilization
- Improved Inventory Management
- Reduced Risk of Damage
- Enhanced Worker Safety
- Modular Infrastructure

2.5.3 Strengthening of IT & Technology

The scope of work under this head is provided in table below.

Table 80 : Strengthening of IT & Technology proposal for FY 2027-28

Sl No	Activity Name	FY 27-28 Estimated Capex (in Cr)
1	Strengthening of Data Centre	5.31
2	Strengthen Network Connectivity	0.59
3	End user Computing Devices & License	16.50
4	Smart Grid	7.50
5	Strengthening of Automation-ADMS (OT Firewalls)	0.10
Total		**30.00**

2.5.3.1 Strengthening of Data Center

Background –

TPCODL has leveraged the power of IT to provide best in class services to consumers, earn consumer delight and improve satisfaction among other stakeholders. Hence, proper, robust and reliable IT Infrastructure is needed for smooth function of IT system to cater to the customer needs. Further, IT systems have been implemented to provide end-to-end solutions for important business functions viz. Commercial, Operations, Finance, HR and Administration etc. Furthermore, for business continuity purpose, Disaster Recovery Centre (DR site to recover and restore data, technology infrastructure and operations when the primary Data Centre is unavailable) has been set up to quickly recover data from disasters.

Moreover, the ageing / End-of-Life / out of warranty devices in the Data-Centre network need to be replaced to ensure better uptime and reliability & security which will enable better operational excellence, value added customer services, optimized distribution system asset performance, energy efficiency and conservations, and environmental sustainability. Hence, it is required to procure network equipment etc. to meet the requirement as mentioned above.

Proposal & Justification/ Need of the Proposal

Table 81 : **Requirements at Data Center for CAPEX FY 2027-28**

Sl No	Item Description	Quantity	Requirement Reason	Earlier Procurement Reference
1	SAN Switches-48 Port	2	Obsolete device as per asset life principle.	2 nos. being proposed against 6 nos. procured during FY 2020-21 and balance quantity shall be proposed during Next FY.
2	Windows Server Type-1	10	Obsolete device as per asset life principle.	10 nos. being proposed against 34 nos. procured during FY 2020-21 and balance quantity shall be proposed during Next FY.

Scope of Work & Proposed Cost with Estimate Break-up

Table 82 : **Proposed Cost for Data Centre**

Sl No.	Item Detail	UOM	Qty	Unit Price (in Cr)	Amount (in Cr)	Source of Estimate
1	SAN Switch - 48 Port	Nos	2	0.8779	1.76	Recent Order
2	Servers	Nos	10	0.3550	3.55	Recent Order
	Total				5.31	

Benefit to the System and Consumers

- Reduction in downtime of critical applications
- High-availability of systems
- Reduce Risk of over-shooting Performance Assurance Time lines for consumer services

2.5.3.2 Strengthen Network Connectivity

Background –

A robust, reliable, scalable and secure communication network connecting the Data-Centre with each establishment of the Discom is vital to ensure the running of critical IT & OT applications including Metering, GIS, CRM, SAP-ERP, SAP-ISU etc. for providing reliable power and effective services to consumers.

To support business growth, multiple offices have been opened at various locations of TPCODL and users are also expected to increase at existing locations for effective service. Network connectivity at these locations is required to enable employees to perform business critical processes like metering, billing, collection, power outage management and meeting performance assurance timelines. Unavailability of network will increase the restoration time of power outage and delay in providing other critical services to consumers thereby affecting the consumer satisfaction.

Further robustness, reliability, resilience, scalability and Security in Communication system is envisaged in phased manner including reachability to each user / user-desk / Display Monitor / VC System / Office wise Centralized Printer-Scanner and Biometric Devices etc. in wired / wireless manner. Moreover, the ageing / End-of-Life / out of warranty devices (as per the guideline of Hon'ble Commission) in the Communication network need to be replaced to ensure better uptime and reliability & security.

Robust Communication network will enable better operational excellence, value added customer services, optimized distribution system asset performance, energy efficiency and conservations, and environmental sustainability. Hence, it is required to procure network equipment etc. to meet the requirement as mentioned above.

Proposal & Justification/ Need of the Proposal

To improve network reliability at TPCODL IT & OT locations, below mentioned activities are planned.

Table 83 : ***Activities planned at TPCODL IT & OT Locations***

Sl No	Item Description	Quantity	Requirement Reason	Earlier Procurement Reference
1	OFC laying at below mentioned links a) Ranasinghpur OPTCL - Kalinga Nagar PSS b) Kesura OPTCL - Badagada PSS c) Nayapalli OPTCL - Nayapalli SDO d) Chandaka OPTCL - Kanan Vihar PSS e) Kalinga Stadium square - Unit 4 SO (Via Unit-4 PSS) Badambadi Campus - Sishu Bhawan SDO f) LAN Augmentation work at Different offices	30 Km	Implementation of OFC ring closure activity to ensure 24x7 IT service availability	
2	Microwave Link with Towers (2 Nos / Link) i.e. Technology Centre - ICC Gajapati Nagar	2	New requirement to improve the network availability of ICC.	
3	VC system (Poly Studio)	1	Obsolete device as per asset life principle.	One VC system procured during 2020-21

Scope of Work & Proposed Cost with Estimate Break-up

Table 84 : ***Expenditure planned at TPCODL IT & OT Locations***

Sl No.	Item Detail	UOM	Qty	Unit Price (in Cr)	Amount (in Cr)	Source of Estimate
1	OFC with Accessories	KM	30	0.012	0.37	Recent Order
2	MW Link with Tower (2 Nos / Link)	Nos	2	0.0966	0.19	Recent Order
3	VC system (Poly Studio)	Nos	1	0.0269	0.0269	Recent Order
	Total				0.59	

Benefit to the System and Consumers

- Communication backbone network for business-critical applications.
- Support for Providing reliable power supply to consumers through availability of IT & OT services
- Ease in monitoring and control of network

- Meeting PA timelines leading to consumer satisfaction
- Efficiency in performing critical business processes
- Ease in inter-office communication

2.5.3.3 End User Computing Devices and License

Background

All offices of Central Odisha are enabled with IT systems covering Laptops, Desktops with UPS, Printing & Scanning facility, Biometric Devices, various user software & accessories to provide best in class services to consumers. Further, with increase in consumer base (increasing at around ~6% per annum) and adoption/ implementation of new technologies and for proper functioning of important business processes and meeting the PA timelines, additional requirements arise. It is proposed to procure user-devices, associated software & accessories basing on requirement covering the ageing / End-of-Life / out of warranty as detailed below.

Table 85 : Proposal for end user computing devices and license

Sl No	Item Description	Quantity	Requirement Reason	Earlier Procurement Reference
1	Laptops	540	Obsolete device as per asset life principle.	538 nos. Laptops procured during 2020-21 + 2 Buffer Stock for exigency
2	Desktops with UPS	180	Obsolete device as per asset life principle.	186 nos. Desktops (with UPS) procured during 2020-21
3	Scanners	324	Obsolete device as per asset life principle.	341 nos. of Scanners procured during 2020-21
4	Printer	290	Obsolete device as per asset life principle.	290 no of Printers procured during 2020-21
5	MS Office 2019 / 2021 (Word, Excel, Power Point) – On-premise License)	920	Obsolete Software as per asset life principle. **	2300 nos. of Licenses procured in phases since FY20-21

**** Also, End of Life is declared by Microsoft by end of 2026 and hence the software updates/ patches shall not be available to address the vulnerabilities and hence the current version needs to be procured in batches against the obsolete MS Office Suite.**

The list of above devices with asset class and date of installation are enclosed as **Annexure-25** (Annexure-25.1 to 25.4) to this submission .From the list ,it can be observed that these devices are completing their lives in FY 2027-28. Further as can be observed from these annexures, the nos of devices (Laptops, Desktops, Printer , Scanners etc) that

are completing its life in FY 2027-28 is more than the requirement given in this capex as it being done in phased wise manner optimizing the capex. Hence as these devices are being proposed against assets that are completing its life in FY 2027-28 and are essential for smooth running of the business , the Hon'ble Commission may kindly approve these amounts.

Scope of Work & Proposed Cost with Estimate Break-up

Table 86 : Proposal for end user computing devices and license

Sl No.	Item Detail	UOM	Qty	Unit Price (in Cr)	Amount (in Cr)	Source of Estimate
1	Laptops	Nos	540	0.0150	8.10	Recent Order estimate
2	Desktops with UPS	Nos	180	0.0091	1.65	
3	Scanners	Nos	324	0.0056	1.81	
4	Printer	Nos	290	0.0041	1.20	
5	MS Office Professional Suite	Nos	920	0.0041	3.75	

Benefit to the System and Consumers

- Performing automated business processes
- Office automation
- Improved employee productivity
- Enhanced Consumer Satisfaction
- Faster communication
- Printing & Scanning of Official documents (Reports, Sign-Offs) / Consumer Documents (Bill, Receipt & Various Acknowledgments).

2.5.3.4 Smart Grid

Background –

Over the years, TPCODL has successfully deployed multiple robust IT and OT systems to manage its operations-including SAP, GIS, SCADA, HES, MOM and various Mobility Applications for MMG, Operations etc. All these applications are meant to be used for carrying out the day-to-day operations digitally which enables the organization to have data from site. Various reports have been created to monitor the outcome. While these applications perform

well individually, the organization faces significant challenges in leveraging the wealth of data scattered across them:

a. Siloed Data & Fragmentation

b. Lack of Holistic Visibility

To bridge these scattered data and operational gaps, it is envisaged to establish a Grid Data Hub (GDH). The GDH will serve as a centralized digital foundation designed to aggregate and harmonize data from diverse enterprise systems (ERP), operational technologies (OT), sensors, APIs, and engineering applications. GDH shall be backbone of companys vision to create futuristic analytics using AI/ML techniques which shall provide all the level of Analytics like Descriptive, Predictive & Prescriptive.

The following use cases will be developed in the GDH:

i. LV Outage Aggregator (LOA) - Develop the Outage detection model using smart meter data, GIS using data from GDH. This module is expected to take the load off from ADMS system which is not meant for handling large volume of data from Smart Meter which shall provide better insight for efficient & effective handling of multiple LT incidents data.

ii. Grid Data Hub Data Pipeline - for ingestion of data from multiple IT & OT sources into a single data lake of Grid Data Hub: Asset Performance Management (APM) System and Asset Investment Planning (AIP) system which shall derive the maintenance and investment planning.

Proposal & Justification/ Need of the Proposal:

Grid Data Hub Deployment will unify IT/OT data streams and unlock advanced grid analytics. By unifying massive, fragmented data streams from currently siloed systems—such as SCADA, Advanced Metering Infrastructure (AMI), GIS, and billing ERPs—into a single source of truth, this platform will unlock high-velocity enterprise analytics.

It will correlate the real-time equipment loads with historical data to enable predictive asset maintenance, minimizing failures, extending equipment lifespan, and reduction in outage durations (SAIDI/SAIFI). Ultimately, this foundational big-data architecture future-proofs our grid infrastructure, providing scalable visibility needed to seamlessly integrate bidirectional power flows from expanding electric vehicle (EV) charging hubs and distributed renewable energy sources without destabilizing the local distribution network.

Scope of Work & Proposed Cost with Estimate Break-up

Table 87 : **Proposed scope for development of Grid Data Hub**

Sl No.	Item Detail	UOM	Qty	Unit Price (in Cr)	Amount (in Cr)
1	Low Voltage Outage Aggregator Solution	EA	1	1.5000	1.50
2	Grid Datahub Pipeline Solution	EA	1	2.5000	2.50
3	APM & AIP Solution	EA	1	3.5000	3.50
	Total				7.50

*** Implementation shall be carried out in phased manner and further requirement (if any) shall be proposed subsequently.**

Benefit to the System and Consumers

- Improved Operational efficiency.
- Centralized Storage: Combines massive volumes of meter data and master data into single source.
- Real-Time Monitoring: Tracks grid health, asset performance, and power quality instantly
- Demand Flexibility: Helps balance peak energy demands and prevents local grid overloads
- Better Data Security: Protects sensitive data using uniform compliance and modern encryption tools.

Strengthening of Automation-ADMS (OT Firewalls)

Background –

To strengthen IT security and posture of the distribution network, OT Firewalls to be installed at 2 Critical Hub location during the proposed FY.

Proposal & Justification/ Need of the Proposal

For adherence to guidelines specified by MeitY and CERT-In.

Table 88 : **Scope of Work & Proposed Cost with Estimate Break-up**

Sl No.	Item Detail	UOM	Qty	Unit Price (in Cr)	Amount (in Cr)	Source of Estimate
1	OT Firewalls	SET	2	0.05	0.10	Recent Order

Benefit to the System and Consumers

- Protect networks and data from unauthorized access.
- Better management of security.
- Improved information security and business continuity management.
- Improved stakeholder confidence in your information security arrangements.
- Improved company credentials with the correct security controls in place.

2.5.4 CCTV installation to improve Safety & Security

Background –

TPCODL has almost 800 establishments viz. PSS, offices, GRFs, Consumer care centres, cash collection centres etc. at various locations. For Safety & Security of these establishments, it is required to monitor the activities going on at these locations on 24x7 basis. Furthermore, at various instances, Govt. administration / Police also suggested to install Security Solution covering Video Surveillance system at these locations.

Hence, it is proposed to augment / install Physical Security Solution at various establishments of TPCODL. The system will comprise of various types of cameras (Dome, PTZ, Bullet, Night Vision etc.) and Video Recorder (NVR / DVR) installed at various locations including Central Server and Storage at Data Centre. The video recorded at various locations will be transferred to central storage at defined interval. There centralized monitoring system comprising of big monitoring screens and operators' desk is also to be augmented for 24x7 central monitoring.

Proposal & Justification/ Need of the Proposal

CCTV system across PSS and administrative offices is critical to ensure infrastructure security, operational continuity, and workforce safety. As on date CCTV system has been deployed at 40 Nos. of locations, it is planned to scale up the existing system in Phase-wise manner YOY. During FY28, it is planned to deploy at additional 50 locations.

Table 89 : **Scope of Work** & Proposed Cost with Estimate Break-up

Item Detail	UOM	Qty	Unit Price (in Cr)	Amount (in Cr)	Source of Estimate
CCTV Solution	EA	50	0.1000	5.00	Recent Order

Benefit to the System and Consumers

- 24x7 monitoring of critical locations.
- Video surveillance system will act as a deterrent to crime. Seeing the Camera can be unnerving to the would-be criminals / crimes.
- Create the ability to apprehend a suspect when any crime occurs
- Protection of worthy elements like property and assets in terms of buildings, important installed equipment, goods, records etc.
- Monitoring can prevent any exigency, theft, intrusion and sabotage.

2.5.5 Civil Infrastructure

Proposed activities under this head are provided in table below.

Table 90 : List of Activities covered under Civil Infrastructure

Sl No	Activity planned	Expenditure planned in FY 27 - 28 (In Cr)	Annexures
1	Construction of Engineering & Contracts Office at Bhubaneswar	3.00	Annexure – 26.1
2	Construction of Division Office at Marshaghai	3.00	Annexure – 26.2
3	Construction of Sub Division office at 5 location	2.00	Annexure – 26.3
4	Construction of Section office at 15 location	6.00	Annexure – 26.4
5	Construction of Section store at 16 location	2.00	Annexure – 26.5
6	Construction of BSK at 16 location	2.00	Annexure – 26.6
7	Furniture at 29 location for 205 seating capacity	1.00	Annexure – 26.7
8	Construction of Finance Excellence Centre Office at Bhubaneswar	5.00	Annexure – 26.8
9	Construction of Commercial Excellence Centre Office at Bhubaneswar	5.00	Annexure – 26.9
10	Construction of Integrated Call Centre Office at Bhubaneswar	5.00	Annexure – 26.10
Total		**34.00**	

2.5.5.1 Construction of Engineering & Contract Offices at Bhubaneswar

Background

Engineering and Contracts office is operating from rented premises which is causing considerable inconvenience to employees and consumers. Frequent shifting of these offices from one location to another further adds to the increasing operational cost as well as the inconvenience faced by consumers and business associates. Over time, the office has encountered significant challenges due to insufficient space, inadequate storage facilities, deteriorating infrastructure and lack of proper customer interface areas. The building design is basically a residential space which further makes it not suitable for office space.

Also, since a lot of our business associates are visiting this office, inadequate space does not support a healthy environment for various confidential discussions.

Proposal

A new office in Bhubaneswar is being proposed to ensure adequate workspace, enhanced storage, and smooth business associate and customer access.

Justification/ Need of the Proposal

It will improve operational efficiency and enhance accessibility and visibility for consumers. It will also enable improved service standards and working conditions, directly benefiting both the staff and business stakeholders served by the Office, while also ensuring compliance with workplace safety, fire safety, and other statutory norms. The proposed facility will also provide dedicated customer interface areas for enhanced consumer experience and better service delivery.

Scope of Work

Building Specification: 2 Storied RCC framed structure for 82 seating capacity.
Location: Unit 8, Bhubaneswar

Proposed Cost with Estimate Break-up

The Total estimated Cost will be₹ **3.00 Cr.**
Detailed Estimate attached in **Annexure – 26.1**

Cost Benefit Analysis

New Building Cost: ₹ 3.00 Cr
Current annual rent expenditure: ₹ 0.80 Cr approx., Payback period: 04 Years
Improved Service Delivery and enhanced workplace environment for Employees and Business Stakeholders.

Intangible benefits: Improved employee productivity, customer satisfaction, and compliance with statutory requirements.

Benefit to the System and Consumers

- Improved employee productivity, customer satisfaction, and compliance with statutory requirements.
- It also creates a customer-friendly environment for grievance redressal
- Better experience for business associates.

2.5.5.2 Construction of Division Office at Marshaghai

Background

The Division Office, Marshaghai is operating from rented premises which is causing considerable inconvenience to employees and consumers. Frequent shifting of these offices from one location to another further adds to the inconvenience faced by consumers. Over time, the office has encountered significant challenges due to insufficient space, inadequate storage facilities, lack of proper customer interface areas, and deteriorating infrastructure. The building is also affected by seepage and other structural issues. The building design is basically a residential space because of which it is not suitable for office space.

Proposal

A new office at Marshaghai, Paradeep to ensure adequate workspace, storage, and customer access.

Justification/ Need of the Proposal

It will improve operational efficiency and enhance accessibility and visibility for consumers. It will also enable improved service standards and working conditions, directly benefiting both the staff and consumers served by the Office, while also ensuring compliance with workplace safety, fire safety, and other statutory norms. The proposed facility will also provide dedicated customer interface areas for enhanced consumer experience and better service delivery.

Scope of Work

Building Specification: G+1 RCC framed structure.
Location: Marshaghai, Paradeep

Proposed Cost with Estimate Break-up

The Total estimated Cost will be₹ **3.00 Cr.**
Detailed Estimate attached in **Annexure – 26.2**

Cost Benefit Analysis

Improved Service Delivery and enhanced workplace environment for Employees.

Intangible benefits: Improved employee productivity, customer satisfaction, and compliance with statutory requirements.

Benefit to the System and Consumers

- Improved employee productivity, customer satisfaction, and compliance with statutory requirements.
- It also creates a customer-friendly environment for grievance redress and bill payment.

2.5.5.3 Construction of Sub Division Office at 5 Locations

Background

We have constructed/ strengthened 58 SDO Offices out of 65 across TPCODL. At present, 07 nos Sub-Division Offices are operating from rented premises which is causing considerable inconvenience to employees and consumers. Frequent shifting of these offices from one location to another further adds to the inconvenience faced by consumers. Over time, the office has encountered significant challenges due to insufficient space, inadequate storage facilities, lack of proper customer interface areas, and deteriorating infrastructure. The building is also affected by seepage and other structural issues. The building design is basically a residential space because of which it is not suitable for office space.

Proposal

It is proposed to Construct 5 nos new Sub division Office at our own land to provide best service experience to the consumers as well as working staff.

Justification/ Need of the Proposal

SDO offices are situated in residential houses and are not user friendly. Shifting of offices from rented to own property using our land available near PSS campus for long-term rental cost savings and to provide ergonomically better work environment.

Scope of Work

Building Specification**:** RCC framed structure

Location: Kalinga Biju Pattnaik Chowk, Kujang, Marshaghai, Pallahara, Sakhigopal

Proposed Cost with Estimate Break-up

The Total estimated Cost will be₹ **2.00 Cr. (40 Lakh Each),**
Detailed Estimate attached in **(Annexure – 26.3)**

Cost Benefit Analysis

New Building Cost: ₹ 40 Lacks Each
Current annual rent expenditure: ₹ 4.0 Lakhs approx., Payback period: 10 Years

Benefit to the System and Consumers

- User friendly work environment for Employees.
- Over extended periods, the total rent paid can surpass the cost of Building.
- Better Consumer Platform for Grievance Redress.

2.5.5.4 Construction of Section Office at 15 Locations

Background

TPCODL currently operates a total of 247 section offices across its network. Of these, 223 offices have already been constructed or strengthened. Among these, 21 offices are functioning from rented premises, which are often overcrowded, lack adequate infrastructure, and do not provide sufficient space for consumer interaction or staff operations. These limitations significantly impact the efficiency of service delivery and grievance redress mechanisms.

Proposal

It is proposed to construct the remaining 24 section offices in a phased manner with standard design, layout, and facilities. Priority will be given to the 21 offices operating in rented and inadequate spaces, followed by the remaining 3 that require new construction for strengthening of consumer interface and field support.

Justification/ Need of the Proposal

Rented premises are congested and lack adequate space for consumer service counters, meeting rooms, complaint desks, and storage of records. Also, Non-availability of essential utilities like waiting areas, toilets, parking space, and consumer-friendly infrastructure.

Scope of Work

Section Office Building Specification: RCC framed structure at below 15 location.

Table 91 **Locations identified for construction of Section Office Building**

Sl. No	Location	Sl. No	Location	Sl. No	Location
1	Gridco Colony	6	Itamati-2	11	Rajnagar-2
2	Naugaon	7	Bhapur-1	12	Balikuda-2

3	Sakhigopal-1	8	Bhapur-2	13	Pallahara
4	Sakhigopal-2	9	Banpur-1	14	Pattamundai-2
5	Itamati-1	10	Danpur	15	Olavar

Proposed Cost with Estimate Break-up

The Total estimated Cost will be₹ **6.00 Cr. (for 15 no Locations- 40 Lakhs Each.)**
Detailed estimate attached in **Annexure – 26.4**

Benefit to the System and Consumers

- Faster grievance redress due to improved facilities and organized consumer handling space.
- Best Consumer Platform for Grievance Redress.
- Long-term sustainability with scope for future technological integration (smart service counters, IT-enabled facilities).
- Cost savings from elimination of rental expenditures

2.5.5.5 Construction of Section Stores at 16 Locations

Background

At present scenario, there is 247 Section Offices across TPCODL. Each section needs storage space for keeping ready to use electrical tools and equipment for operational purpose which are currently being stored in unprotected open areas.

Proposal

It is proposed to construct a storage room at each location to store tools and equipment in safe and secure environment.

Justification/ Need of the Proposal

Protection of tools and equipment from weather damage, pilferage and theft. Ensure compliance with safety standards for electrical material storage.

Scope of Work

Store room Specification: RCC framed structure. **Locations: 16 nos.**

Table 92 : Locations identified for construction of section stores

Sl No	Location	Sl No	Location	Sl No	Location
01	Ranpur	07	Godisahi	13	Kalpana-1
02	Aul	08	Nimapara-1	14	Nirakarpur
03	Rajnagar-1	09	Nimapara-2	15	Delta
04	Banki-1	10	Pipili-1	16	Brit
05	Balikuda-1	11	Vigilance Office		
06	Unit-IX Flat	12	Begunia		

Proposed Cost with Estimate Break-up

The Total estimated Cost will be₹ **2.00 Cr. (12 Lakh for single Location.)**
Detailed Estimate attached in (**Annexure - 26.5)**

Cost Benefit Analysis

Covered and secure storage enhances equipment lifespan. And Faster and smoother material handling, resulting in imparting training in efficient manner.

Benefit to the System and Consumers

Ensure systematic storage of training tools and equipment.

2.5.5.6 Construction of BSK at 16 Locations

Background

Bidyut seva kendra plays a vital role in the routine maintenance work and consumer grievance redressal in all areas across TPCODL. Some of the locations area having the electricity network circuit around 15 to 20 km. With the growing demand of consumption of electricity it is difficult to manage a huge long range area during critical times.

Proposal

It is proposed to construct a permanent **Bidyut Seva Kendra** at a centrally accessible location to cater to consumer service requirements.

Justification/ Need of the Proposal

Difficulty in ensuring timely resolution of outages, voltage fluctuations, and maintenance requirements across large geographical areas. Inadequate facilities for frontline staff for effective deployment and monitoring.

Scope of Work

The scope of work includes RCC framed structure at below 16 Location.

Table 93 : **Locations identified for construction of BSK**

Sl No	Location	Sl No	Location	Sl No	Location
01	Nimapara-1	07	Kacheri	13	Rajkanika
02	Chandaka	08	Baliapanda	14	Paradeepgarh
03	Unit IX Road	09	Ghodabazar	15	Ersama
04	Balakati	10	Power House	16	Mandasahi
05	Naval Structure	11	Charinala		
06	Itamati Town	12	Ranihat-1		

Proposed Cost with Estimate Break-up

The Total estimated Cost will be₹ 2.00 Cr. (12 Lacks for single Location)
Detailed Estimate attached in (**Annexure - 26.6**)

Cost Benefit Analysis

Payback Period: 4–5 years considering rent savings and enhanced revenue realization.

Benefit to the System and Consumers

- Provides a single-window system **for all consumer-related services and Improves** service delivery efficiency and reduces turnaround time.
- Long-term cost savings and asset creation for the utility. Enhanced consumer satisfaction, reduction in grievances, improved statutory compliance.

2.5.5.7 Furniture at 29 Location for 205 seating capacity

Background

The existing office furniture is outdated, dilapidated, and beyond repair. Most of the current furniture lacks ergonomic design, which affects employee comfort and productivity.

Proposal

It is proposed to provide the office Furniture's such as Workstations, Tables Storage cabinets, Chairs etc with better ergonomic design for comfort and improved productivity for newly built offices.

Justification/ Need of the Proposal

Modern furniture can be strategically selected and arranged to optimize available space and create distinct functional zones within the office. It enhances workflow, encourages interaction, and supports a healthier work culture.

Scope of Work

The scope covers the supply and installation of furniture across renovated and newly constructed Offices.
Seating Capacity: 205 nos at 29 location

Table 94: **Locations identified for installation of furniture**

Cuttack Circle	Hindol Town Section	Sakhigopal-1 Section	Rajnagar-2 Section
Dhenkanal SDO	Kujanga SDO	Sakhigopal-2 Section	Balikuda-2 Section
Power House SDO-1	Marshaghai SDO	Itamati-1 Section	Pallahara Section
Bhuttamundai Section	Pallahara SDO	Itamati-2 Section	Pattamundai-2 Section
Kanan Vihar section	Kalinga SDO	Bhapur-1 Section	Olavar Section
Gondia Section	Sakhigopal SDO	Bhapur-2 Section	
Kamakhyanagar Section	Gridco Colony Section	Banpur-1 Section	
Charbatia Section	Naugaon Section	Danpur Section	

Proposed Cost with Estimate Break-up

Total Estimated Cost: 1.0 Cr.
Detailed Estimate attached in (**Annexure - 26.7**)

Cost Benefit Analysis

Enhances employee comfort, reduces fatigue, and supports health.
Efficient layout and modularity allow better space utilization and Modular furniture adheres to safety standards, minimizing risks of accidents.

Benefit to the System and Consumers

- Designed with replaceable parts (panels, drawers, and fittings), reducing wastage and Creates a uniform and modern look, improving workplace environment.
- Improve Productivity & Cost effective in long run.

2.5.5.8 Construction of Finance Center of Excellence Office at Bhubaneswar

Background

Finance team is operating from rented premises which is causing considerable inconvenience to employees, business associates and consumers. Frequent shifting of these offices from one location to another further adds to the inconvenience faced by consumers. Over time, the office has encountered significant challenges due to insufficient space, inadequate storage facilities, lack of proper customer interface areas, and deteriorating infrastructure. The office is currently operating from multiple locations which is causing inconvenience in terms of travel, vehicle availability, traffic restrictions, climatic restrictions to employees as well as customers.

Proposal

A new office in Bhubaneswar is being proposed to ensure adequate workspace, storage, and customer access.

Justification/ Need of the Proposal

It will improve operational efficiency and enhance accessibility and visibility for consumers. It will also enable improved service standards and working conditions, directly benefiting both the staff and business stakeholders served by the Office, while also ensuring compliance with workplace safety, fire safety, and other statutory norms. The proposed facility will also provide dedicated customer interface areas for enhanced consumer experience and better service delivery.

Scope of Work

Building Specification: 3 Storied RCC framed structure for 150 seating capacity.
Location: Unit 8, Bhubaneswar

Proposed Cost with Estimate Break-up

The Total estimated Cost will be **Rs. 5.00 Cr.**
Detailed Estimate attached in (**Annexure – 26.8**)

Cost Benefit Analysis

New Building Cost: ₹ 5.00 Cr
Current annual rent expenditure: ₹ 1.30 Cr approx., Payback period: 04 Years
Improved Service Delivery and enhanced workplace environment for Employees and Business Stakeholders.
Intangible benefits: Improved employee productivity, customer satisfaction, and compliance with statutory requirements.

Benefit to the System and Consumers

Improved employee productivity, customer satisfaction, and compliance with statutory requirements. It also creates a customer-friendly environment for grievance redress and bill payment.

2.5.5.9 Construction of Commercial Center of Excellence Office at Bhubaneswar

Background

Commercial team is operating from rented premises which is causing considerable inconvenience to employees and consumers. Frequent shifting of these offices from one location to another further adds to the inconvenience faced by consumers. Over time, the office has encountered significant challenges due to insufficient space, inadequate storage facilities, lack of proper customer interface areas, and deteriorating infrastructure. The office is currently operating from multiple locations which is causing inconvenience to employees as well as customers.

Proposal

A new office in Bhubaneswar is being proposed to ensure adequate workspace, storage, and customer access.

Justification/ Need of the Proposal

It will improve Billing, Collection and operational efficiency and enhance accessibility and visibility for consumers. It will also enable improved service standards and working conditions, directly benefiting both the staff and business stakeholders served by the Office, while also ensuring compliance with workplace safety, fire safety, and other statutory norms. The proposed facility will also provide dedicated customer interface areas for enhanced consumer experience and better service delivery.

Scope of Work

Building Specification: 3 Storied RCC framed structure for 150 seating capacity.
Location: Unit 8, Bhubaneswar

Proposed Cost with Estimate Break-up

The Total estimated Cost will be **Rs. 5.00 Cr.**
Detailed Estimate attached in **(Annexure-26.9)**

Cost Benefit Analysis

New Building Cost: ₹ 5.00 Cr
Current annual rent expenditure: ₹ 1.30 Cr approx., Payback period: 04 Years
Improved Service Delivery and enhanced workplace environment for Employees and Business Stakeholders.

Intangible benefits: Improved employee productivity, customer satisfaction, and compliance with statutory requirements.

Benefit to the System and Consumers

Improved employee productivity, customer satisfaction, and compliance with statutory requirements. It also creates a customer-friendly environment for grievance redress and bill payment

2.5.5.10 Construction of Integrated Call Center Office at Bhubaneswar

Background

Integrated Call Centre is operating from rented premises which is causing considerable inconvenience to employees and consumers. Frequent shifting of these offices from one location to another further adds to the inconvenience faced by consumers. Over time, the office has encountered significant challenges due to insufficient space, inadequate storage facilities, lack of proper customer interface areas, and deteriorating infrastructure. The office is currently operating from multiple locations which is causing inconvenience to employees as well as customers.

Proposal

A new office in Bhubaneswar is being proposed to ensure adequate workspace, storage, and customer access.

Justification/ Need of the Proposal

A better work environment and infrastructure will improve Billing, Collection and operational efficiency and enhance accessibility and visibility for consumers. It will also enable improved service standards and working conditions, directly benefiting both the staff and business stakeholders served by the Office, while also ensuring compliance with workplace safety, fire safety, and other statutory norms. The proposed facility will also provide dedicated customer interface areas for enhanced consumer experience and better service delivery.

Scope of Work

Building Specification: 3 Storied RCC framed structure for 200 seating capacity.
Location: Bhubaneswar

Proposed Cost with Estimate Break-up

The Total estimated Cost will be **Rs. 5.00 Cr.**
Detailed Estimate attached in (**Annexure-26.10**)

Cost Benefit Analysis

New Building Cost: ₹ 5.00 Cr
Current annual rent expenditure: ₹ .70 Cr approx., Payback period: 07 Years
Improved Service Delivery and enhanced workplace environment for Employees and Business Stakeholders.
Intangible benefits: Improved employee productivity, customer satisfaction, and compliance with statutory requirements.

Benefit to the System and Consumers

Improved employee productivity, customer satisfaction, and compliance with statutory requirements. It also creates a customer-friendly environment for grievance redress and bill payment.

2.5.6 Residential Training Centre

Background
To train and develop existing as well as new workforce (TPCODL employees as well as BA employees), people have to come to attend the training and no accommodation facility is available. Also,there is no dedicated training set-up for new GETs/DETs being recruited every year.

Proposal

It is proposed to construct 3 no Training Hall of total 240 seating capacity with accommodation provision for 90 occupants in the same campus .

Justification/ Need of the Proposal

In order to conduct full syllabus training programs of two or more days, it is proposed to construct a residential training center at Bhubaneswar in our own premises.

Scope of Work

2 Nos Training Hall of 60 occupants1 No Training Hall of 120 occupants Accommodation capacity for 90 occupants

Proposed Cost with Estimate Break-up

Total Cost for execution of the above mentioned scope for Residential Training Centre is Rs 35 Cr, of which 13 Cr is already approved under FY 24-25 budget, 15 Cr is being proposed under

FY27-28 budget and remaining 7 Cr will be sought under FY28-29 budget with completion period of 33 months.

Completion Target

Year	CAPEX (in Cr)	Capitalization (in Cr)
2026-27	**4.00**	
2027-28	**24.00**	
2028-29	**7.00**	**35.00**

The detailed cost estimate is enclosed as **Annexure-27.**

Benefit to the System and Consumers

Residential training centre offers an immersive learning environment that can lead to deeper understandings, faster skill acquisition and stronger bond among participants. In addition, it can be more cost effective for providing accommodation, food and training in one location than to source these services individually.

2.5.7 Initiative for Sustainable Infrastructure

Background

As part of Project Aalingana, TPCODL has undertaken initiatives towards developing sustainable, resource-efficient and environmentally responsible infrastructure across its operational facilities. The initiative is aligned with Tata Power's long-term sustainability objectives, including Net Zero Carbon by 2045, Zero Waste to Landfill by 2030 and Water Neutrality by 2030**,** and focuses on reducing environmental impact through energy efficiency, renewable energy adoption, water conservation, waste management and other sustainable infrastructure interventions.

Since inception, TPCODL has initiated and completed various interventions under this initiative, including conversion of standalone rooftop solar systems to grid-connected systems, installation of energy-efficient sensor-based lighting systems, water-saving devices such as sensor faucets and automatic urinal flushing systems, rainwater harvesting, plantation and other resource-efficiency measures. These interventions have contributed towards reduction in energy and water consumption, increased utilization of renewable energy and improvement in the overall sustainability performance of the organization.

TPCODL is committed to measuring, setting objectives, identifying and implementing focused initiatives to minimise the adverse environmental impact of its operations. The objectives are related to the Sustainable Development Goals (SDGs) material to its operations.

The proposed CAPEX shall consequently support the progressive implementation of sustainable infrastructure projects across TPCODL and enable the Company to achieve

the objectives of Project Aalingana, while delivering measurable benefits in terms of energy conservation, renewable energy adoption, water efficiency, waste reduction, carbon emission reduction and overall environmental performance.

Proposal

We propose the Climate Action efforts in below lines.

1. Roof Top Solar: TPCODL has 381 PSS across its operational area. Based on an internal assessment, approximately 60 PSS need to be covered annually to progressively cover the identified rooftops and support the Company's FY32 milestone towards Zero Scope 2 Emissions.

As the first phase of implementation, TPCODL proposes to install rooftop solar systems at 30 PSS during FY28, subject to site feasibility and technical assessment. The intervention will increase the share of renewable energy in TPCODL's operations, reduce dependence on grid-sourced electricity and contribute towards reduction of Scope 2 emissions. The balance PSS will be covered progressively in subsequent phases based on site readiness, technical feasibility and CAPEX availability.

2. Sensors to Conserve Resources: Monitoring and optimizing the consumption of electricity and water across offices and PSS can help TPCODL reduce avoidable resource consumption and improve operational efficiency. Based on the successful pilot implemented at the Corporate Office during FY26, TPCODL proposes to scale up sensor-based resource conservation measures across identified offices during FY28.

2.1 Energy & Electrical Resource Conservation Sensors

TPCODL proposes to install 80 occupancy, motion-based sensors per office in 10 offices, resulting in a total proposed installation of 800 sensors during FY28.

The 10 offices will be selected based on site feasibility and potential for energy savings. The sensors will enable automatic switching-off or control of lighting and other applicable electrical loads when areas are unoccupied, thereby reducing unnecessary electricity consumption and improving energy efficiency.

2.2 Water Conservation Sensors

To reduce water wastage and improve water-use efficiency, TPCODL proposes to install touchless water-saving taps, automatic touchless urinal flush sensors in 10 offices and 100 water flow meters during FY28. The offices will be finalized based on water consumption, site feasibility and potential for water savings.

The proposed installation includes:

- 10 touchless water-saving taps per office × 10 offices = 100 taps
- 10 automatic touchless urinal flush sensors per office × 10 offices = 100 sensors
- 1 water flow meter installed per office × 100 offices = 100 water flow meter.

The touchless water-saving taps will facilitate controlled water flow based on user presence, minimizing unnecessary water discharge. The automatic urinal flush sensors will optimize flushing based on usage and help prevent excessive or continuous flushing.

3. Rainwater Harvesting: Water conservation is an important component of TPCODL's sustainable infrastructure roadmap under Project Aalingana. During FY27, TPCODL proposes to undertake a Water Neutrality Roadmap Study through a specialized consultancy to assess the existing water balance, identify water conservation and replenishment opportunities, and develop a phased roadmap for achieving the Company's water neutrality objectives.

In parallel, planning and pilot work is being pursued at 4 office locations for implementation of Rainwater Harvesting (RWH) systems. Based on the outcomes, recommendations and site-wise prioritization emerging from the Water Neutrality Roadmap Study, TPCODL proposes to implement Rainwater Harvesting systems in 10 new buildings during FY28.

4. Decentralized Organic Waste Management System: As part of TPCODL's commitment towards Zero Waste to Landfill (ZWtL) under Project Aalingana, a ZWtL Roadmap Study was undertaken in FY26 to assess the existing waste management practices, identify gaps and recommend interventions for progressively achieving the ZWtL objective.

Based on the recommendations and site-level assessment emerging from the ZWtL Roadmap, TPCODL proposes to establish decentralized organic waste management systems at suitable offices and operational locations during FY28. Depending on the quantity and nature of organic waste generated and site feasibility, appropriate solutions such as composting pits, drum composters or composting machines will be implemented.

Justification/ Need of the Proposal

TPCODL has identified significant opportunities to improve resource efficiency and reduce environmental impact across its operations in alignment with Project Aalingana**.** The proposed interventions, including rooftop solar, sensor-based energy and water conservation, rainwater harvesting and decentralized organic waste management, will reduce dependence on grid electricity and freshwater, minimize avoidable resource consumption and divert organic waste from conventional disposal. These initiatives are based on internal assessments, successful FY26 pilots, the proposed Water Neutrality Roadmap Study and the FY26 ZWtL Roadmap Study by Sustain Sarathi Private Limited, and will contribute towards the Company's targets of Net Zero Carbon Emissions, Water Neutrality and Zero Waste to Landfill.

Scope of Work

1. Grid-Connected Rooftop Solar: Installation of grid-connected rooftop solar systems at 30 PSS, with individual system capacities of 3 KWp, 5 KWp and 10 KWp, aggregating to a total proposed capacity of 300 KWp, subject to site feasibility.

2. Sensor-Based Resource Conservation: Implementation of sensor-based electricity and water conservation measures across 10 offices, comprising:
a. Motion/Occupancy Sensors: 800 nos.
b. Touchless Water-Saving Taps: 100 nos.
c. Touchless Automatic Urinal Flush Sensors: 100 nos.
d. Water Flow Meters: 100 nos.

3. Rainwater Harvesting: Installation of Rainwater Harvesting systems at 10 locations, with rainwater capture from approximately 11,000 sq. ft. of rooftop or catchment area per location, subject to site feasibility and study recommendations.

4. Decentralized Organic Waste Management: Installation of suitable composting pits, drum composters or composting machines at identified offices, operational locations based on waste generation, site feasibility and recommendations of the FY26 ZWtL Roadmap Study

Proposed Cost with Estimate Break-up

Table 1 Proposed Cost with estimate break-up for sustainable initiatives

Sl.	Items	Unit	Quantity	Unit Rate	Item Cost
1	Roof Top Solar. 30 Roofs of 1100 Sq. Ft.	KWp	300	75000	₹ 2,25,00,000
2	Sensors to save, monitor water, electricity in 10 offices.				
	a. Motion Sensors for automatic switching off lights.	Nos.	800	2000	₹ 16,00,000
	b. Touchless water saving taps	Nos.	100	10,000	₹ 10,00,000
	c. Touchless water urinal flush sensors.	Nos.	100	4,500	₹ 4,50,000
	d. Water Flow Meters	Nos.	100	5,000	₹ 5,00,000
3	Rain Water Harvesting. 10 Roofs of 1100 Sq. Ft	Sq. Ft.	11000	216	₹ 23,76,000
4	Installation of Composting system	Nos.	4	4,93,500	₹ 19,74,000
Grand Total					**₹ 3,00,00,000**

Cost Benefit Analysis

1. Grid-Connected Rooftop Solar

Table 95 : Cost Benefit Analysis for Solar Rooftop Installation

Sl.	Parameters	UoM	Values	Remarks
a	Proposed Installed Capacity	KWp	300	Proposed nameplate capacity
b	Age	Years	0	New installation
c	Capacity after 1 year of Installation	KWp	300	No degradation assumed in Year 1
d	Sunny Hours	PSH/ Day	4	Winter & Summer 5–7; Monsoon 2–4
e	Performance Ratio	%	1	Typical Indian rooftop system assumption.
f	Annual Generation	kWh	3,28,500	c × d × e × 365
g	ABR	₹/kWh	6.00	Assumed average billing rate
h	Yearly Saving	₹ Lakh	19.71	f × g / 10^5
i	Capex	₹ Lakh	225.00	300 KWp × ₹75,000/KWp
j	ROI / Payback	Years	11.42	i / h
k	Grid Emission Factor	kg CO_2e/ kWh	0.71	As per reference
l	Scope 2 Emission Neutralization	t CO_2e	233.24	f × k / 1000

2. Sensor-Based Resource Conservation, Rainwater Harvesting, Installation of Composting system

The proposed interventions for electricity and water conservation sensors, Rainwater Harvesting, and decentralized composting systems will provide long-term operational and environmental benefits.

Installation of 800 motion sensors will reduce avoidable electricity consumption by automatically controlling lighting in unoccupied areas, while 100 touchless water-saving taps, 100 automatic urinal flush sensors and 100 water flow meters will improve water-use efficiency and enable monitoring of consumption.
RWH systems at 10 locations will enhance rainwater capture and recharge, reducing dependence on freshwater sources.

The proposed 4 composting systems will facilitate decentralized treatment of biodegradable waste and dry leaves, reducing waste sent for conventional disposal.

Collectively, these interventions will reduce electricity, water and waste-management costs, improve resource efficiency and support TPCODL's Project Aalingana objectives of Net Zero carbon by 2045, Water Neutrality and Zero Waste to Landfill by 2030.

Completion Target

All proposed projects, including Rooftop Solar, Energy & Water Conservation Sensors, Rainwater Harvesting, and Installation of Composting Systems, are planned to be completed by March 2028.

Benefit to the System and Consumers

This initiative addresses several critical environmental and operational needs:

1. Reduction in Carbon Emissions: Rooftop solar and energy-efficient sensors will reduce dependence on grid electricity, contributing to reduction in Scope 2 emissions and supporting TPCODL's climate action goals.
2. Energy & Water Conservation: Motion sensors, touchless water-saving taps and automatic urinal flush sensors will minimize avoidable electricity and water consumption, while water flow meters will enable monitoring and identification of consumption patterns.
3. Promotion of Renewable Energy: Installation of 300 KWp rooftop solar at PSS will increase the share of renewable energy in TPCODL's operations and support the transition towards cleaner energy.
4. Water Security & Conservation: Rainwater Harvesting at 10 locations will improve rainwater utilization to recharge and reduce dependence on freshwater sources, supporting the Water Neutrality objective under Project Aalingana.
5. Zero Waste to Landfill: The proposed composting systems will enable decentralized treatment of biodegradable waste and dry leaves, reducing waste sent for conventional disposal and supporting TPCODL's ZWtL target by 2030.
6. Financial & Operational Benefits: The initiatives will reduce electricity, water and waste-management costs through improved resource efficiency, while making better use of existing rooftops and infrastructure.
7. Alignment with Sustainability Goals: Collectively, the interventions support Tata Power's Project Aalingana objectives to become Carbon Net Zero by 2045, Water Neutrality and Zero Waste to Landfill by 2030, while strengthening TPCODL's environmental performance

The cost estimate is based on quotation received from various vendors.

2.5.8 Backend Infrastructure for Smart Metering

Background

Since the inception of Smart Meter operations, TPCODL has undertaken extensive efforts to modernize its metering infrastructure in line with directives from the Hon’ble Commission and the Ministry of Power. The initiative began with the replacement of defective meters and the

installation of smart meters incl. new connection in compliance with national and state-level regulatory frameworks.

Smart metering is a cornerstone of the Loss Reduction strategy, enabling accurate billing, outage monitoring, Prepaid Billing, Energy audit, Solar implementation and improved consumer services. The deployment aligns with statutory mandates under:

- CEA (Installation and Operation of Meters) Amendment Regulations, 2022
- Electricity (Rights of Consumers) Rules, 2020
- MoP Notification 2021 & Amendment 2022
- OERC Distribution Supply Code, 2019
- OERC, Order on Net Metering/Bi-Directional Metering (2018), Amendment on 2025
- Other directives of the Hon'ble Commission

Status of Smart Meter Deployment:-
As of FY26, TPCODL has successfully installed 8.15 lakh smart meters, which increased to 9.79 lakh by August 2026. The deployment covers government, private (single and three-phase), DT, and feeder categories.

In line with the Hon'ble Commission's directive , the petitioner has made a phase/stage wise Smart Meter Installation plan as depicted in table below.

Table 96 : **Stage-wise Smart Meter Installation Projection**

Sl No	Stage	Financial Year	Yearly Projection	Cumulative Count
1	Base	**As on FY26**	**8,15,138**	
2	Stage-1	FY-27	6,65,000	I
3		FY-28	5,50,000	20,30,138
4		**Total**	**20,30,138**	
5	Stage-2	FY-29	6,50,000	26,80,138
6		FY-30	6,00,000	32,80,138
7		FY-31	4,50,000	37,30,138
8		FY-32	3,50,000	40,80,138
9		**Total**	**20,50,000**	
Grand Total			**40,80,138**	

Proposal

To upscale backend infrastructure Licences (Head End System & SAP AMI license) to handle 5.5 lakh smart meters in FY28.

While the physical deployment of smart meters has progressed significantly, to support the FY28 rollout of 5.5 lakh meters, substantial investment in Licences is required. This will ensure:

- Seamless data flow with MDMs, SAP, ADMS, ReVP, and consumer-facing applications (My Tata Power + App).
- Real-time data acquisition, prepaid/postpaid billing, outage detection, Solar Generation and theft monitoring.
- Compliance with statutory guidelines and readiness for future scalability (rooftop solar, net metering, demand-side management).

Thus, the proposed CAPEX investment is critical to sustain the momentum of smart meter deployment, reduce AT&C losses, and deliver enhanced consumer services.

Justification/ Need of the Proposal

The backend infrastructure of TPCODL, comprising applications hosted on in-premise servers such as the Head End System (HES) and SAP AMI licenses, extended designed to support approximately 14.8 lakh smart meters**.**

Without augmentation, the infrastructure will encounter bottlenecks in data acquisition, billing integration, and consumer interface services. This will result in delays in grievance redressal, Postpaid & prepaid billing inefficiencies, challenges in solar deployment, and reduced effectiveness in theft detection and outage management.

The proposed upgradation will not only strengthen operational capabilities but also ensure compliance with statutory regulations. In essence, the arrangement is not merely an infrastructure upgrade but a statutory and strategic necessity. It will secure adherence to regulatory mandates, enhance operational efficiency, empower consumers, and position TPCODL as a future ready utility capable of delivering reliable, transparent, and sustainable services.

Scope of Work

The proposed scope of work involves a comprehensive augmentation of TPCODL's backend application licences to support the FY28 rollout of smart meters, which will expand the installed base to more than 20 lakh meters.

This requires scaling both the Head End System (HES) and SAP AMI licences. Additional HES licences will be procured to cover 5.5 lakh meters, ensuring communication, firmware upgrades, and command execution across all consumer categories. Similarly, SAP AMI licences will be extended to cover 5.5 lakh meters, enabling prepaid and postpaid billing and seamless consumer account management.

Proposed Cost with Estimate Break-up

Cost Proposed to Hon'ble Commission for FY 27-28 is tabulated below.

Table 97 : **Capital Investment Cost Proposed for SAP AMI License of Smart Meters**

SL NO	Item Description	TYPE	Existing Quantity	By FY28			
				Add. Quantity	Unit Price incl GST	Total Cost (Cr.)	Remarks
1	HES License	LICENCE	1480000	550000	124	6.8	Recent Order rate
2	SAP License	LICENCE	1480000	550000	35	1.9	Recent Order rate
3	Contingency @ 3%	-				0.3	
GRAND TOTAL						**9.0**	

**** Unit Price incl. GST*:- It includes a 10% escalation on the base price over three years, i.e., from 2025 to 2028.***

Cost Benefit Analysis

The smart metering initiative undertaken by TPCODL represents a strategic investment aimed at modernizing the power distribution infrastructure, improving operational efficiency, ensuring regulatory compliance to provide smart and consumer centric services to consumer..

Benefit to the System and Consumers

Other Tangible Benefits:-

- Cost Savings: Daily consumption data helps consumers optimize usage and lower bills; TOD benefits support peak load curtailment and system stabilization.
- Improved Accuracy: Automated readings eliminate human error, reduce disputes, and enable timely detection of faulty/slow meters or theft, saving MU losses.

- Better Planning: DISCOMs can optimize power procurement, reduce excess purchase costs, and improve load management.

- Reduced Meter Reading Cost: Automated data fetching eliminates manual meter reading, lowering operational expenses.

- Revenue Assurance: Tamper-proof automated readings minimize manipulation and theft.

- Remote Operations: Reduced site visits lower travel costs, enhance LTDB life, and improve employee safety by enabling remote disconnection/reconnection.

- Asset Management: Smart meters can be reconfigured remotely (net, prepaid, postpaid), saving replacement and installation costs.

- Asset Optimization: Accurate energy audits enable better equipment utilization, prevent premature failures, and support timely replacement with suitable ratings.

Intangible Benefits

- Regulatory Compliance: Ensures adherence to CEA, MoP, and state regulatory guidelines.

- Enhanced Reliability: Accurate outage tracking improves SAIFI/SAIDI indices and service benchmarking.

- Consumer Empowerment: Daily usage visibility builds trust and transparency in billing.

- Behavioral Change: Encourages responsible consumption, TOD monitoring, and adoption of smart home automation.

- Faster Fault Resolution: Remote diagnostics strengthen GIS performance and speed up restoration.

- Strategic Planning: Granular data supports demand forecasting, infrastructure planning, and CAPEX prioritization.

3 Time line

The applicant has proposed the project completion timelines where ever applicable. While Discoms will endeavour all efforts to complete the schedules as per the mentioned timeline for each projects, however the proposed timelines are subject to timely receipt of necessary permissions, approvals and clearances from the concerned authorities/agencies, including land/Right of Way (RoW), site clearance, Forest Department/agricultural field clearances and other statutory approvals, resolution of local/site-related issues and concerns, timely receipt of materials, availability of required outages from OPTCL, suitable weather conditions, and other factors beyond the reasonable control of the DISCOM. Accordingly, a broad tentative timeline is provided below.

Table 98

Head	Activity	Capex	FY 28	Q1 FY 29	Q2 FY 29	Q3 FY 29
Safety & Statutory	Technology-enabled Safety, Disaster Resilience, Workforce Training Infrastructure Strengthening & Sustainable Mobility	3.00	3			
	Fire-Wall	2.00	2			
	Cradle Guard at Road Crossings	1.00	1			
	Testing Equipment for Meter Testing Labs & Others	2.00	2			
	Fencing & Boundary Wall for Switchyard and PSS	15.00	15			
	Defective AB Cable Replacement	1.00	1			
	Enhancing vertical clearance through interposing Poles	8.00	6	1	1	
	Safety & Statutory	**32.00**	**30.00**	**1.00**	**1.00**	**0.00**
Loss reduction	33kV Network Reconfiguration - Power evacuation, Length Reduction	25.00	20.0	2.0	2.0	1.0
	Smart DT Meters	10.00	10			
	LT Bare to AB Conversion	30.04	25	2	3	
	Defective Service Cable replacement for theft elimination	As per Actual				
	Loss reduction	**65**	**55.00**	**4.00**	**5.00**	**1.00**
Reliability	Replacement of RAPDRP RTU	3.00	3			
	Gris Sub-station Automation System	15.25	9	2	2	2
	FLC Switchgear Van	4.01	4			
	33kV Network Reliability	75.00	52.5	7.5	8.6	6.4
	11kV Network Reliability	60.00	45.0	3.0	6.0	6.0
	New PSS to meet Network Reliability	25.00	18	2	3	2
	Replacement of Aged PTR's to improve reliability	11.49	9	1	2	
	Mitigation of single PTR at 33/11kV PSS	13.50	12	1	2	
	PSS Refurbishment	11.25	8	1	1	
	Mitigate VCB Group Control for 33kV and 11kV network Breakers	20.80	15	1	2	2
	LV Protection (63kVA and above)	30.00	25	2	3	
	T-OFF removal from 33KV Network	5.00	5			
	Reliability	**274**	**205**	**21.12**	**29.63**	**18.38**
Load Growth	New Connection Release	As per Actual				
	33kV Network Overload mitigation	20.00	16.0	2.0	2.0	0.0
	11kV Network Overload mitigation	40.00	32.0	2.0	3.0	3.0
	Augmentation of PTR to meet load demand	40.00	32	2	3	3
	LT Network Strengthening for Load Growth	10.00	8	1	1	
	DTR/ CSS (New & Aug.) to meet load Growth	70.00	56	4	5	7
	Load Growth	**180.00**	**142.00**	**11.00**	**14.00**	**13.00**
Technology & Infrastructure	Admin Infrastructure	2.01	2			
	Stores Infrastructure	2.00	2			
	Strengthening of IT & Technology (User devices, Grid Data Hub, DPDP Act Compliance, Licences etc)	30.00	30			
	CCTV installation to improve Security & Safety	5.00	5			
	Civil Infrastructure	34.00	19			15
	Residential Training Centre **Phase-II**	15.00				15
	Corporate Annex B Building(Operations Excellence Centre)					
	Initiatives for a Sustainable Infrastructure	3.00	3			
	Back-end Infrastructure of Smart DT Meters	9.00	9			
	Infrastructure	**100**	**70.00**	**0.00**	**0.00**	**30.00**
Grand Total		**651**	**502**	**37**	**50**	**62**

Part- I

(Annexures-
1,3,5,8,9,10,13,14,16,17,18,19,20,23,24,25,26,27)

ANNEXURE-1

FIRE WALL

Location of Fire Wall-

Sl. No.	CIRCLE	DIVISION	PSS Name	PSS GIS Code	TOTAL (MVA)	DESCRIPTION	NO OF FIREWALL REQUIREMENT
1	BBSR-I	BCDD-I	Sahid Nagar	14016	25	2x12.5	1
2	BBSR-I	BCDD-II	Xavier	14009	25	2x12.5	1
3	BBSR-I	BCDD-II	Vanivihar	14230	16	2x8	1
4	BBSR-I	BED	Bhingarpur	14224	13	1x5+1x8	1
5	BBSR-I	BED	Pradhan Sahi	14253	20.5	1x12.5+1x8	1
6	DKL	DED	Hindol Road	14121	21	2x8+1x5	2
7	DKL	ANED	RCMS	14132	37.5	3x12.5	2
8	DKL	DED	Kamakhyanagar	14124	18.15	1x3.15+3x5	3
9	BBSR-II	KHD	OILL MILL	14043	25	2x12.5	1
10	BBSR-II	KHD	JATNI	14033	28.5	1x12.5+2x8	2
11	BBSR-II	PED	Sriramnagar	14070	20.5	1x8+1x12.5	1
12	BBSR-II	PED	Talabania	14064	41	2x12.5+1x16	2
13	PDP	JED	MARKANDAPUR	14362	16	2x8	1
14	PDP	PDP	Jagannathpur	14340	16	2x8	1
15	Cuttack	CDD-I	Kalinga	14084	50	2X12.5+1X25 MVA	2
16	Cuttack	CDD-I	Satichaura	14238	16	2X8 MVA	1
17	Cuttack	CDD-I	Sector-3	14085	16	2X8 MVA	1
18	Cuttack	CDD-I	Matamatha	14209	16	2X8 MVA	1
19	Cuttack	CDD-II	Palamandap	14296	16	2X8 MVA	1
20	Cuttack	CDD-II	Badambadi	14087	25	2X12.5 MVA	1
		Total				**Total**	**27**

BOQ for Fire Wall work at PSS						
Sl No	**MATERIAL CODE DESCRIPTION**	**Units**	**Quantity**	**Rate**	**Amount**	**Rate reference**
1	Earth work Excavation- (upto1.5m)	M3	25.00	232.00	5800.00	Civil RC-4600002161
2	Excavation in all types of hard rock	M3	25.00	848.00	21200.00	Civil RC-4600002161
3	Filling Available earth	M3	20.00	300.00	6000.00	Civil RC-4600002161
4	P & L 225 or 300 mmthk dry rubble soling	M3	12.00	1905.00	22860.00	Civil RC-4600002161
5	CC 1:2:4 (coarse sand)-20mm	M3	3.00	6235.00	18705.00	Civil RC-4600002161
6	CC 1:3:6 (coarse sand)	M3	3.00	5030.00	15090.00	Civil RC-4600002161
7	RCC 1:1:2 upto Plinth Level	M3	12.00	7741.00	92892.00	Civil RC-4600002161
8	RCC 1:1:2in walls above Plinth Level	M3	6.00	7950.00	47700.00	Civil RC-4600002161
9	Centring and Shuttering Foundations	M2	50.00	240.00	12000.00	Civil RC-4600002161
10	Centring and Shuttering (Columns, pillar	M2	35.00	420.00	14700.00	Civil RC-4600002161
11	Steel reinforcement for R.C.C-upto plinth	KG	1200.00	102.00	122400.00	Civil RC-4600002161
12	Steel reinforcement for R.C.C-above plinth	KG	700.00	108.00	75600.00	Civil RC-4600002161
13	B/W in CM 1:6 upto plinth	M3	2.50	5450.00	13625.00	Civil RC-4600002161
14	B/W in CM 1:6 in superstructure	M3	15.00	5480.00	82200.00	Civil RC-4600002161
15	Supplying and Spreading of Gravel	M3	7.50	2470.00	18525.00	Civil RC-4600002161
16	18 mm cement plaster(1:4)coarse sand	M2	100.00	272.00	27200.00	Civil RC-4600002161
17	Premium Acrylic Smooth exterior paint wi	M2	100.00	129.00	12900.00	Civil RC-4600002161
18	River Sand	M3	6.00	1480.00	8880.00	Civil RC-4600002161
19	MS Pipe/Cuplock scaffolding	M2	36.00	495.00	17820.00	Civil RC-4600002161
					₹ 6,36,097.00	
					₹ 1,14,497.46	
				Total Amount incl GST	**₹ 7,50,594.46**	

ANNEXURE - 3

PSS Boundary Wall, Switchyard Chainlink Fencing
DSS Chainlink Fencing

Sl No	Activity planned	No. of Locations Proposed	PuC	Total Cost Proposed (in Cr)
1	Compound walls in PSS	20	Location based	3,00,89,000.00
2	Switchyard Chainlink Fencing in PSS @ 115 mtr/ Location	34	5,22,974.55	2,04,48,305.08
3	DSS Chainlink Fencing	951	1,04,594.91	9,94,69,760.27
Total No of Location Proposed		**1005**		**15,00,07,065.35**

Annexure- 3.1

Locations and Cost for Construction of PSS Compound Wall.

Sl No	CIRCLE	DIVISION	SUB-DIVISION	PSS Name	Length (M)	UOM	Amt	Rate Reference
1	BBSR-I	BED	Rasulgarh	Kesura	64	M	9,80,000.00	TPCODL Civil RC
2	DKL	TED	Parjanga	Parjang	398	M	27,50,000.00	TPCODL Civil RC
3	DKL	TED	Talcher	Samal	215	M	16,00,000.00	TPCODL Civil RC
4	DKL	ANED	Chhendipada	Jarapada	203	M	15,20,000.00	TPCODL Civil RC
5	DKL	ANED	Chhendipada	Chhendipada	358	M	18,00,000.00	TPCODL Civil RC
6	DKL	ANED	Boinda	Anandapur	396	M	32,50,000.00	TPCODL Civil RC
7	BBSR-2	PED	Sakhigopal	Kumareswar	152	M	6,21,000.00	TPCODL Civil RC
8	BBSR-2	PED	Puri-II	samanga	160	M	7,60,000.00	TPCODL Civil RC
9	BBSR-2	NYED	Khandapada	Fategarh	365	M	14,60,000.00	TPCODL Civil RC
10	PDP	KED-I	Rajnagar	Kandira	265	M	18,85,000.00	TPCODL Civil RC
11	PDP	KED-I	Pattamundai	Sahupada	194	M	13,93,000.00	TPCODL Civil RC
12	PDP	KED-I	Kendrapara	Indupur	65	M	7,12,000.00	TPCODL Civil RC
13	PDP	KED-II	Mahakalpara	BADIHI	150	M	27,50,000.00	TPCODL Civil RC
14	PDP	PDP	Tirtol	Paruna	150	M	11,46,000.00	TPCODL Civil RC
15	PDP	JED	Balikuda	Balikuda	276	M	20,07,000.00	TPCODL Civil RC
16	PDP	JED	Jagatsingpur	NABAPATANA	235	M	17,47,000.00	TPCODL Civil RC
17	PDP	JED	Raghunathpur	22 MOUZA	275	M	7,08,000.00	TPCODL Civil RC
18	CUTTACK	AED	Athagarh	Khuntuni	80	M	6,00,000.00	TPCODL Civil RC
19	CUTTACK	AED	Narsinghpur	Narsinghpur	190	M	14,50,000.00	TPCODL Civil RC
20	CUTTACK	SED	Nischintakoili	Orikanta	115	M	9,50,000.00	TPCODL Civil RC
Total (Including GST)							**3,00,89,000.00**	

Annexure- 3.2

BOQ for Construction of chain link fencing of PSS.

Sl no	Item details	Nos	L	B	H	Qty	Rate	Amount	Rate Reference
1	Excavation of earthwork- soft soil	1	100.00	0.45	0.40	18.00	232.00	4,176.00	TPCODL Civil RC Rates
2	CC 1:3:6 (coarse sand)	1	100.00	0.45	0.10	4.50	5030.00	22,635.00	TPCODL Civil RC Rates
3	B/W in CM 1:6 upto plinth	1	100.00	0.25	0.60	15.00	5450.00	81,750.00	TPCODL Civil RC Rates
4	St. Steel, Single Section								
a	ISA 65	50	2.60		5.80	754.00			
b	ISA 50	2	100.00		4.50	900.00			
c	40mm MS Flat-Horizontal	1	100.00		1.60	160.00			
d	40mm MS Flat-Vertical	40	1.80		1.60	115.20			
					Total	1929.20	104.00	2,00,636.80	TPCODL Civil RC Rates
5	Fencing Synthetic Enamel Paint (New work	1	100.00	1.80		180.00	84.49	15,208.20	TPCODL Civil RC Rates
6	Fencing GI chain link fencing 80X80 mm	1	100.00	1.80		180.00	431.63	77,693.40	TPCODL Civil RC Rates
7	18 mm cement plaster(1:4)coarse sand	1	100.00		0.85	85.00	272.00	23,120.00	TPCODL Civil RC Rates
8	Premium Acrylic Smooth exterior paint wi	1	100.00		0.85	85.00	129.00	10,965.00	TPCODL Civil RC Rates
9	CC 1:2:4 (coarse sand)-20mm	50	0.25	0.30	0.30	1.13	6235.00	7,014.38	TPCODL Civil RC Rates
							Total	4,43,198.78	
				Per 100 meter cost (Incl of GST)				**5,22,974.55**	
				Per meter cost (Incl of GST)				**5,229.75**	
Average Total Length of each PSS fencing 115 m for 34 Location								**2,04,48,305.08**	

Location Detail for Switchyard Chain-link Fencing

Sl No	CIRCLE	DIVISION	SUB-DIVISION	SECTION	PSS Name
1	BBSR-I	BCDD-I	SUB-DIVISION -1	Power House -1	Unit-8
2	BBSR-I	BCDD-II	CS Pur-II	CS Pur-II	Niladri Vihar
3	BBSR-I	BCDD-II	Periphery	Baranga	Chandaka
4	BBSR-I	BCDD-II	Periphery	Godisahi	Trisulia
5	BBSR-I	BED	Rasulgarh	Phulnakhara	Bhingarpur
6	BBSR-I	BCDD-II	Periphery	Godisahi	Godisahi
7	BBSR-I	BCDD-II	Nayapalli	VSS nagar	Vanivihar
8	DKL	TED	Talcher	Hatatota	Hatatota
9	DKL	TED	Parjanga	Parjanga-1	Parjang
10	DKL	ANED	Boinda	Boinda	Boinda
11	DKL	ANED	Angul	Angul No-1	HEMSURPADA
12	DKL	ANED	Angul	Angul No-3	NALCO
13	DKL	ANED	Chhendipada	Chhendipada	Chhendipada
14	BBSR-II	PED	Sakhigopal	Chandanpur	Chandanpur
15	BBSR-II	PED	PURI-II	Delang	Delang
16	BBSR-II	PED	PURI-II	Kanas	Kanas
17	BBSR-II	KHD	KHD	KHD-II	Gurujanga
18	BBSR-II	KHD	KHD	KHD-III	Tirimal
19	BBSR-II	KHD	Banki	Banki-III	Jatamundia
20	BBSR-II	KHD	Begunia	Rajsunakhela	Rajsunakhela
21	PDP	KED-II	Marshaghai	Nuapada	Bedari
22	PDP	KED-I	Aul	Rajkanika	RAJKANIKA
23	PDP	KED-I	Pattamundai	Chaudakulata	Chaudakulata
24	PDP	JED	Raghunathpur	Biridi	Biridi
25	PDP	JED	Jagatsingpur	Jagatsinghpur-1	DHIASAHI
26	PDP	PDP	Tirtol	Kolar	Paruna
27	PDP	PDP	Kujanga	Kujanga	Trilochanpur
28	CUTTACK	CDD-I	CDA	CDA	Satichaura
29	CUTTACK	CDD-I	Ranihat	Ranihat-1	Ranihat
30	CUTTACK	CDD-I	CDA	Bidanasi	Sector-13
31	CUTTACK	CDD-II	Jobra	Kanadarpu	Kandarpur
32	CUTTACK	CED	Gopalpur	Balikuda	Pratap Nagari
33	CUTTACK	AED	Narsinghpur	Narsinghpur	Narsinghpur
34	CUTTACK	AED	Athagarh	Athagarh-2	Saranda

BOQ for Proposed Construction of chain link fencing of DSS.

Annexure- 3.3

BoQ of DSS Chainlink Fencing

Sl no	Item details	Nos	L	B	H	Qty	Rate	Amount	Rate Reference
1	Excavation of earthwork- soft soil	1	20.00	0.45	0.40	3.60	232.00	835.20	TPCODL Civil RC Rate
2	CC 1:3:6 (coarse sand)	1	20.00	0.45	0.10	0.90	5030.00	4,527.00	TPCODL Civil RC Rate
3	B/W in CM 1:6 upto plinth	1	20.00	0.25	0.60	3.00	5450.00	16,350.00	TPCODL Civil RC Rate
4	St. Steel, Single Section								
a	ISA 65	10	2.60		5.80	150.80			
b	ISA 50	2	20.00		4.50	180.00			
c	40mm MS Flat-Horizontal	1	20.00		1.60	32.00			
d	40mm MS Flat-Vertical	8	1.80		1.60	23.04			
					Total	385.84	104.00	40,127.36	TPCODL Civil RC Rate
5	Fencing Synthetic Enamel Paint (New work	1	20.00	1.80		36.00	84.49	3,041.64	TPCODL Civil RC Rate
6	Fencing GI chain link fencing 80X80 mm	1	20.00	1.80		36.00	431.63	15,538.68	TPCODL Civil RC Rate
7	18 mm cement plaster(1:4)coarse sand	1	20.00		0.85	17.00	272.00	4,624.00	TPCODL Civil RC Rate
8	Premium Acrylic Smooth exterior paint wi	1	20.00		0.85	17.00	129.00	2,193.00	TPCODL Civil RC Rate
9	CC 1:2:4 (coarse sand)-20mm	10	0.25	0.30	0.30	0.23	6235.00	1,402.88	TPCODL Civil RC Rate
							Total	88,639.76	
							With GSt	1,04,594.91	
				Per meter cost (Incl of GST)				**5,229.75**	
Average Total Length of each fencing 20 m considering 5m width and 5m length								**1,04,594.91**	
Total for 951 location								**9,94,69,760.27**	

List of DSS for Chain Link Fencing

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
1	BBSR-1	NED	NIMAPADA	KONARK	KONARK	KONARK(U/G)	NATYAMANDAP	500	P1	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
2	BBSR-1	NED	KAKATPUR	ASTARANGA	ASTARANGA	SUNDARA	ASTARANGA MARKET	500	P2	ALONG MARKET / GIRLS HIGH SCHOOL/PUBLIC GATHERING
3	BBSR-1	NED	PIPILI	PIPILI-1	PIPILI	RAJAS	HARIPUR VILLAGE	500	P3	CHILDREN RUSHING TOWARD SCHOOL, MARKET AREA, HUMAN & ANIMAL GATHERING.
4	BBSR-1	NED	PIPILI	PIPILI-2	PIPILI	MANGALPUR-1	JATNI CHHAK	500	P4	Highly populated Bazar area. Gathering of human as well as animal.
5	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	OMFED	BISHNUPUR	250	P5	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
6	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	CHARICHHAKA	VILLIGRAM	250	P6	NEAR POND HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
7	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	OMFED	GADA ANDHIA	250	P7	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
8	BBSR-1	NED	NIMAPADA	GOP	BAYAKUDA	NAGAPUR	SUBARNAPUR	250	P8	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
9	BBSR-1	NED	NIMAPADA	GOP	NAGAPUR	NAGAPUR BAZAR	NAGAPUR SAHI	250	P9	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
10	BBSR-1	NED	NIMAPADA	GOP	BAYAKUDA	NAGAPUR	GANESWARPUR	250	P10	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
11	BBSR-1	NED	NIMAPADA	GOP	BAYAKUDA	CHARISHREE	CHHAITANA BAZAR	250	P11	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
12	BBSR-1	NED	NIMAPADA	GOP	BAYAKUDA	BEGUNIA	BEDAPUR	250	P12	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
13	BBSR-1	NED	NIMAPADA	GOP	NAGAPUR	MADARANGA	ORUALI	250	P13	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
14	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-1	BLOCK CHHAKA	250	P14	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
15	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-1	SBI COLLEGE CHHAKA	250	P15	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
16	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-1	CHANDAN BAZAR-I	250	P16	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
17	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-2	BHANDAGHARA	250	P17	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
18	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-2	RASULPUR	250	P18	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
19	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-2	KERENDIAPAL	250	P19	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
20	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-2	KUNDHEI TINICHHAKA	250	P20	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
21	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-2	KUNDESWAR	250	P21	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
22	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	NILAKANTHAPUR	FAKIRSAHI BASTI	250	P22	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
23	BBSR-1	NED	KAKATPUR	KAKATPUR-1	KAKATPUR	KAKATPUR-2	SAMIA	250	P23	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
24	BBSR-1	NED	KAKATPUR	ASTARANGA	ASTARANGA	ASTARANGA	DAKHINA PANTALO	250	P24	UP SCHOOL/ NEAR BY POND, PEOPLE GATHERING
25	BBSR-1	NED	KAKATPUR	ASTARANGA	PATALDA	NUAGADA	NUAGADA	250	P25	ADJACENT TO ROAD, UNSAFE FOR MOVEMENT
26	BBSR-1	NED	PIPILI	PIPILI-1	PIPILI	RAJAS	JAGANATHPUR	250	P26	CHILDREN RUSHING TOWARD SCHOOL, MARKET AREA, HUMAN & ANIMAL GATHERING.
27	BBSR-1	NED	PIPILI	PIPILI-1	PIPILI	MANGALPUR -2	ASHRAM PATANA	250	P27	CHILDREN RUSHING TOWARD SCHOOL, MARKET AREA, HUMAN & ANIMAL GATHERING.
28	BBSR-1	NED	PIPILI	PIPILI-1	PIPILI	BAZAR	DARJI SAHI-2	250	P28	CHILDREN RUSHING TOWARD SCHOOL, MARKET AREA, HUMAN & ANIMAL GATHERING.
29	BBSR-1	NED	PIPILI	BHARATIPUR	HARIRAJPUR	KAKUDIA	KANTI BAZAR	250	P29	HUMAN & ANIMAL GATHERING PLACES
30	BBSR-1	NED	PIPILI	BHARATIPUR	HARIRAJPUR	KAKUDIA	MATHASAHI BAZAR	250	P30	HUMAN & ANIMAL GATHERING PLACES
31	BBSR-1	NED	PIPILI	BHARATIPUR	HARIRAJPUR	KAKUDIA	GUNTHAL	250	P31	HUMAN & ANIMAL GATHERING PLACES
32	BBSR-1	NED	PIPILI	BHARATIPUR	PIPILI	PIPILI BAZAR	MUSTAFANAGAR-3	250	P32	HUMAN & ANIMAL GATHERING PLACES
33	BBSR-1	NED	PIPILI	BHARATIPUR	PIPILI	PIPILI BAZAR	MADHIPUR SCHOOL	250	P33	UP SCHOOL/ NEAR BY POND, PEOPLE GATHERING
34	BBSR-1	NED	PIPILI	BHARATIPUR	PIPILI	PIPILI BAZAR	DANAGAHIRA-1	250	P34	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
35	BBSR-1	NED	PIPILI	BHARATIPUR	PIPILI	PIPILI BAZAR	DANAGAHIRA-2	250	P35	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
36	BBSR-1	NED	PIPILI	BALIPATNA	BALIPATNA	BALIPATNA	VETERINARY	250	P36	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
37	BBSR-1	NED	PIPILI	BALIPATNA	BALIPATNA	BALIPATNA	GORUHATA PADIA	250	P37	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
38	BBSR-1	NED	PIPILI	BALIPATNA	BALIPATNA	NARODA	CHANAHATA CHHAKA	250	P38	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
39	BBSR-1	NED	PIPILI	BALIPATNA	BALIPATNA	BUDHIPADA	TARAPADA	250	P39	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
40	BBSR-1	NED	PIPILI	BALIPATNA	BALIPATNA	NARODA	CHANAHATA HIGH SCHOO	100	P40	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
41	BBSR-1	NED	PIPILI	PIPILI-2	PIPILI	MANGALPUR-1	COLLEGE CHHAK	250	P41	In front of college, Highly gathering area.
42	BBSR-1	NED	PIPILI	PIPILI-2	PIPILI	MANGALPUR-1	GOLAPOKHARI	250	P42	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
43	BBSR-1	NED	Pipili	Bharatipur	BHARATIPUR	11 kV Sadamgoi	GANDAPADA	250	P43	Adjacent to main Road. Crowded place.
44	BBSR-1	NED	Pipili	Bharatipur	PIPILI	11 kV PIPILI	MADHIPUR NEAR SCHOO	250	P44	Crowded place, Near Temple & school area.
45	BBSR-1	NED	Pipili	Bharatipur	PIPILI	PIPILI BAZAR	MUSTAFA NAGAR	250	P45	Adjacent to main Road. Crowded place.
46	BBSR-1	NED	Pipili	Bharatipur	PIPILI	PIPILI BAZAR	MADARSA	250	P46	Near Main Road & Masjid.
47	BBSR-1	NED	Pipili	Bharatipur	PIPILI	PIPILI BAZAR	GHASIA	250	P47	Adjacent to NH , Mangalpur.
48	BBSR-1	NED	NIMAPADA	NIMAPADA-1	BHODARA	HARICHHAKA MARKE	CHARICHHAKA MEDICAL	200	P48	MEDICAL,OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
49	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	BASANTAMAL	DENUA BASTA	200	P49	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
50	BBSR-1	NED	NIMAPADA	NIMAPADA-1	BHODARA	SAILO	GADA ITAPOKHARI	100	P50	HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
51	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	CHARICHHAKA	KANAPUR	100	P51	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
52	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	OMFED	BISHNUPUR BHOI SAHI	100	P52	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
53	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	OMFED	NDHIA PINGALAKHI COLO	100	P53	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
54	BBSR-1	NED	NIMAPADA	GOP	BAYAKUDA	PAYARA	KANTI	100	P54	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
55	BBSR-1	NED	NIMAPADA	KONARK	KONARK	BALIDOKAN	BALIDOKAN BAZAR	100	P55	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
56	BBSR-1	NED	NIMAPADA	KONARK	KONARK	BALIDOKAN	INDIRA BAZAR	100	P56	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
57	BBSR-1	NED	NIMAPADA	KONARK	KONARK	BALIDOKAN	ODASAMALA-1	100	P57	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
58	BBSR-1	NED	NIMAPADA	KONARK	KONARK	SIRIPUR	SIRIPUR	100	P58	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
59	BBSR-1	NED	NIMAPADA	KONARK	KONARK	ANASARA	JUNEI HATA	100	P59	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
60	BBSR-1	NED	NIMAPADA	KONARK	KONARK	DASABATIA	GADARUPAS	100	P60	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
61	BBSR-1	NED	NIMAPADA	KONARK	KONARK	KONARK(O/H)	NOLIA SAHI-1	100	P61	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
62	BBSR-1	NED	NIMAPADA	KONARK	KONARK	KONARK(O/H)	NOLIA SAHI-2	100	P62	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
63	BBSR-1	NED	NIMAPADA	KONARK	KONARK	KONARK(U/G)	RD	100	P63	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
64	BBSR-1	NED	NIMAPADA	KONARK	KONARK	DASABATIA	BANILO	63	P64	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
65	BBSR-1	NED	NIMAPADA	KONARK	KONARK	KONARK(O/H)	KARAMANGA	100	P65	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
66	BBSR-1	NED	NIMAPADA	KONARK	KONARK	KONARK(U/G)	KALA SRIMUKHA-1	100	P66	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
67	BBSR-1	NED	KAKATPUR	ASTARANGA	ASTARANGA	ASTARANGA	BEGUNIABASTA	100	P67	IN MID VILLAGE , CHILDREN PLAYING AREA, HIGHLY UNSAFE/ ANIMALS ARE GETTING TIED IN STAY
68	BBSR-1	NED	KAKATPUR	ASTARANGA	ASTARANGA	ASTARANGA	OLIHAN	100	P68	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
69	BBSR-1	NED	KAKATPUR	ASTARANGA	ASTARANGA	JIUNTY	UDAYAPUR	100	P69	RATANPUR SCIENCE DEGREE COLLEGE, STUDENT GATHERING , ANOTHER SIDE NARAYAN HIGH SCHOOL
70	BBSR-1	NED	PIPILI	PIPILI-1	PIPILI	BAZAR	MAHAMADIAN BASTI	100	P70	CHILDREN RUSHING TOWARD SCHOOL, MARKET AREA, HUMAN & ANIMAL GATHERING.
71	BBSR-1	NED	PIPILI	PIPILI-1	PIPILI	BAZAR	BANIA SAHI	100	P71	CHILDREN RUSHING TOWARD SCHOOL, MARKET AREA, HUMAN & ANIMAL GATHERING.

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
72	BBSR-1	NED	PIPILI	BHARATIPUR	HARIRAJPUR	KAKUDIA	ANATAPUR	100	P72	HUMAN & ANIMAL GATHERING PLACES
73	BBSR-1	NED	PIPILI	BHARATIPUR	PIPILI	PIPILI BAZAR	KHANDIMANGALAPUR-3	100	P73	HUMAN & ANIMAL GATHERING PLACES
74	BBSR-1	NED	PIPILI	BHARATIPUR	PIPILI	PIPILI BAZAR	BANTALASINGH	100	P74	HUMAN & ANIMAL GATHERING PLACES
75	BBSR-1	NED	PIPILI	BALIPATNA	BALIPATNA	NARODA	DALAKASOTI	100	P75	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
76	BBSR-1	NED	PIPILI	PIPILI-2	PIPILI	MANGALPUR	MALIKAPALI	100	P76	Near Temple, Devotees gathering area.
77	BBSR-1	NED	Pipili	Bharatipur	BHARATIPUR	11 kV Sadamgoi	CHAINPUR(BEHERASAHI)	100	P77	Close to main road & in very dangerous position.
78	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV GOP	BANIA SAHI	100	P78	SOCIAL MEDIA TWEET CASE, CROWDED PLACE OVER KONARK MAIN ROAD
79	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV GOP	PETROLPUMP	100	P79	SOCIAL MEDIA TWEET CASE, CROWDED PLACE OVER KONARK MAIN ROAD
80	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV BEGUNIA	BALIKANDAL	100	P80	SOCIAL MEDIA TWEET CASE, CROWDED PLACE OVER KONARK MAIN ROAD
81	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV PAYARA	JAMARA MAHAVIR	100	P81	DY CM GRIEVANCE, NEAR PLAY GROUND, CHILDREN GATHERING AREA
82	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV PAYARA	SORISIPADA	100	P82	NEAR AW CENTRE, 1 CHILD MET ACCIDENT ALREADY IN 2019
83	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV GOP	KUSUPUR PATANA	100	P83	TWEET CASE/ ROAD HEIGHTENING.
84	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV PAYARA	BASUDEIPUR	100	P84	TWEET CASE, INSIDE MAIN VILLAGE RESIDENTIAL AREA.
85	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	OMFED	REGIONAL COLLEG	100	P85	STUDENT GATHERING AREA, CROWDED PLACE
86	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	BASANTAMALA	DENUABASTA	100	P86	Adjacent to main Road. Crowded place.
87	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	NIMAPADA GOP	PATAPUR HATA SAHI	100	P87	NEAR MARKET AREA, ADJACENT TO ROAD, CROWDED PLACE
88	BBSR-1	NED	KAKATPUR	ASTARANGA	ASTARANGA	SUNDARA	RAMCHANDRAPUR	63	P88	NEAR KUHUDI UP SCHOOL, HIGHLY UNSAFE FOR CHILDREN DUE TO FUSE SECTION.
89	BBSR-1	NED	PIPILI	PIPILI-2	PIPILI	MANGALPUR-1	DHANPUR AWC	63	P89	Anganwari kendra , Children gathering area.
90	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV GOP	CHANDMAHALA	63	P90	SOCIAL MEDIA TWEET CASE, CROWDED PLACE OVER KONARK MAIN ROAD
91	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV PAYARA	PAYARA	63	P91	NEAR PAYARA SCHOOL, CHILDREN CROWDED PLACE.
92	BBSR-1	NED	NIMAPADA	NIMAPADA-1	ABHAYAMUKHI	ABHAYAMUKHI	SIRIPARI	100	P92	NEAR ANGANWADI CENTRE, CHILDREN GATHERING SPOT
93	BBSR-1	NED	NIMAPARA	GOP	GOP	11 KV BEGUNIA	TARINI CHHAKA	25	P93	NEAR ODIHA ADARSH VIDYALAY, TWEETER (X) CASE
94	BBSR-1	NED	NIMAPADA	KONARK	KONARK	DASABATIA	BIRIPADA	63	P94	GRIEVANCE REF:- C325668 -@Biswaranjnayak
95	BBSR-1	NED	KAKATPUR	KAKATPUR-2	SADA AMARAPRASA	NAYAHAT	PATRA SAHI	100	P95	GRIEVANCE REF :- C30758 -Bisaranj nayak
96	BBSR-1	NED	NIMAPADA	NIMAPADA-1	NIMAPADA	CHARICHHAKA	ANSALO CHHAKA	25	P96	GRIEVANCE REF:- C359783 - Ssssk908
97	BBSR-1	NED	NIMAPADA	NIMAPADA-2	DANDIPUR	ALANDA	TORIABANDHA	100	P97	GRIEVANCE REF:- C296941 - BinayakumarNa17
98	BBSR-1	NED	PIPILI	PIPILI-1	TRYACHUTA NAGAR	MUKUNDASPUR	BIANLA PRUSTY SAHI	25	P98	GRIEVANCE REF:- C385291, @Barun Kanhar
99	BBSR-1	NED	PIPILI	PIPILI-1	BHODAR	KHELAR BAZAR	KHELAR BAZAR	25	P99	C392895,Mr Bijaya Odia / C392593, Mr Bijaya Odia / URGENTC397386, Mr Bijaya Odia /
100	BBSR-1	NED	NIMAPADA	KONARK	KONARK	ANASARA	MATIAPADA	63	P100	GRIEVANCE REF:- C394514- @Bhagira31434342
101	BBSR-1	BED	RASULGARH	KALPANA-II	LAXMISAGAR	KALPANA-II	HALADIPADIA 200+250	250	P1	High Public movement area
102	BBSR-1	BED	RASULGARH	KALPANA-II	LAXMISAGAR	KALPANA-II	HALADIPADIA 100	100	P2	Fencing Required for safety purpose , Public movement area
103	BBSR-1	BED	RASULGARH	KALPANA-II	LAXMISAGAR	RMU-15	BUDHESWARI 69 100	100	P3	Fencing Required for safety purpose , Public movement area
104	BBSR-1	BED	RASULGARH	KALPANA-II	LAXMISAGAR	RMU-15	BUDHESWARI 84 200	200	P4	Fencing Required for safety purpose
105	BBSR-1	BED	RASULGARH	KALPANA-1	KALPANA ODSSP	CUTTACK ROAD	MUSUM FLAT S/S-18,	500	P5	High Public movement area
106	BBSR-1	BED	RASULGARH	KALPANA-1	KALPANA ODSSP	KALPANA FLAT	PARTITAPAWANA	500	P6	High Public movement area
107	BBSR-1	BED	RASULGARH	KALPANA-1	KALPANA ODSSP	KALPANA FLAT	NILA KANTHA NAGAR	100	P7	Fencing Required for safety purpose , Public movement area
108	BBSR-1	BED	RASULGARH	KALPANA-1	KALPANA ODSSP	KALPANA FLAT	LAXMI VIHAR 500+250	500	P8	High Public movement area
109	BBSR-1	BED	RASULGARH	KALPANA-1	KALPANA ODSSP	KALPANA FLAT	CENAL ROAD 250Kva	250	P9	High Public movement area
110	BBSR-1	BED	RASULGARH	KALPANA-1	LAXMISAGAR PSCC	RMU-16	PANABARAZA250Kva	250	P10	High Public movement area
111	BBSR-1	BED	RASULGARH	KALPANA-1	LAXMISAGAR PSCC	RMU-16	CHINTA MANI SWAR	500	P11	High Public movement area
112	BBSR-1	BED	Temple	Uttara	Siula	Patasanipur	Aruha Majhi sahi 100kva	100	P12	Fencing Required for safety purpose , Public movement area
113	BBSR-1	BED	Temple	Uttara	Uttara	kausalyaganga	basasan Melanpadia 100k	100	P13	Fencing Required for safety purpose , Public movement area
114	BBSR-1	BED	Temple	Uttara	Uttara	sardeipur	Uttara bazar 500kva	500	P14	High Public movement area
115	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	alinga Ashoka Vihar 250kv	250	P15	High Public movement area
116	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	Itipur Bali 100kva	100	P16	Fencing Required for safety purpose , Public movement area
117	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	Bikipur 100kva	100	P17	Fencing Required for safety purpose , Public movement area
118	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	Uttara Balisahi 100kva	100	P18	Fencing Required for safety purpose , Public movement area
119	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	abu Mohanty uttara 100k	100	P19	Fencing Required for safety purpose , Public movement area
120	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	Dhauli chhaka 100kva	100	P20	Fencing Required for safety purpose , Public movement area
121	BBSR-1	BED	Temple	Uttara	Siula	Jaishipatana	aishpatana chhaka 100kv	100	P21	Fencing Required for safety purpose , Public movement area
122	BBSR-1	BED	Temple	Uttara	Siula	Laxminarayanpur	Sangalei canal side 100kv	100	P22	Fencing Required for safety purpose , Public movement area
123	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	Jaipur 250kva	250	P23	High Public movement area
124	BBSR-1	BED	Temple	Uttara	Siula	Jaishipatana	Baligadia 100kva	100	P24	Fencing Required for safety purpose , Public movement area
125	BBSR-1	BED	Temple	Uttara	Uttara	Dhauli	OTDC Bus stand 100kva	100	P25	Fencing Required for safety purpose , Public movement area
126	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	LAXMISAGAR OH	STAGE 5 500	500	P26	High Public movement area
127	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	LAXMISAGAR OH	SANTI NAGAR CAPEX	250	P27	High Public movement area
128	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	LAXMISAGAR UG	NEW BOMIKHAL 2	250	P28	High Public movement area
129	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	LAXMISAGAR UG	NEAR SHYAM	100	P29	Fencing Required for safety purpose , Public movement area
130	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	LAXMISAGAR UG	JAGANNATH NAGAR	250	P30	High Public movement area
131	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	MANGARAJ POINT	MAHADEV NAGAR	100	P31	Fencing Required for safety purpose , Public movement area
132	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	RMU 14	RAILWAY TRAC 2 250	250	P32	High Public movement area
133	BBSR-1	BED	RASULGARH	LAXMISAGAR	LAXMISAGAR	MANGARAJ POINT	MUMTAZ BEGUM 250	250	P33	High Public movement area
134	BBSR-1	BED	Temple	OT-1	LINGIPUR	SAKTI NAGAR	JATRA PDAIA	250	P34	High Public movement area
135	BBSR-1	BED	Temple	OT-1	LINGIPUR	SAKTI NAGAR	MANGLA VIHAR	250	P35	High Public movement area
136	BBSR-1	BED	Temple	OT-1	LINGIPUR	SAKTI NAGAR	SAI VIHAR	250	P36	High Public movement area
137	BBSR-1	BED	Temple	OT-1	LINGIPUR	SAKTI NAGAR	SAKTI NAGAR	250	P37	High Public movement area
138	BBSR-1	BED	Temple	OT-3	MULAPDIA	RATH ROAD	GYANA NAGAR	250	P38	High Public movement area
139	BBSR-1	BED	Temple	OT-1	LINGIPUR	INDRA COLONY	NILAKANTHA	500	P39	High Public movement area
140	BBSR-1	BED	Temple	OT-1	LINGIPUR	INDRA COLONY	SASADRI NAGAR	250	P40	High Public movement area
141	BBSR-1	BED	RASULGARH	PHUNKAHARA	NAHARAKANTA	NAHARAKANTA	PATANA	250	P41	High Public movement area
142	BBSR-1	BED	RASULGARH	PHUNKAHARA	NAHARAKANTA	ATALA NH	MATHUS	250	P42	High Public movement area
143	BBSR-1	BED	RASULGARH	PHUNKAHARA	PHULNAKHARA	RE GOVINDPUR	ARADIAPADA	63	P43	Fencing Required for safety purpose

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
144	BBSR-1	BED	RASULGARH	PHUNKAHARA	NAHARAKANTA	NAHARAKANTA	GADASAHI	500	P44	High Public movement area
145	BBSR-1	BED	RASULGARH	PHUNKAHARA	NAHARAKANTA	JAYDEV	HANUMAN SAHI	100	P45	Fencing Required for safety purpose , Public movement area
146	BBSR-1	BED	RASULGARH	PHUNKAHARA	NAHARAKANTA	JAYDEV	BANDHA SAHI	100	P46	Fencing Required for safety purpose , Public movement area
147	BBSR-1	BED	RASULGARH	PHUNKAHARA	NAHARAKANTA	NAHARAKANTA	MUSLIMSAHI	100	P47	Fencing Required for safety purpose , Public movement area
148	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	TALA SAHI	500	P1	TOWN AREA
149	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	OLD BUS STAND	500	P2	TOWN AREA
150	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	OLD MEDICAL ROAD	500	P3	TOWN AREA
151	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 kV RAJA BAZAR	NILACHAKRA MARKET	500	P4	TOWN AREA
152	BBSR-2	KHD	JATANI	JATANI-I	JATANI	1 kV GAJAPATI NAGA	MANGALA MANDIR	500	P5	TOWN AREA
153	BBSR-2	KHD	JATANI	JATANI-I	JATANI	1 kV GAJAPATI NAGA	SAI BABA TEMPLE	500	P6	TOWN AREA
154	BBSR-2	KHD	JATANI	JATANI-II	TANI NUAGAON ODS	11 kV Nuagaon	BUS STAND-2	500	P7	TOWN AREA
155	BBSR-2	KHD	JATANI	JATANI-II	JATANI	1 kV JATANI MEDICA	MEDICAL	500	P8	TOWN AREA
156	BBSR-2	KHD	JATANI	JATANI-II	JATANI	11 kV JATNI TOWN	SRIRAM NAGAR	500	P9	TOWN AREA
157	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV BANKI TOWN	TPCODL OFFICE FRONT	500	P10	TOWN AREA
158	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV BANKI TOWN	MAHADEV PENDAL	500	P11	TOWN AREA
159	BBSR-2	KHD	BANKI	BANKI-II	TULASIPUR	kV TULASIPUR FEED	TULASIPUR	500	P12	TOWN AREA
160	BBSR-2	KHD	BANKI	BANKI-III	JATAMUNDIA	11 kV RAMACHANDI	GAYALABANKA VILLAGE	500	P13	TOWN AREA
161	BBSR-2	KHD	BANKI	BANKI-III	JATAMUNDIA	11 kV RAMACHANDI	BANARA VILLAGE	500	P14	TOWN AREA
162	BBSR-2	KHD	BANKI	BANKI-III	JATAMUNDIA	11 kV RAMACHANDI	KUAMADA VILLAGE	500	P15	TOWN AREA
163	BBSR-2	KHD	BEGUNIA	BEGUNIA	BEGUNIA	11 kV BEGUNIA	VETENARY	500	P16	TOWN AREA
164	BBSR-2	KHD	BEGUNIA	RAJSUNAKHALA	RAJSUNAKHALA	11 kV SUNAKHELA	AJSHUNAKALA BUS STAN	500	P17	TOWN AREA
165	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	PALTAN PADIA-1	250	P18	TOWN AREA
166	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	LAXMINA RAYANA	250	P19	TOWN AREA
167	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	KALI CHHAKA	250	P20	TOWN AREA
168	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	DEWAN SAHI	250	P21	TOWN AREA
169	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	HOUSING BOARD 2	250	P22	TOWN AREA
170	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	11 kV GURUJANGA	BRIGADIER SCHOOL	250	P23	TOWN AREA
171	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	VETNARY OFFICE	250	P24	TOWN AREA
172	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	OLD MEDICAL CAMPUS	250	P25	TOWN AREA
173	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	CHRISHTIAN SAHI-1	250	P26	TOWN AREA
174	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	CHRISHTIAN SAHI-2	250	P27	TOWN AREA
175	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	PWD IB BANGLO	250	P28	TOWN AREA
176	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	MANGALA NAGAR 5TH LAN	250	P29	TOWN AREA
177	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	HMT WATCH CO	250	P30	TOWN AREA
178	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	SAGUAN BAGICHA-2	250	P31	TOWN AREA
179	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	S STAND IN FRONT ADARS	250	P32	TOWN AREA
180	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	LIABADI SADAR THANA R	250	P33	TOWN AREA
181	BBSR-2	KHD	KHORDHA	KHORDHA -I	10-POLE	kV KHORDHA TOWN	NEAR BHALIABADI SCHOO	250	P34	TOWN AREA
182	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 kV KUSUMATI	JAGANNATH MANDIR BACK S	250	P35	TOWN AREA
183	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 kV RAJA BAZAR	LAXMI NARAYAN MANDIR	250	P36	TOWN AREA
184	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 kV RAJA BAZAR	BAPINA PATI	250	P37	TOWN AREA
185	BBSR-2	KHD	JATANI	JATANI-I	JATANI	1 kV GAJAPATI NAGA	SUDAN NAGAR STAFF QU	250	P38	TOWN AREA
186	BBSR-2	KHD	JATANI	JATANI-I	JATANI	1 kV GAJAPATI NAGA	NEAR SAI BABA TEMPLE -	250	P39	TOWN AREA
187	BBSR-2	KHD	JATANI	JATANI-II	TANI NUAGAON ODS	11 kV Nuagaon	NUAGAON MASANI	250	P40	TOWN AREA
188	BBSR-2	KHD	JATANI	JATANI-II	TANI NUAGAON ODS	11 kV Nuagaon	BUS STAND-1	250	P41	TOWN AREA
189	BBSR-2	KHD	JATANI	JATANI-II	TANI NUAGAON ODS	11 kV Nuagaon	BLOCK CHHAKA	250	P42	TOWN AREA
190	BBSR-2	KHD	JATANI	JATANI-II	TANI NUAGAON ODS	11 kV Badatota	OUPUR NEAR SARAT PAIK	250	P43	TOWN AREA
191	BBSR-2	KHD	JATANI	JATANI-II	JATANI	1 kV JATANI MEDICA	GOPABANDHU NAGAR	250	P44	TOWN AREA
192	BBSR-2	KHD	JATANI	JATANI-II	TANI NUAGAON ODS	11 kV BHINPUR	UPARABASTA-2	250	P45	TOWN AREA
193	BBSR-2	KHD	JATANI	JANALA	JANLA	11 kV MADANPUR	MADANPUR VILLAGE	250	P46	TOWN AREA
194	BBSR-2	KHD	JATANI	JANALA	JANLA	11 kV OIL MILL-1	RADHA CHARANAPUR	250	P47	TOWN AREA
195	BBSR-2	KHD	JATANI	JANALA	JANLA	11 kV OIL MILL-1	BHATAKHUDI-1	250	P48	TOWN AREA
196	BBSR-2	KHD	JATANI	JANALA	JANLA	11 kV OIL MILL-1	BHATAKHUDI-2	250	P49	TOWN AREA
197	BBSR-2	KHD	JATANI	JANALA	CHHATABAR ODSSP	11 kV PANIORA	HATABARA MANGAL MAN	250	P50	TOWN AREA
198	BBSR-2	KHD	JATANI	JANALA	MENDHASALA) ODSS	11 kV MENDHASAL-2	MENDHASALA-1	250	P51	TOWN AREA
199	BBSR-2	KHD	JATANI	JANALA	MENDHASALA) ODSS	11 kV MENDHASAL-2	MENDHASALA-2	250	P52	TOWN AREA
200	BBSR-2	KHD	JATANI	HARIRAJPUR	HARIRAJPUR	11 kV KAKUDIA	KAKUDIYA VILLAGE	250	P53	TOWN AREA
201	BBSR-2	KHD	JATANI	HARIRAJPUR	HARIRAJPUR	11 kV KANTIA	RATHIPUR MUSLIM SAHA	250	P54	TOWN AREA
202	BBSR-2	KHD	KHORDHA	KHORDHA -II	GURUJANGA	11 kV HALADIA	PRADHAN SAHI	250	P55	TOWN AREA
203	BBSR-2	KHD	KHORDHA	KHORDHA -IV	DADHIMACHAGADIA	11 kV BAJPUR	NANDAPUR	250	P56	TOWN AREA
204	BBSR-2	KHD	KHORDHA	KHORDHA -IV	DADHIMACHAGADIA	11 kV BAJPUR	BAJAPUR	250	P57	TOWN AREA
205	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV BANKI TOWN	KHAMARANGA	250	P58	TOWN AREA
206	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV BANKI TOWN	K. BIDYAPITHA PLAYGROU	250	P59	TOWN AREA
207	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV BANKI TOWN	MLA QUARTER BACK SIDE	250	P60	TOWN AREA
208	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV BANKI TOWN	NAC BANKI	250	P61	TOWN AREA
209	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV BANKI TOWN	BANKI COLLEGE-2	250	P62	TOWN AREA
210	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV CHAKAPADA	SIMILIPUR NADIKULA SAH	250	P63	TOWN AREA
211	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV CHAKAPADA	SISUA-2	250	P64	TOWN AREA
212	BBSR-2	KHD	BANKI	BANKI-II	TULASIPUR	kV TULASIPUR FEED	RICE MILL, PALASUNI	250	P65	TOWN AREA
213	BBSR-2	KHD	BANKI	BANKI-II	TULASIPUR	kV TULASIPUR FEED	NARGANGA HADISAHI-1	250	P66	TOWN AREA
214	BBSR-2	KHD	BANKI	BANKI-II	TULASIPUR	kV TULASIPUR FEED	DHANSAR	250	P67	TOWN AREA
215	BBSR-2	KHD	BANKI	BANKI-II	SUNADEIMUNDIA	11 kV BANKI TOWN	PATHAPURU-3	250	P68	TOWN AREA

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
216	BBSR-2	KHD	BANKI	BANKI-II	SUNADEIMUNDIA	11 kV VEDA	KIAPALLA-2	250	P69	TOWN AREA
217	BBSR-2	KHD	BANKI	BANKI-III	JATAMUNDIA	11 kV RAMACHANDI	PARAPATHAPUR VILLAGE	250	P70	TOWN AREA
218	BBSR-2	KHD	BANKI	BANKI-III	JATAMUNDIA	11 kV RAMACHANDI	MARENDRAPUR VILLAGE	250	P71	TOWN AREA
219	BBSR-2	KHD	BANKI	BANKI-III	JATAMUNDIA	11 kV RAMACHANDI	RAMACHANDI VILLAGE	250	P72	TOWN AREA
220	BBSR-2	KHD	BANKI	BANKI-III	JATAMUNDIA	11 kV RAMACHANDI	BHAGIPUR VILLAGE-1	250	P73	TOWN AREA
221	BBSR-2	KHD	BEGUNIA	BEGUNIA	BEGUNIA	11 kV BEGUNIA	NEAR SBI BANK	250	P74	TOWN AREA
222	BBSR-2	KHD	BEGUNIA	KALAPATHAR	KALAPATHAR	11 kV BAIDESWAR	PAIKASAHI	250	P75	TOWN AREA
223	BBSR-2	KHD	BEGUNIA	RAJSUNAKHALA	RAJSUNAKHALA	11 kV SUNAKHELA	OWN MEDICAL	250	P76	TOWN AREA
224	BBSR-2	KHD	BEGUNIA	RAJSUNAKHALA	RAJSUNAKHALA	11 kV SUNAKHELA	MEDICAL CHHACK	250	P77	TOWN AREA
225	BBSR-2	KHD	BEGUNIA	RAJSUNAKHALA	RAJSUNAKHALA	11 kV BANKOI	PANNAGAR	250	P78	TOWN AREA
226	BBSR-2	KHD	JANKIA	NIRAKARPUR	JANKIA	11 kV NIRAKARPUR-2	SANI MANDIR SAHI	250	P79	TOWN AREA
227	BBSR-2	KHD	BANKI	BANKI-I	SUNADEIMUNDIA	11 kV CHAKAPADA	SISUA BALI SAHI	200	P80	TOWN AREA
228	BBSR-2	KHD	BEGUNIA	KALAPATHAR	KALAPATHAR	11 kV KALAPATHAR	GOLEIC HOWK	200	P81	TOWN AREA
229	BBSR-2	KHD	JANKIA	NIRAKARPUR	BALIPODA	11 kV NIRAKARPUR-1	PHED 90	200	P82	TOWN AREA
230	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 kV BACHHARA	PODAPADA	100	P83	TOWN AREA
231	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 kV BACHHARA	HARIPUR	100	P84	TOWN AREA
232	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 kV BACHHARA	CHARCH	100	P85	TOWN AREA
233	BBSR-2	KHD	JATANI	JATANI-I	JATANI	11 KV KUSUMATI	TARINI MANDIR BACK SID	100	P86	TOWN AREA
234	BBSR-2	NYED	ITAMATI	ITAMATI-1	ITAMATI	ITAMATI	KRUSHNAPRASAD 100 KVA	100	P1	PEOPLE GATHERING AREA
235	BBSR-2	NYED	ITAMATI	ITAMATI-1	ITAMATI	ITAMATI	MOHANTY SAHI 63 KVA	63	P2	PEOPLE GATHERING AREA
236	BBSR-2	NYED	ITAMATI	ITAMATI-1	LATHIPADA	RAJPATNA	PATNA 100 KVA(TALAPAT	100	P3	ROAD SIDE
237	BBSR-2	NYED	ITAMATI	ITAMATI-1	LATHIPADA	RAJPATNA	KALIKAPRASAD 100 KVA	100	P4	ROAD SIDE
238	BBSR-2	NYED	ITAMATI	ITAMATI-1	LATHIPADA	LATHIPADA	DERASAHI 100 KVA	100	P5	ROAD SIDE
239	BBSR-2	NYED	ITAMATI	ITAMATI-1	LATHIPADA	GAMBHARIDIHI	NANDAPUR 100 KVA	100	P6	ROAD SIDE
240	BBSR-2	NYED	ITAMATI	ITAMATI-1	ITAMATI	LATHIPADA-1	PRATAPPRASAD 250 KVA	250	P7	PEOPLE GATHERING AREA
241	BBSR-2	NYED	ITAMATI	ITAMATI-1	ITAMATI	LATHIPADA-1	NUAGHADUAL 250 KVA	250	P8	TOWN AREA
242	BBSR-2	NYED	NAYAGARH	SARANKUL-2	GODIPADA	DAMASAHI	MALISAHI(UPERSAHI)	100	P9	Grievance in Social Media
243	BBSR-2	NYED	KHANDAPADA	KHANDAPADA	KHANDAPADA	KHANDAPADA	KUNDURA SAHI	100	P10	Grievance in Social Media
244	BBSR-2	NYED	DASPALLA	GANIA	GANIA	GANIA	KUMBHARPADA	63	P11	Grievance in Social Media
245	BBSR-2	NYED	DASPALLA	GANIA	GANIA	BALARAMPRASAD	SIDHAMULA-3	63	P12	Grievance in Social Media
246	BBSR-2	NYED	NAYAGARH	SARANKUL-2	GODIPADA	KESHPANIA	KUMANDA	100	P13	Grievance in Social Media
247	BBSR-2	NYED	NAYAGARH	NAYAGARH	NAYAGARH	NAYAGARH	SIBAJI NAGAR	500	P14	Public Gathering Area
248	BBSR-2	NYED	NAYAGARH	PERIPHERY	PANIPOILLA	MALISAHI	JEMADEIPUR	100	P15	Temple Area and Beside the School
249	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	SHYAMSUNDARPUR	BARHMPURA	100	P16	Public Gathering Area
250	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	SHYAMSUNDARPUR	TANGISAHI	250	P17	Public Gathering Area
251	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	BOLAGARH	RAJAPADIA	63	P18	ROAD SIDE High Public Movement
252	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	BOLAGARH	BANDHAHUDA	63	P19	ROAD SIDE High Public Movement
253	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	KAPASIA	ARAKHAPALI	250	P20	ROAD SIDE
254	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	KAPASIA	ROLASINGH	100	P21	ROAD SIDE
255	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	KHANGURIA	KHANGURIA	100	P22	ROAD SIDE
256	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	KHANGURIA	SAMPUR	250	P23	Temple Area and Beside the School
257	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	DIBYASINGHAPUR	KALANGA-1	100	P24	Public Gathering Area
258	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	DIBYASINGHAPUR	KALANGA-2	100	P25	Public Gathering Area
259	BBSR-2	NYED	ITAMATI	BOLAGARH	BOLAGARH	DIBYASINGHAPUR	DIBYASINGHAPUR	100	P26	Temple Area and Beside the School
260	PARADEEP	KED-1	AUL	OLAVER	BALARAMPUR	DASIPUR	NUAPADA	100	P1	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
261	PARADEEP	KED-1	AUL	OLAVER	BALARAMPUR	HATASAHI	PEGARPADA	100	P2	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
262	PARADEEP	KED-1	AUL	OLAVER	BALARAMPUR	DASIPUR	NAMATAR MASANI	100	P3	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
263	PARADEEP	KED-1	AUL	OLAVER	BALARAMPUR	DASIPUR	NAMATARA UPARABANDA	100	P4	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
264	PARADEEP	KED-1	AUL	AUL	AUL	AUL	KANTIPUR	100	P5	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
265	PARADEEP	KED-1	AUL	AUL	AUL	AUL	PADANPUR	250	P6	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
266	PARADEEP	KED-1	AUL	AUL	AUL	AUL	BALISAHI	100	P7	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
267	PARADEEP	KED-1	AUL	AUL	AUL	AUL	KALAPAHADA	100	P8	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
268	PARADEEP	KED-1	AUL	AUL	AUL	AUL	RUKMANI TEMPLE	100	P9	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
269	PARADEEP	KED-1	AUL	AUL	AUL	AUL	BALAKATI (BALI)	100	P10	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
270	PARADEEP	KED-1	AUL	AUL	AUL	AUL	RANIPOKHARI	100	P11	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
271	PARADEEP	KED-1	AUL	AUL	AUL	AUL	BILUASAHI	100	P12	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
272	PARADEEP	KED-1	AUL	AUL	AUL	AUL	RASULPUR (ATHAKANIA)	100	P13	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
273	PARADEEP	KED-1	AUL	AUL	AUL	AUL	CHAMARKATI	100	P14	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
274	PARADEEP	KED-1	AUL	AUL	AUL	AUL	BADANKO	100	P15	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
275	PARADEEP	KED-1	AUL	AUL	AUL	MENDHAPUR	KALADIA	100	P16	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
276	PARADEEP	KED-1	AUL	AUL	AUL	MENDHAPUR	SAHUPADA	100	P17	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
277	PARADEEP	KED-1	AUL	RAJKANIKA	RAJKANIKA	OLAVER	GOBINDPUR 100KVA	100	P18	NEAR GOVT HIGH SCHOOL
278	PARADEEP	KED-1	AUL	RAJKANIKA	RAJKANIKA	OLAVER	ASHOK BAZAR-1, 100KVA	100	P19	NEAR SBI &MARKET AREA
279	PARADEEP	KED-1	AUL	RAJKANIKA	RAJKANIKA	OLAVER	ASHOK BAZAR-2, 100KVA	100	P20	NEAR MAIN ROAD
280	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	PATTAMUNDAI	BALIPATNA	KHDIPAL100	100	P21	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
281	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	PATTAMUNDAI	BALIPATNA	UPER BALIPATNA 100	100	P22	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
282	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	PATTAMUNDAI	BALIPATNA	BALIPATNA100	100	P23	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
283	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	PATTAMUNDAI	BALIPATNA	MOINIDEVI100	100	P24	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
284	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	CHOUDAKULAT	CHOUDAKULAT	MUSADIA 100	100	P25	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
285	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	CHOUDAKULAT	CHOUDAKULAT	KESPUR100	100	P26	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
286	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	GOGUA	DOBANDHA	GOGUA 100	100	P27	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
287	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	GOGUA	NAPANGA	GANDAKULA 100	100	P28	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
288	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	GOGUA	NAPANGA	KATARAMALLA 100	100	P29	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
289	PARADEEP	KED-1	PATTAMUNDAI	DANDISAHI	GOGUA	NAPANGA	BANDHASAHI100	100	P30	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
290	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TOWN-1	RANAPADAMASANI	250	P31	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
291	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TINIMUHANI	ALIJANGA	250	P32	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
292	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TOWN-3	HANUMAN TENPLE	250	P33	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
293	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TINIMUHANI	ALIBASTI	250	P34	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
294	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TINIMUHANI	PANCHAYAT	250	P35	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
295	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	BLOCK	TV CENTER	250	P36	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
296	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TOWN-2	LIC COLONY	250	P37	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
297	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TINIMUHANI	KHAIRABAD	250	P38	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
298	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TOWN-1	JAYAPURA	250	P39	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
299	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TOWN-2	JAMIA	250	P40	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
300	PARADEEP	KED-1	KENDRAPADA	NO1 KPD	KENDRAPADA	TINIMUHANI	JOSEPH SCHOOL	250	P41	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
301	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	GOPALPUR	100	P42	ROADSIDE ,Children playing area
302	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	BELARI	250	P43	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
303	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	RAISARPUR	100	P44	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
304	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	MANIKAPATNA	100	P45	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
305	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	GOPALJEWPATNA	100	P46	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
306	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	RAMBHILA	100	P47	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
307	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	NALADIA	100	P48	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
308	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	NARENDRAPUR	100	P49	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
309	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	BATIPADA	SORISADA	100	P50	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
310	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	PANDARASILA	100	P51	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
311	PARADEEP	KED-1	PATTAMUNDAI	PATRAPUR	PATRAPUR	DASIPUR	AREHIKANA	100	P52	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
312	PARADEEP	KED-1	Pattamundai	DANDISAHI	DANDISAHI	DANDISAHI	DANDI UPER 100	100	P53	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
313	PARADEEP	KED-1	Pattamundai	DANDISAHI	DANDISAHI	DANDISAHI	ghagaradia 100	100	P54	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
314	PARADEEP	KED-1	Pattamundai	DANDISAHI	DANDISAHI	DANDISAHI	tulasidaia 100alapua 100	100	P55	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
315	PARADEEP	KED-1	Pattamundai	DANDISAHI	DANDISAHI	DANDISAHI	damodarpatna 100	100	P56	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
316	PARADEEP	KED-1	Pattamundai	DANDISAHI	DANDISAHI	DANDISAHI	gopalpur 100	100	P57	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
317	PARADEEP	KED-1	Pattamundai	DANDISAHI	DANDISAHI	DANDISAHI	MAHALKAN 100	100	P58	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
318	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Chhata	Jagulaipada	100	P59	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
319	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Chhata	Balia	250	P60	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
320	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Chhata	Dumukahat	100	P61	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
321	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Chhata	Dumukahat panda sahi	100	P62	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
322	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Panchu pandav	L.N. Pur-1	100	P63	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
323	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Panchu pandav	Chhachina	100	P64	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
324	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Panchu pandav	Panapadia	100	P65	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
325	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Panchu pandav	S.S. Pur	100	P66	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
326	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Panchu pandav	Ender	100	P67	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
327	PARADEEP	KED-1	Kendrapada	Chhata	Chhata	Chhata	Basanti	100	P68	OVER ROAD, UNSAFE FOR ANIMAL & HUMAN MOVEMENT
328	CUTTACK	CDD-1	CDA-6	BIDANASI	SECTOR-3	TULASIPUR 1	SOUCHALAYA	250	P1	High Public movement area
329	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	BUXIBAZAR	BADESAHI	100	P2	Fencing Required for safety purpose , Public movement area
330	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	AIRCEL	25	P3	VVIP AREA, Traffic Movement
331	CUTTACK	CDD-1	KALINGA	CHANDINICHOWK	KALINGA	CANTONMENT-2	DURGABHAWAN	500	P4	MARKET AREA & VERY UNSAFE,ADJACENT TO ROAD
332	CUTTACK	CDD-1	SISHUBHAWAN	CITY	OLD JAIL	CITY	NAYASARAK-500	500	P5	High Public movement area
333	CUTTACK	CDD-1	RANIHAT	COLLEGE SQUARE	JOBRA	COLLEGE SQUARE UG	TARINI TEMPLE-+200KVA	250	P6	UNSAFE CONDITION NEAR REVENSHAW GATE
334	CUTTACK	CDD-1	SISHU BHAWAN	GANESH GHAT	SISHUBHAWAN	HIGH COURT	DEO OFFICE	250	P7	High Public movement area
335	CUTTACK	CDD-1	SISHUBHAWAN	KAZIBAZAR	DRDA	KAZIBAZAR	SOUCHALAYA-	250	P8	High Public movement area
336	CUTTACK	CDD-1	RANIHAT	RANIHAT-1	MEDICAL	RANIHAT	BHARAT SALT	250	P9	ALL MENTIONED HIGH PRIORITY CASES HIGH PUBLIC MOVEMENT URGENTLY NEEDED
337	CUTTACK	CDD-1	RANIHAT	RANIHAT-2	MEDICAL	MEDICAL-1	WASTAGE PLANT	500	P10	ROAD SIDE
338	CUTTACK	CDD-1	KALINGA	TKB	KALINGA	CHB 2	TKB OFFICE 500 KVA	500	P11	High Public movement area
339	CUTTACK	CDD-1	SISHUBHAWAN	TOWN HALL	SISHUBHAWAN	PURIGHAT	PURIGHAT	500	P12	High Public movement area
340	CUTTACK	CDD-1	VI CDA	TULASIPUR	SECTOR-3	TULASIPUR-1	NIRAMAL GALI	100	P13	Fencing Required for safety purpose , Public movement area
341	CUTTACK	CDD-1	CDA-6	BIDANASI	SECTOR-3	BIDANASI 1	SUBHADRA NAGAR	500	P14	High Public movement area
342	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	BUXIBAZAR	NAGANLANE	100	P15	Fencing Required for safety purpose , Public movement area
343	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	MEDICAL BACK SIDE	250	P16	VVIP AREA
344	CUTTACK	CDD-1	KALINGA	CHANDINICHOWK	SISHUBHAWAN	CHANDINICHOWK	KAFLA	500	P17	NEAR POLICE STN & UNSAFE
345	CUTTACK	CDD-1	SISHUBHAWAN	CITY	OLD JAIL	HATIPOKHARI	PEYTON SAHI-500	500	P18	High Public movement area
346	CUTTACK	CDD-1	SISHUBHAWAN	KAZIBAZAR	OLDJAIL	CITY	GANGAMANDIRA-1,2	500	P19	High Public movement area
347	CUTTACK	CDD-1	RANIHAT	RANIHAT-2	MEDICAL	MANGLABAG	RANIHAT OFFICE	500	P20	High Public movement area
348	CUTTACK	CDD-1	KALINGA	TKB	KALINGA	CHB 1	RAUSAPATNA 500	500	P21	High Public movement area
349	CUTTACK	CDD-1	SISHUBHAWAN	TOWN HALL	SISHUBHAWAN	BADAMBADI	KAIVALYA KUTIRA	500	P22	High Public movement area

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
350	CUTTACK	CDD-1	CDA-6	BIDANASI	SECTOR-10	SECTOR-10	HATI GADA	250	P23	High Public movement area
351	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	BUXIBAZAR	BANIASAHI	250	P24	High Public movement area
352	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	KELA PADIA	250	P25	VVIP AREA
353	CUTTACK	CDD-1	KALINGA	CHANDINICHOWK	SISHUBHAWAN	CHANDINICHOWK	CHANDINICHOWK	500	P26	MARKET AREA & VERY UNSAFE,ADJACENT TO ROAD
354	CUTTACK	CDD-1	SISHUBHAWAN	CITY	OLD JAIL	HATIPOKHARI	KADAM RASUL -	250	P27	it is in between kadam rasul masjid premises & the existing fencing having damage condition
355	CUTTACK	CDD-1	SISHUBHAWAN	KAZIBAZAR	KALINGA	CHANDIMANDIRA	KHATBINSAHI 1,2,3	250	P28	High Public movement area
356	CUTTACK	CDD-1	RANIHAT	RANIHAT-2	MEDICAL	OG-1	CARDIOTHORASIC	500	P29	High Public movement area
357	CUTTACK	CDD-1	SISHUBHAWAN	TOWN HALL	SISHUBHAWAN	TOWN HALL	AKULI MISHRA LANE	200	P30	High Public movement area
358	CUTTACK	CDD-1	CDA-6	BIDANASI	SECTOR-10	SECTOR-10	HATI GADA	100	P31	Fencing Required for safety purpose , Public movement area
359	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	BUXIBAZAR	FIRE OFFICE	250	P32	High Public movement area
360	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	BARAGACHHA	250	P33	VVIP AREA
361	CUTTACK	CDD-1	SISHUBHAWAN	CITY	OLD JAIL	CITY	KATHAGADA SAHI-500 KV	500	P34	ADJECENT OF CITY HOSPITAL MAIN GATE,IT IS REQUIRED IN SAFETY GROUND
362	CUTTACK	CDD-1	SISHUBHAWAN	KAZIBAZAR	DRDA	KAZIBAZAR	MAHIDASBAZAR	250	P35	NO BOUNDARY WALL ISHERE
363	CUTTACK	CDD-1	RANIHAT	RANIHAT-2	MEDICAL	MEDICAL-1	NEURO SURGERY	500	P36	High Public movement area
364	CUTTACK	CDD-1	SISHUBHAWAN	TOWN HALL	SISHUBHAWAN	TOWN HALL	PHD OFFICE	250	P37	High Public movement area
365	CUTTACK	CDD-1	CDA-6	BIDANASI	SECTOR-3	BIDANASI 1	STREET LIGHT	25	P38	City Area Heavy traffic
366	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	CB9	LAW HOSTEL500KVA	500	P39	High Public movement area
367	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	BISWAL BACK SIDE	250	P40	VVIP AREA
368	CUTTACK	CDD-1	SISHUBHAWAN	KAZIBAZAR	KALINGA	CHANDI	KHATBINSAHI	250	P41	BOUNDARY WALL IS BROKEN
369	CUTTACK	CDD-1	RANIHAT	RANIHAT-2	MEDICAL	MEDICAL-2	RDC,MRI CT SCAN	500	P42	High Public movement area
370	CUTTACK	CDD-1	SISHUBHAWAN	TOWN HALL	SISHUBHAWAN	TOWN HALL	SAHID BHAWAN	250	P43	High Public movement area
371	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	CB9	CB6	250	P44	High Public movement area
372	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	MIG	250	P45	VVIP AREA
373	CUTTACK	CDD-1	SISHUBHAWAN	KAZIBAZAR	DRDA	KAZIBAZAR	GANGAMANDIR 500 KVA	500	P46	High Public movement area
374	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	CB9	CB13 63KVA	63	P47	UNSAFE, Public movement area
375	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	MARBLEGADA	250	P48	VVIP AREA
376	CUTTACK	CDD-1	RANIHAT	BUXIBAZAR	MATAMATHA	CB9	CTO COMPOUND	250	P49	High Public movement area
377	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	11KV 67 FEEDER	OAU GACHHA	250	P50	VVIP AREA
378	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	KV SECTOR-08 FEED	HIB TEMPLE PUMP HOUS	250	P51	VVIP AREA
379	CUTTACK	CDD-1	CDA-VI	CDA	CDA-VI	KV SECTOR-09 FEED	IWT	250	P52	VVIP AREA
380	CUTTACK	CDD-1	CDA-VI	CDA	SATICHAURA	V EYE HOSPITAL FEE	POSTAL	250	P53	VVIP AREA
381	CUTTACK	CDD-1	CDA-VI	CDA	SATICHAURA	V EYE HOSPITAL FEE	MACHHA MARKET	250	P54	VVIP AREA
382	CUTTACK	CDD-1	CDA-VI	CDA	SECTOR-13	KV SECTOR-13 FEED	TB BISWAL	500	P55	VVIP AREA
383	CUTTACK	CDD-1	CDA-VI	CDA	SECTOR-13	KV SECTOR-13 FEED	HANUMAN TEMPLE	250	P56	VVIP AREA
384	CUTTACK	CDD-1	CDA-VI	CDA	SECTOR-13	KV SECTOR-13 FEED	PHASE-II	500	P57	VVIP AREA
385	CUTTACK	AED	Athagarh	Khuntuni	Khuntuni	Mahalaxmipur	Khuntuni Harijansahi	250	P1	Elephant Movement Area, safety Point of view Public and Animal Fancing Required.
386	CUTTACK	AED	Athagarh	Khuntuni	Narangabasta	Mancheswar	Bidyadharpur	250	P2	Elephant Movement Area, safety Point of view Public and Animal Fancing Required.
387	CUTTACK	AED	Athagarh	Khuntuni	Gurudijhatia	Gurudijhatia Local	Bali 2	250	P4	Elephant Movement Area, safety Point of view Public and Animal Fancing Required.
388	CUTTACK	AED	Athagarh	Khuntuni	Narangabasta	Narangabasta Megha	Kakhadi Mangala Sahi	500	P5	Elephant Movement Area, safety Point of view Public and Animal Fancing Required.
389	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Athagarh	Dorada	Dorada	250	P6	Road Side DTR safety Point of view Public and Animal Fancing Required.
390	CUTTACK	AED	Athagarh	Kanpur	Kanpur	Kanpur	Kanjiapada	250	P7	Road Side DTR safety Point of view Public and Animal Fancing Required.
391	CUTTACK	AED	Athagarh	Kanpur	Kanpur	Kanpur	Manapur	250	P8	Road Side DTR safety Point of view Public and Animal Fancing Required.
392	CUTTACK	AED	Athagarh	Kanpur	Kanpur	Baselihata	Baselihata	250	P9	Road Side DTR safety Point of view Public and Animal Fancing Required.
393	CUTTACK	AED	Narsinghpur	Badamba	Gopapur	BHATTARIKA	GAMEI	250	P93	Elephant Movement (Joint Petrolling With Forest Tem)
394	CUTTACK	AED	Athagarh	Athagarh-2	Tigiria	PANCHAGAON	ACHALAKOTE	250	P95	Elephant Movement (Joint Petrolling With Forest Tem)
395	CUTTACK	AED	Athagarh	Athagarh-2	Khuntakata	GODIJHARIA	GODIJHARIA	250	P96	Elephant Movement (Joint Petrolling With Forest Tem)
396	CUTTACK	AED	Athagarh	NUAPATNA	NUAPATNA	NUAPATNA	GOKHARNKHALA	250	P97	Road Side DTR safety Point of view Public and Animal Fancing Required.
397	CUTTACK	AED	Athagarh	NUAPATNA	NUAPATNA	NUAPATNA	CHANDAN POND	250	P98	Road Side DTR safety Point of view Public and Animal Fancing Required.
398	CUTTACK	AED	Athagarh	Athagarh-2	ATHAGARH	KANTAPANHARA	SOMAPADA	250	P100	Road Side DTR safety Point of view Public and Animal Fancing Required.
399	CUTTACK	AED	Athagarh	Athagarh-2	ATHAGARH	ATHAGARH TOWN	SATHILO	250	P101	Road Side DTR safety Point of view Public and Animal Fancing Required.
400	CUTTACK	AED	Athagarh	Athagarh-2	ATHAGARH	ATHAGARH TOWN	KORONGA	250	P102	Road Side DTR safety Point of view Public and Animal Fancing Required.
401	CUTTACK	AED	Athagarh	Athagarh-2	ATHAGARH	KARIKOLA	MAHAKALABASTA	250	P106	Road Side DTR safety Point of view Public and Animal Fancing Required.
402	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	KARIKOLA	GOPINATHPUR	250	P87	Elephant Movement (Joint Petrolling With Forest Tem)
403	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	KARIKOLA	TARDING	250	P88	Elephant Movement (Joint Petrolling With Forest Tem)
404	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	KARIKOLA	JORANDA	250	P89	Elephant Movement (Joint Petrolling With Forest Tem)
405	CUTTACK	SED	MAHANGA	MAHANGA	MAHANGA	MAHANGA	DSSPUR-2	100	P1	SCHOOLROAD SIDE
406	CUTTACK	SED	SALIPUR	SALIPUR-2	JAPAKUDA	RAMESWAR SOURI	ALIPUR-1	63	P2	ROAD SIDE UNSAFE FOR CHILD AND ANIMALS
407	CUTTACK	SED	SALIPUR	SALIPUR-2	JAPAKUDA	RAMESWAR SOURI	ALIPUR KALI CHAKA	100	P3	MARKET AREA
408	CUTTACK	SED	SALIPUR	SALIPUR-2	JAPAKUDA	RAMESWAR SOURI	OSODA	250	P4	safety, and ensure compliance with electrical safety norms
409	CUTTACK	SED	SALIPUR	SALIPUR-2	JAPAKUDA	RAMESWAR SOURI	SARADA	250	P5	safety, and ensure compliance with electrical safety norms
410	CUTTACK	SED	SALIPUR	SALIPUR-2	JAPAKUDA	RAMESWAR SOURI	PATANA	250	P6	MARKET AREA
411	CUTTACK	SED	SALIPUR	SALIPUR-2	JAPAKUDA	RAMESWAR SOURI	SARADA	63	P7	This SS roadside low-height DSS is proposed to prevent accidental contact with live parts, improve public safety, and ensure compliance with electrical safety norms
412	CUTTACK	SED	N.KOILI	ORIKANTA	ORIKANTA	BILAHATA	Sahani Sahi	63	P8	Road side unsafe
413	CUTTACK	SED	SALIPUR	SALIPUR-1	SALIPUR	NAIGUAN	DURGA MANDIRA ROAD	250	P9	Road side near teample

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
414	CUTTACK	SED	SALIPUR	SALIPUR-1	SALIPUR	NAIGUAN	NAIGUAN-3	100	P10	Road side near teample & R.I office
415	CUTTACK	SED	SALIPUR	SALIPUR-1	SALIPUR	NAIGUAN	BAHABALAPUR-2	63	P11	Main road side
416	CUTTACK	SED	SALIPUR	SALIPUR-1	SALIPUR	NAIGUAN	BAHABALAPUR	63	P12	Road side near teample
417	CUTTACK	SED	SALIPUR	SALIPUR-1	SALIPUR	NAIGUAN	KALAYANPUR	63	P13	Road side near School
418	CUTTACK	SED	SALIPUR	SALIPUR-1	SALIPUR	NAIGUAN	KALAYANPUR-2	63	P14	ROAD SIDE AND PLAY GROUND
419	CUTTACK	SED	SALEPUR	BAHUGRAM	Bahugram 2	Nandol	Bhatapada	250	P15	ROAD SIDE AND PLAY GROUND
420	CUTTACK	SED	SALEPUR	BAHUGRAM	Bahugram 3	Nandol	Nandol gada market	100	P16	S.H ROAD SIDE
421	CUTTACK	SED	SALEPUR	BAHUGRAM	Bahugram 4	Nandol	Nandol Bhoi sahi	63	P17	ROAD SIDE
422	CUTTACK	SED	SALEPUR	BAHUGRAM	Bahugram 2	PATAPUR	PATAPUR BRAHMANASAH	63	P18	ROAD SIDE
423	CUTTACK	SED	SALEPUR	BAHUGRAM	Bahugram 2	PATAPUR	TENTOL	100	P19	ROAD SIDE
424	CUTTACK	SED	SALEPUR	BAHUGRAM	Bahugram 2	PATAPUR	PATAPUR TALA SAHI	63	P20	ROAD SIDE
425	CUTTACK	SED	SALEPUR	BAHUGRAM	Bahugram 2	PATAPUR	PATAPUR	100	P21	ROAD SIDE AND JATRA PADIA
426	CUTTACK	CED	CHOUDWAR	TANGI	TANGI	HARIPUR	Tikara	100	P1	High Public movement area
427	CUTTACK	CED	CHOUDWAR	TANGI	TANGI	MANGULI	Tarato	63	P1	High Public movement area
428	CUTTACK	CED	CHOUDWAR	TANGI	BISWANAKANI	BISWANAHAKANI	Anjua	100	P1	High Public movement area
429	CUTTACK	CED	CHOUDWAR	TANGI	BISWANAKANI	BISWANAHAKANI	Haladibasanta	250	P1	High Public movement area
430	CUTTACK	CED	CHOUDWAR	TANGI	TANGI	HARIPUR	Pramod udyan	100	P1	High Public movement area
431	CUTTACK	CED	CHOUDWAR	TANGI	BISWANAKANI	BISWANAHAKANI	Khandabanda	25	P1	Unsafe Condition , Public Foot Fall area
432	CUTTACK	CED	CHOUDWAR	CHARBATIA	SANKARPUR	SANKARPUR	Diwanipatna	63	P1	High Public movement area
433	CUTTACK	CED	CHOUDWAR	CHARBATIA	CHOUDWAR	CHARBATIA KALINGA	Nanda hat	63	P1	High Public movement area
434	CUTTACK	CED	CHOUDWAR	CHARBATIA	SANKARPUR	BERHAMPUR	Kabarbadi	100	P1	High Public movement area
435	CUTTACK	CED	CHOUDWAR	CHARBATIA	CHOUDWAR	CHARBATIA KALINGA	Umsl	100	P1	High Public movement area
436	CUTTACK	CED	CHOUDWAR	CHARBATIA	SANKARPUR	BERHAMPUR	Shivtemple berhampur	250	P1	High Public movement area
437	CUTTACK	CED	CHOUDWAR	CHOUDWAR	CHHATISA	KUSPANGI	Nuapatna	63	P1	High Public movement area
438	CUTTACK	CED	CHOUDWAR	CHOUDWAR	CHHATISA	KUSPANGI	Baula	100	P1	High Public movement area
439	CUTTACK	CED	CHOUDWAR	CHOUDWAR	CHHATISA	KUSPANGI	Baula (Near Dibakar Biswa	100	P1	High Public movement area
440	CUTTACK	CED	CHOUDWAR	CHOUDWAR	CHOUDWAR	CITY BARRAGE	Jenapatana	250	P1	High Public movement area
441	CUTTACK	CED	CHOUDWAR	CHOUDWAR	CHOUDWAR	CITY BARRAGE	Godipatana	250	P1	High Public movement area
442	CUTTACK	CED	BADACHANA	CHHATIA	CHHATIA	KADHEI	Chuapadia	100	P1	High Public movement area
443	CUTTACK	CED	BADACHANA	CHHATIA	CHHATIA	CHHATIA	Nanda Sahi	100	P1	High Public movement area
444	CUTTACK	CED	BADACHANA	CHHATIA	CHHATIA	CHHATIA	Sapanpur	250	P1	High Public movement area
445	CUTTACK	CED	BADACHANA	CHHATIA	CHHATIA	CHHATIA	PP Mandap	100	P1	High Public movement area
446	CUTTACK	CED	BADACHANA	CHHATIA	CHHATIA	KADHEI	Amarabatipatna	100	P1	High Public movement area
447	CUTTACK	CED	BADACHANA	BALICHANDRAPUI	BALICHANDRAPUR	BANDARESWARA	Palei Near Grid	100	P1	High Public movement area
448	CUTTACK	CED	BADACHANA	BALICHANDRAPUI	BALICHANDRAPUR	BANDARESWARA	Olasuni	100	P1	High Public movement area
449	CUTTACK	CED	BADACHANA	BALICHANDRAPUI	BALICHANDRAPUR	BANDARESWARA	Damarpadia	63	P1	High Public movement area
450	CUTTACK	CED	BADACHANA	BALICHANDRAPUI	BALICHANDRAPUR	CHARINANGALA	Charinangal Islmabad	100	P1	High Public movement area
451	CUTTACK	CED	BADACHANA	BALICHANDRAPUI	BALICHANDRAPUR	BANDARESWARA	Pathan mahala	100	P1	High Public movement area
452	CUTTACK	CED	BADACHANA	BADACHANA	BADACHANA	DEULKUL LOCAL	Medical	100	P1	High Public movement area
453	CUTTACK	CED	BADACHANA	BADACHANA	BADACHANA	OLD BADACHANA	Kadei	250	P1	High Public movement area
454	CUTTACK	CED	BADACHANA	BADACHANA	BADACHANA	CHANDIKHOL	Nisimala2	100	P1	High Public movement area
455	CUTTACK	CED	BADACHANA	BADACHANA	BADACHANA	CHANDIKHOL	Melanpadia 2nos	100	P1	High Public movement area
456	CUTTACK	CED	BADACHANA	BADACHANA	BADACHANA	CHANDIKHOL	Dhanamandal	100	P1	High Public movement area
457	CUTTACK	CED	BADACHANA	BADACHANA	BADACHANA	CHANDIKHOL	Kumbhasahi	100	P1	High Public movement area
458	CUTTACK	CED	BADACHANA	BADACHANA	BADACHANA	CHANDIKHOL	Natiagate	63	P1	High Public movement area
459	CUTTACK	CED	GOPALPUR	BALIKUDA	DAHALIABAG	PRATAPNAGARI	kcl	100	P1	High Public movement area
460	CUTTACK	CED	GOPALPUR	BALIKUDA	GOPALPUR	BARANGA	Jaganatha vihar	100	P1	High Public movement area
461	CUTTACK	CED	GOPALPUR	BALIKUDA	DAHALIABAG	PRATAPNAGARI	Nuagada near collage	250	P1	High Public movement area
462	CUTTACK	CED	GOPALPUR	BALIKUDA	GOPALPUR	BARANGA	maa Tareni	63	P1	High Public movement area
463	CUTTACK	CED	GOPALPUR	BALIKUDA	GOPALPUR	42 MOUZA	sainda	250	P1	High Public movement area
464	CUTTACK	CED	GOPALPUR	BALIKUDA	GOPALPUR	UTTAMPUR	subhadrapur	250	P1	High Public movement area
465	CUTTACK	CED	GOPALPUR	ADASPUR	BHINGARPUR	GANGESWAR	Brahmanjharilo	500	P1	High Public movement area
466	CUTTACK	CED	GOPALPUR	ADASPUR	BHINGARPUR	GANGESWAR	Bajipatna	100	P1	High Public movement area
467	CUTTACK	CED	GOPALPUR	ADASPUR	BHINGARPUR	GANGESWAR	Uttampur	100	P1	High Public movement area
468	CUTTACK	CED	GOPALPUR	ADASPUR	DAMODARPUR	SUNDERGRAM	Iswarpur	250	P1	High Public movement area
469	CUTTACK	CED	GOPALPUR	ADASPUR	DAMODARPUR	SUNDERGRAM	Damodarpur	250	P1	High Public movement area
470	CUTTACK	CED	GOPALPUR	ADASPUR	ADASPUR	ADASPUR	Olatpur prustyfarm	100	P1	High Public movement area
471	CUTTACK	CED	GOPALPUR	ADASPUR	DAMODARPUR	KANTAPADA	Bagua	100	P1	High Public movement area
472	CUTTACK	CED	GOPALPUR	ADASPUR	ADASPUR	ADASPUR	Bedasahi	100	P1	High Public movement area
473	CUTTACK	CED	GOPALPUR	GOBINDPUR	KAJALPUR	NAHALPUR	Nahalpur	500	P1	High Public movement area
474	CUTTACK	CED	GOPALPUR	GOBINDPUR	DAMODARPUR	GOBINDPUR	PATASUNDERPUR	500	P1	High Public movement area
475	CUTTACK	CED	GOPALPUR	GOBINDPUR	DAMODARPUR	SUNDERGRAM	GABABASTA	500	P1	High Public movement area
476	CUTTACK	CED	GOPALPUR	GOBINDPUR	KAJALPUR	GOBINDPUR-II	GOBINDAPUR BAZAR	250	P1	High Public movement area
477	CUTTACK	CED	GOPALPUR	GOBINDPUR	DAMODARPUR	SUNDERGRAM	NAKULESWAR NAGAR	100	P1	High Public movement area
478	CUTTACK	CED	NIALI	NIALI-1	NIALI	TOLA	Pokharigaon	100	P1	High Public movement area

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
479	CUTTACK	CED	NIALI	NIALI-1	NIALI	TOLA	Bagalsahi	100	P1	High Public movement area
480	CUTTACK	CED	NIALI	NIALI-1	NIALI	KALIAGHAI	Anlo	100	P1	High Public movement area
481	CUTTACK	CED	NIALI	NIALI-1	NIALI	TOLA	Adhanga	100	P1	High Public movement area
482	CUTTACK	CED	NIALI	NIALI-1	NIALI	NIALI TOWN	Gayasahi	100	P1	High Public movement area
483	CUTTACK	CED	NIALI	NIALI-1	NIALI	KALIAGHAI	Kantapada	100	P1	High Public movement area
484	CUTTACK	CED	NIALI	NIALI-1	NIALI	KALIAGHAI	Badadhiapatna	63	P1	High Public movement area
485	CUTTACK	CED	NIALI	NIALI-2	KULA KAPASI	PANIMALA	Tampada	100	P1	High Public movement area
486	CUTTACK	CED	NIALI	NIALI-2	KULA KAPASI	PODANA	Pahanga hata	100	P1	High Public movement area
487	CUTTACK	CED	NIALI	NIALI-2	KULA KAPASI	ARAKATA	Kantisala	100	P1	High Public movement area
488	CUTTACK	CED	NIALI	NIALI-2	KULA KAPASI	PANIMALA	Kulajallarpur	63	P1	High Public movement area
489	CUTTACK	CED	NIALI	NIALI-2	NIALI	KAPASI	Umamaheswarpur	63	P1	High Public movement area
490	CUTTACK	CED	NIALI	NIALI-2	KULA KAPASI	PANIMALA	Sarakora	100	P1	High Public movement area
491	CUTTACK	CED	NIALI	SITHALO	KASARDA	SITHALO	Selada	100	P1	High Public movement area
492	CUTTACK	CED	NIALI	SITHALO	KASARDA	SITHALO	Kulabarisana	100	P1	High Public movement area
493	CUTTACK	CED	NIALI	SITHALO	KASARDA	KASARDA	Kasarda bazar	100	P1	High Public movement area
494	CUTTACK	CDD-2	Jobra	Jagatpur	Ipicol	KHAIRA	nuasahi	250	P4	High Public movement area
495	CUTTACK	CDD-2	Jobra	Jagatpur	Ipicol	KHAIRA	master food	250	P5	High Public movement area
496	CUTTACK	CDD-2	Jobra	Jagatpur	Ipicol	KHAIRA	immamnagar-1	500	P6	High Public movement area
497	CUTTACK	CDD-2	Jobra	JOBRA	JAGATPUR PH-1	OLD INDUSTRY	MARKET COMPLEX	250	P7	High Public movement area
498	CUTTACK	CDD-2	Jobra	JOBRA	JAGATPUR PH-1	OLD INDUSTRY	NANKAR NH	250	P8	High Public movement area
499	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	OLD INDUSTRY	GANDHINAGAR	250	P9	High Public movement area
500	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	OLD INDUSTRY	RHC BATA CHHAKA	500	P10	High Public movement area
501	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	OLD INDUSTRY	RHC TRIVENIGADA	500	P11	High Public movement area
502	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	BARRAGE	CINEMA HALL	250	P12	High Public movement area
503	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	BARRAGE	SANJAY OIL MILL	500	P13	High Public movement area
504	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	IDCO	APEX	500	P15	High Public movement area
505	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	IDCO	LUIS	250	P16	High Public movement area
506	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	IDCO	ROYAL PLASTIC	500	P17	High Public movement area
507	CUTTACK	CDD-2	JOBRA	JOBRA	JAGATPUR PH-1	IDCO	SS FOUNDARY	500	P18	High Public movement area
508	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	CRRI	NAYA BAZAAR	SHANI TEMPLE	1000	P20	High Public movement area
509	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	CRRI	NAYA BAZAAR	IDYADHARPUR SAI TEMPL	250	P24	High Public movement area
510	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	CRRI	NAYA BAZAAR	BHAGABATI SAHI	250	P25	High Public movement area
511	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	CRRI	NAYA BAZAAR	ANAND VIHAR	500	P26	High Public movement area
512	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	CRRI	NAYA BAZAAR	KESHPUR-II	250	P27	High Public movement area
513	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	CRRI	NAYA BAZAAR	TELI SAHI	250	P29	High Public movement area
514	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	CRRI	NAYA BAZAAR	SASHTRI NAGAR	500	P30	High Public movement area
515	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	MATAGAJAPUR	JAICA	NEW BELESWAR COLONY	500	P31	High Public movement area
516	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	OSAP	DIVINE NAGAR	DIVINE NAGAR 4-POLE	500	P32	High Public movement area
517	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	OSAP	DIVINE NAGAR	JAIN MILL	750	P33	High Public movement area
518	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	OSAP	DIVINE NAGAR	FISH MARKET	250	P34	High Public movement area
519	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	OSAP	DIVINE NAGAR	NILADRI VIHAR	500	P35	High Public movement area
520	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	OSAP	DIVINE NAGAR	MANTRI	500	P36	High Public movement area
521	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	OSAP	DIVINE NAGAR	BC SAHOO LANE	250	P37	High Public movement area
522	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	KALYANI NAGAR	CHAULIAGANJ-II	GOPABANDHU NAGAR	250	P38	High Public movement area
523	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	KALYANI NAGAR	CHAULIAGANJ-II	NILADRI VIHAR	100	P39	High Public movement area
524	CUTTACK	CDD-2	MAHANADI VIHA	CHAULIAGANJ	KALYANI NAGAR	CHAULIAGANJ-II	GANDHI CHOWK	500	P40	High Public movement area
525	CUTTACK	CDD-2	JOBRA	KISHORENAGAR	SOMEPUR	RAMKUMARPUR	PAIKA SAHI	100	P42	High Public movement area
526	CUTTACK	CDD-2	JOBRA	KISHORENAGAR	KISHAN NAGAR	MALLIPUR	KHENTALA	100	P43	High Public movement area
527	CUTTACK	CDD-2	JOBRA	KISHORENAGAR	KISHAN NAGAR	RAMCHANDRAPUR	GARASUNI	250	P45	High Public movement area
528	CUTTACK	CDD-2	JOBRA	KISHORENAGAR	KISHAN NAGAR	RAMCHANDRAPUR	HULIPUR	250	P46	High Public movement area
529	CUTTACK	CDD-2	JOBRA	KISHORENAGAR	KISHAN NAGAR	RAMCHANDRAPUR	SAMANTARAPUR CHATUR	100	P49	High Public movement area
530	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	CHANDULI	KULASARICHUAN	200	P53	High Public movement area
531	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	CHANDULI	CHANDULI	100	P55	High Public movement area
532	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	CHANDULI	DANDA SAHI	100	P56	High Public movement area
533	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	CHANDULI	KULAKALAPADA 2	100	P57	High Public movement area
534	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	JHINKIRIA	BANTUNIA	100	P58	High Public movement area
535	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	JHINKIRIA	BAHALAPADA	250	P59	High Public movement area
536	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	JHINKIRIA	DHULESWAR	250	P60	High Public movement area
537	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	JHINKIRIA	AITALANGA 1	100	P61	High Public movement area
538	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	JHINKIRIA	AITALANGA 2	100	P62	High Public movement area
539	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	JHINKIRIA	COLD STORE	250	P64	High Public movement area
540	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	KALAPADA	NAHARAPADA	100	P66	High Public movement area
541	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	BENTKAR	SECTOR 7	100	P67	High Public movement area
542	CUTTACK	CDD-2	JOBRA	42 MOUZA	BENTKAR	BENTKAR	MOTHER TERESSA	250	P68	High Public movement area
543	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	PARAMAHANSA	COLLEGE ROAD	250	P70	High Public movement area

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
544	CUTTACK	CDD-2	JOBRA	KANDARPUR	MATAGAJPUR	MATAGAJPUR	DEOPUR VILLAGE-1	100	P71	High Public movement area
545	CUTTACK	CDD-2	JOBRA	KANDARPUR	MATAGAJPUR	MATAGAJPUR	DEOPUR VILLAGE-2	100	P72	High Public movement area
546	CUTTACK	CDD-2	JOBRA	KANDARPUR	MATAGAJPUR	MATAGAJPUR	AGHUNATHPUR VILLAGE	100	P73	High Public movement area
547	CUTTACK	CDD-2	JOBRA	KANDARPUR	MATAGAJPUR	MATAGAJPUR	SAFIPUR VILLAGE	100	P74	High Public movement area
548	CUTTACK	CDD-2	JOBRA	KANDARPUR	MATAGAJPUR	MATAGAJPUR	RAGHUNATHPUR 2	100	P75	High Public movement area
549	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	PARAMAHANSA	KAIJANGA VILLAGE	100	P77	High Public movement area
550	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	PARAMAHANSA	UTTARASASANA 1	100	P80	High Public movement area
551	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	AYATPUR	DANDUASIPADA-1	100	P81	High Public movement area
552	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	AYATPUR	NAGESWAR NATH	100	P82	High Public movement area
553	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	AYATPUR	NUAKORUA VILLAGE	100	P83	High Public movement area
554	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	KANADRPUR	KANDARPUR BAZAR-1	100	P84	High Public movement area
555	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	KANADRPUR	KANDARPUR VILLAGE	100	P85	High Public movement area
556	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	KANADRPUR	SIDHESWARPUR VILLAGE	100	P86	High Public movement area
557	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	KANADRPUR	SIDHESWARPUR-2	100	P89	High Public movement area
558	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	AIR	FAKIRPADA, BARUNEI	100	P90	High Public movement area
559	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	AIR	FAKIRPADA MATHASAHI-2	100	P91	High Public movement area
560	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	AIR	BIRIBATI BAZAR	250	P93	High Public movement area
561	CUTTACK	CDD-2	JOBRA	KANDARPUR	KANDARPUR	AIR	TANARAPA VILLAGE	100	P94	High Public movement area
562	CUTTACK	CDD-2	BADAMBADI	DOLAMUNDAI	BADAMBADI	DOLAMUNDAI2	HARISH MOHANTY	500	P1	High Public movement area
563	CUTTACK	CDD-2	BADAMBADI	DOLAMUNDAI	PALA MANDAP	MAHATAB	BABA SAGAR	500	P2	High Public movement area
564	CUTTACK	CDD-2	BADAMBADI	DOLAMUNDAI	PALA MANDAP	MAHATAB	RADHASYAM AGARWAL	250	P3	High Public movement area
565	CUTTACK	AED	Athagarh	Khuntuni	Gurudijhatia	Kumarpur	Gobara	500	P3	Elephant Movement Area, safety Point of view Public and Animal Fancing Required.
566	CUTTACK	AED	Narsinghpur	Badamba	Dhobaninala	BANGERISINGA	BANGERISINGA	250	P89	Elephant Movement (Joint Petrolling With Forest Tem)
567	CUTTACK	AED	Narsinghpur	Badamba	Dhobaninala	BANGERISINGA	BANGERISINGA	500	P90	Elephant Movement (Joint Petrolling With Forest Tem)
568	CUTTACK	AED	Narsinghpur	Badamba	Badamba	BADAMBA TOWN	STR. ROAD	250	P91	Elephant Movement (Joint Petrolling With Forest Tem)
569	CUTTACK	AED	Narsinghpur	Badamba	Gopapur	RATAPATA-2	KHALIDHIP	250	P92	Elephant Movement (Joint Petrolling With Forest Tem)
570	CUTTACK	AED	Narsinghpur	Badamba	Gopapur	BHATTARIKA	SASANGA MULIASAHI	250	P94	Elephant Movement (Joint Petrolling With Forest Tem)
571	CUTTACK	AED	Athagarh	NUAPATNA	NUAPATNA	MANIABANDHA	MANIABANDHA	250	P99	Road Side DTR safety Point of view Public and Animal Fancing Required.
572	CUTTACK	AED	Narsinghpur	Narsinghpur	NARSINGHPUR	TOWN	TOWN	500	P103	Road Side DTR safety Point of view Public and Animal Fancing Required.
573	CUTTACK	AED	Narsinghpur	Narsinghpur	NARSINGHPUR	TOWN	HARICHANDRAPUR SASAN	250	P104	Road Side DTR safety Point of view Public and Animal Fancing Required.
574	CUTTACK	AED	Narsinghpur	Narsinghpur	NARSINGHPUR	KAMALADIHA OLD	SARDHAPUR	500	P105	Road Side DTR safety Point of view Public and Animal Fancing Required.
575	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	Tigiria	BEO Office	63	P1	Twiter Complaints (Along Road)
576	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Tigiria	Panchagoan	Achalakot Gadasahi	63	P2	Twiter Complaints (Along Road)
577	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Athagarh	Dhaipur	Dhaipur	100	P3	Twiter Complaints (Along Road)
578	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Saranda	Kantapahara	Sompada Nuasahi	100	P4	Twiter Complaints (Along Road)
579	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Tigiria	Panchagoan	Achalakot Shiva Mandir	63	P5	Twiter Complaints (Along Road)
580	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Khuntakata	Khuntakata Local	MALBIHARPUR	100	P6	Twiter Complaints (Along Road)
581	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Khuntakata	Khuntakata Rural	MAHIDHARPUR	100	P7	Twiter Complaints (Along Road)
582	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Tigiria	Panchagoan	Godijharia Bridge	63	P8	Twiter Complaints (Along Road)
583	CUTTACK	AED	Athagarh	ATHAGARH NO-II	Khuntakata	Khuntakata Rural	Sankarpur Mangala Bazar	100	P9	Twiter Complaints (Along Road)
584	CUTTACK	AED	Narshingpur	BARAMBA	Gopapur	Gopapur	Gopapur Janisahi	100	P10	Twiter Complaints (Along Road)
585	CUTTACK	AED	Narshingpur	BARAMBA	Gopapur	Ragadipada	Ragadipada	100	P11	Twiter Complaints (Along Road)
586	CUTTACK	AED	Athagarh	ATHAGARH NO-I	Athagarh	Athagarh Town	RATHAGADA BSNL OFFICE	100	P12	Twiter Complaints (Along Road)
587	CUTTACK	AED	Athagarh	ATHAGARH NO-I	Athagarh	Athagarh Town	ANTHANAGAR MAHAVIR	250	P13	Twiter Complaints (Along Road)
588	CUTTACK	AED	Athagarh	ATHAGARH NO-I	Athagarh	Athagarh Town	RATHAGADA BSNL OFFICE	100	P14	Twiter Complaints (Along Road)
589	CUTTACK	AED	Athagarh	ATHAGARH NO-I	Athagarh	Athagarh Town	OREPUR SHIBANI MEDICI	250	P15	Twiter Complaints (Along Road)
590	CUTTACK	AED	Athagarh	ATHAGARH NO-I	Athagarh	Athagarh Town	BSNL	25	P16	Twiter Complaints (Along Road)
591	CUTTACK	AED	Athagarh	NUAPATANA	Nuapatna	Maniabandha	NKADA JODI SANA POKHA	63	P17	Twiter Complaints (Along Road)
592	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	MUSULIA	16	P18	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
593	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	GURUDIJHATIA OLD	KAPURSINGH	25	P19	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
594	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	BILUAGADA	25	P20	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
595	CUTTACK	AED	Athagarh	KHUNTUNI	Gurudijhatia	KUMARPUR	BAGHABINDHA	25	P21	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
596	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	BAUNSATANGARA	16	P22	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
597	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	KANSARA	25	P23	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
598	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	KHANDUALI NUAGAN	16	P24	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
599	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	MANITRI	63	P25	Elephant Movement (Joint Petrolling With Forest Tem)
600	CUTTACK	AED	Narshingpur	BADAMBA	Khuntakata	KHUNTAKATA	KHANDABANDHA	16	P26	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
601	CUTTACK	AED	Athagarh	KHUNTUNI	Narangabasta	OLD MEGHA	BRAHMANABASTA	63	P27	Elephant Movement (Joint Petrolling With Forest Tem)
602	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	OTAPADA, RADHASARANP	250	P28	Elephant Movement (Joint Petrolling With Forest Tem)
603	CUTTACK	AED	Athagarh	TIGIRIA	Bandalo	MANAPUR	GOBINDAPUR	63	P29	Elephant Movement (Joint Petrolling With Forest Tem)
604	CUTTACK	AED	Athagarh	TIGIRIA	Bandalo	MANAPUR	GOBINDAPUR	63	P30	Elephant Movement (Joint Petrolling With Forest Tem)
605	CUTTACK	AED	Athagarh	TIGIRIA	Bandalo	MANAPUR	HARITHA	100	P31	Elephant Movement (Joint Petrolling With Forest Tem)
606	CUTTACK	AED	Athagarh	TIGIRIA	Bandalo	MANAPUR	KADANA	63	P32	Elephant Movement (Joint Petrolling With Forest Tem)
607	CUTTACK	AED	Athagarh	TIGIRIA	Bandalo	MANAPUR	MANAPUR	63	P33	Elephant Movement (Joint Petrolling With Forest Tem)
608	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	GHANTIKHAL	63	P34	Elephant Movement (Joint Petrolling With Forest Tem)

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
609	CUTTACK	AED	Athagarh	KHUNTUNI	Narangabasta	MANCHESWAR	UPPAR SUNIAMUHNA	25	P35	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
610	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	GURUDIJHATIA OLD	RADHARAMANAPUR	63	P36	Elephant Movement (Joint Petrolling With Forest Tem)
611	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	RADHARAMANAPUR	16	P37	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
612	CUTTACK	AED	Narshingpur	NARSINGHPUR	Narsinghpur	KAMALADIHA	BHAGBATPUR	63	P38	Elephant Movement (Joint Petrolling With Forest Tem)
613	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	BHOGARA	63	P39	Elephant Movement (Joint Petrolling With Forest Tem)
614	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	RADHAKRUSHNAPUR	63	P40	Elephant Movement (Joint Petrolling With Forest Tem)
615	CUTTACK	AED	Narshingpur	NARSINGHPUR	Narsinghpur	JAIPUR	DESUASAHI	16	P41	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
616	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	BINDHANIMA	BIRIPUT	63	P42	Elephant Movement (Joint Petrolling With Forest Tem)
617	CUTTACK	AED	Narshingpur	BADAMBA	Dhobaninal	BAGERSINGA	NARANAPUR	63	P43	Elephant Movement (Joint Petrolling With Forest Tem)
618	CUTTACK	AED	Narshingpur	BADAMBA	Dhobaninal	BAGERSINGA	BANGIRISINGHA	100	P44	Elephant Movement (Joint Petrolling With Forest Tem)
619	CUTTACK	AED	Athagarh	KHUNTUNI	Narangabasta	OLD MEGHA	BISHNUPUR	25	P45	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
620	CUTTACK	AED	Narshingpur	KANPUR	Athagarh	KARILO	KANDHABADABHUIN	16	P46	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
621	CUTTACK	AED	Athagarh	KHUNTUNI	Gurudijhatia	KUMARPUR	DAMPATIPUR	25	P47	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
622	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	BINDHANIMA	GODARBANDHA, BALIPUT	63	P48	Elephant Movement (Joint Petrolling With Forest Tem)
623	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	MAHALAXMIPUR	SABITRIPUR	16	P49	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
624	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Khuntakata	GODIJHARIA	MARUGOTHA	25	P50	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
625	CUTTACK	AED	Narshingpur	NARSINGHPUR	Hindol	DEBABHUIN	BHUSKA	25	P51	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
626	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	OLD MEGHA	NIDHIPUR	25	P52	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
627	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagada No-2	GODIJHARIA	MALABIHARPUR	25	P53	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
628	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	PANCHAGAON	PANCHAGAN	63	P54	Elephant Movement (Joint Petrolling With Forest Tem)
629	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	PANCHAGAON	SUDARSANPUR	63	P55	Elephant Movement (Joint Petrolling With Forest Tem)
630	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	BINDHANIMA	BIRIPUT	25	P56	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
631	CUTTACK	AED	Athagarh	NUAPATANA	Tigiria	BINDHANIMA	KANJIAMULI	63	P57	Elephant Movement (Joint Petrolling With Forest Tem)
632	CUTTACK	AED	Narshingpur	BADAMBA	Dhobaninal	KHUNTAKATA NEW	KENDUAPADA	16	P58	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
633	CUTTACK	AED	Athagarh	NUAPATANA	Nuapatana	MANIABANDHA	BUDHAPANKA	16	P59	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
634	CUTTACK	AED	Narshingpur	NARSINGHPUR	Hindol	DEBABHUIN	KANDHALA	63	P60	Elephant Movement (Joint Petrolling With Forest Tem)
635	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	DHAIPUR	BOUDA	16	P61	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
636	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	DHAIPUR	CHAUDAGHARIA	63	P62	Elephant Movement (Joint Petrolling With Forest Tem)
637	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	DHAIPUR	SALAGADIA	100	P63	Elephant Movement (Joint Petrolling With Forest Tem)
638	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	GURUDIJHATIA OLD	RADHAKESHABAPUR	100	P64	Elephant Movement (Joint Petrolling With Forest Tem)
639	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Saranda	SUBARNPUR	OSTIA	100	P65	Elephant Movement (Joint Petrolling With Forest Tem)
640	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Saranda	SUBARNPUR	SOLAMANA	16	P66	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
641	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Saranda	SUBARNPUR	SOLAMANA	25	P67	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
642	CUTTACK	AED	Athagarh	BADAMBA	Badamba	RATTAPATA-1	ARANDA	16	P68	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
643	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	DHAIPUR	KANDARPUR	63	P69	Elephant Movement (Joint Petrolling With Forest Tem)
644	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	DHAIPUR	PHULABADI	100	P70	Elephant Movement (Joint Petrolling With Forest Tem)
645	CUTTACK	AED	Athagarh	ATHAGADA NO-2	Athagarh	DHAIPUR	CHATABARA	63	P71	Elephant Movement (Joint Petrolling With Forest Tem)
646	CUTTACK	AED	Athagarh	KHUNTUNI	Athagarh	KARIKOLA	BANAKHANDI	63	P72	Elephant Movement (Joint Petrolling With Forest Tem)
647	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	BINDHANIMA	GODARABANDHA	63	P73	Elephant Movement (Joint Petrolling With Forest Tem)
648	CUTTACK	AED	Athagarh	NUAPATANA	Nuapatna	NUAPATNA	ARNAKHALA, MARICHIA,	100	P74	Elephant Movement (Joint Petrolling With Forest Tem)
649	CUTTACK	AED	Athagarh	KHUNTUNI	Sarpeswar	NEW MEGHA	MEGHA	63	P75	Elephant Movement (Joint Petrolling With Forest Tem)
650	CUTTACK	AED	Narshingpur	NARSINGHPUR	Narsinghpur	KAMALADIHA	KHALISAHI	25	P76	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
651	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	GODISAHI	63	P77	Elephant Movement (Joint Petrolling With Forest Tem)
652	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	TALAGADA	63	P78	Elephant Movement (Joint Petrolling With Forest Tem)
653	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	DALABHAGA	63	P79	Elephant Movement (Joint Petrolling With Forest Tem)
654	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	DALABHAGA	63	P80	Elephant Movement (Joint Petrolling With Forest Tem)
655	CUTTACK	AED	Narshingpur	BADAMBA	Dhobaninal	BADABARSINGH	KOTAPALA	63	P81	Elephant Movement (Joint Petrolling With Forest Tem)
656	CUTTACK	AED	Athagarh	KHUNTUNI	Narangabasta	OLD MEGHA	BISHNUPUR	25	P82	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
657	CUTTACK	AED	Athagarh	NUAPATANA	Nuapatana	MANIABANDHA	BHAGABATAPUR	63	P83	Elephant Movement (Joint Petrolling With Forest Tem)
658	CUTTACK	AED	Athagarh	KHUNTUNI	Khuntuni	KULEILO	DALABHAGA	25	P84	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
659	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	BINDHANIMA	BALIPUT	25	P85	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
660	CUTTACK	AED	Athagarh	TIGIRIA	Tigiria	BINDHANIMA	GODARABANDHA	25	P86	Ref. By Forest Dept Elephant Movement Team (Joint Petrolling With Forest Tem)
661	CUTTACK	SED	N.KOILI	N.KOILI	PALDHUAPADIA	BAZAR	BAZAR	500	P22	S.H ROAD SIDE N.KOILI MARKET AREA
662	CUTTACK	SED	MAHANGA	ERAKANA	ERAKANA	KURUJANGA	DIHIGOP	250	P23	ANAGANBADI
663	CUTTACK	SED	MAHANGA	ERAKANA	ERAKANA	LAXMINARAYANPUR	GOKAN	250	P24	NEAR SCHOOL
664	CUTTACK	SED	MAHANGA	ERAKANA	ERAKANA	LAXMINARAYANPUR	LAXMINARAYANPUR	250	P25	MARKET AREA
665	CUTTACK	SED	mahanga	kothapada	kothapada	jaypur	jaypur	250	P26	SCHOOL
666	PARADEEP	KED-2	MARSHAGHAI	NUAPADA	LUNA	ANKO	NARAYANPUR 100KVA	100	P1	School area
667	PARADEEP	KED-2	MARSHAGHAI	NUAPADA	BEDARI	ANTEI	BATIRA 100KVA	100	P2	Near Main Road
668	PARADEEP	KED-2	MARSHAGHAI	NUAPADA	BEDARI	ANTEI	DALUANI 63KVA	63	P3	Temple area
669	PARADEEP	KED-2	MARSHAGHAI	NUAPADA	GAUDAGAON	KARANDIAPATNA	MEHENDINAGAR 100KVA	100	P4	Grievance received from villagers at Section Office
670	PARADEEP	KED-2	MARSHAGHAI	NUAPADA	LUNA	PATKURA OLD	BANTA 100KVA	100	P5	Near Medical
671	PARADEEP	KED-2	MARSHAGHAI	NUAPADA	LUNA	PATKURA OLD	TALASANGA 100KVA	100	P6	Near Market
672	PARADEEP	KED-2	MARSHAGHAI	KORUA	KUDANAGARI	NAGANPUR	CHANPUR-1	100	P7	Road Side DTR
673	PARADEEP	KED-2	MARSHAGHAI	KORUA	KUDANAGARI	NAGANPUR	KABILPUR	100	P8	Road Side DTR

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
674	PARADEEP	KED-2	MARSHAGHAI	KORUA	KUDANAGARI	KORUA	ATTABUHA	100	P9	Near GP office
675	PARADEEP	KED-2	MARSHAGHAI	KORUA	KUDANAGARI	NAGANPUR	CHANPUR-1	100	P10	Near Jagannath Temple
676	PARADEEP	KED-2	MARSHAGHAI	KORUA	KUDANAGARI	NAGANPUR	NAGANPUR	100	P11	Market area
677	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	NALADIA	KHURUSIA-1	100	P12	Grievance received from villagers at Section Office
678	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	OSTARA	BADATERAGAN	100	P13	Grievance received from villagers at Section Office
679	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	KARANJA	KARANJA	100	P14	Grievance received from villagers at Section Office
680	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	NALADIA	TIKARPANGA WARD-8	100	P15	Grievance received from villagers at Section Office
681	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	OSTARA	TERAGAON	100	P16	Grievance received from villagers at Section Office
682	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	OSTARA	ATHABATIA (NEAR AWC)	100	P17	Grievance received from villagers at Section Office
683	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	KARANJA	OPINATHPUR (NEAR CLU	63	P18	Grievance received from villagers at Section Office
684	PARADEEP	KED-2	MAHAKALPADA	LUNA	LUNA	NALADIA	LADIA (NEAR HIGH SCHO	100	P19	Grievance received from villagers at Section Office
685	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	MAHAKALPADA	CHADEIGUAN (PATANA)	100	P20	Road Side DTR
686	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	MAHAKALPADA	Sikhar	100	P21	Road Side DTR
687	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	MAHAKALPADA	DEULIPADA	100	P22	Road Side DTR,TWITTER COMPLAIN, TICKET NO-C327345
688	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	MAHAKALPADA	Chandiapalli	100	P23	Road Side DTR
689	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	MAHAKALPADA	KALAPDA NEAR MEDICAL	100	P24	Grievance received from villagers at Section Office
690	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	CHHAPALI	PARESWARPURPUR	100	P25	DM20261608265
691	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	CHHAPALI	ARUNGAHR	100	P26	Near School
692	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	RAMANGAR	BHIMALENKA	100	P27	Road Side DTR
693	PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	KEYARBANK	MAHAKALPADA	GOPALPUR	100	P28	Road Side DTR
694	PARADEEP	KED-2	MARSHAGHAI	GARADPUR	GARADPUR	GARADPUR-1	JAGANNATHPUR	100	P29	Road Side DTR,School side
695	PARADEEP	KED-2	MARSHAGHAI	GARADPUR	GARADPUR	GARADPUR-2	TALAKUSUMA	100	P30	Road Side DTR
696	PARADEEP	KED-2	MARSHAGHAI	GARADPUR	GARADPUR	GARADPUR-2	GOBINDPUR	100	P31	Road Side DTR
697	PARADEEP	KED-2	MARSHAGHAI	GARADPUR	KUDANAGARI	BANAKUND	CHHAKUMAHALA	63	P32	Road Side DTR
698	PARADEEP	KED-2	MARSHAGHAI	GARADPUR	GARADPUR	GARADPUR-1	CHHANDAPALLA	63	P33	Road Side DTR
699	PARADEEP	KED-2	MARSHAGHAI	MARSHAGHAI	Nabarkanan	Angulai	MARSHAGHAI CROSSING	100	P34	Grievance received from villagers at Section Office
700	PARADEEP	KED-2	MARSHAGHAI	MARSHAGHAI	Nabarkanan	Marshaghai	BANAMALI CHHOWK	100	P35	Grievance received from villagers at Section Office
701	PARADEEP	KED-2	MARSHAGHAI	MARSHAGHAI	Nabarkanan	Marshaghai	BALIKASOTI	100	P36	Grievance received from villagers at Section Office
702	PARADEEP	KED-2	MARSHAGHAI	MARSHAGHAI	Nabarkanan	Silipur	KALIPADIA	100	P37	Grievance received from villagers at Section Office
703	PARADEEP	KED-2	MARSHAGHAI	BABAR	BADHI	JAMBOO	SUGAL (DATTAPUR)	63	P38	Road Side DTR (GRIEVANCE TICKET NO-GOVOR/E/2026/0002028, CS20261598373)
704	PARADEEP	KED-2	MARSHAGHAI	MARSHAGHAI	THAURI	KURTUNGA	BINAPANI HS	100	P39	Near School (Ticket No-CMO20261541076,DM20261541077)
705	PARADEEP	KED-2	MARSHAGHAI	MARSHAGHAI	NABARKANAN	SILIPUR	DASIPUR	100	P40	Grievance Ticket No-DM20261607004,DM20261674243,DEPT20261590747
706	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	JAGATSINGHPUR	TOWN	DEULIGRAMESWAR	100	P1	Due near privent medical public gathering this area
707	PARADEEP	JED	JAGATSINGHPUR	DIHASAHI	JOGADHARI	DIHASAHI	RAIBAREI	100	P2	Road Side unsafe location, CM social media grievance no-C399509/C399568/C395938
708	PARADEEP	JED	BALIKUDA	BALIKUDA-I	BALIKUDA	SANGRAMPUR	NAILO	63	P3	Road Side unsafe location, CM social media grievance no-URGENTC397032
709	PARADEEP	JED	BALIKUDA	BALIKUDA-I	BALIKUDA	DENAPOLA	ARILO	63	P4	Road Side unsafe location, CM social media grievance no-C399359
710	PARADEEP	JED	BALIKUDA	BALIKUDA-I	BALIKUDA	SANGRAMPUR	SANGRAMPUR	200	P5	Road Side unsafe location, CM social media grievance no-C395806
711	PARADEEP	JED	BALIKUDA	NAUGAAON	BHATAPADA	KHAIRA	BUDHISAHI	63	P6	Energy depatment/CM grievance no-DEPT 20261629421
712	PARADEEP	JED	BALIKUDA	BALIKUDA-I	BALIKUDA	SANGRAMPUR	BALIKUDA COLLAGE	100	P7	CM grievance no-CMO20261620514/C393780
713	PARADEEP	JED	BALIKUDA	NAUGAAON	BHATAPADA	MUNDAL	GARAM	63	P8	CM grievance no-C388343
714	PARADEEP	JED	BALIKUDA	BALIKUDA-II	SOVA	SOVA	SOVA TARENI TEMPLE	63	P9	CM grievance no-URGENTC391338/CMO20261606528
715	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	NUAPADA	ICHHAPUR	AYARA	63	P10	Energy depatment grievance no-DEPT20261614187
716	PARADEEP	JED	BALIKUDA	BALIKUDA-II	DASABATIA	NAHARANA	TALAGAON	25	P11	CM grievance no-URGENTC390510
717	PARADEEP	JED	BALIKUDA	BALIKUDA-II	DOVAL	TITRA	PALADHUABANDHA	63	P12	CM Social media grievance-C323754
718	PARADEEP	JED	BALIKUDA	BALIKUDA-II	SOVA	MACHHAGAON	MOHANAPAR	63	P13	CM Social media grievance-C325669
719	PARADEEP	JED	BALIKUDA	BALIKUDA-II	DASABATIA	BANDAR	BANDAR	100	P14	CM Social media grievance-C329102
720	PARADEEP	JED	RAGHUNATHPUR	BIRIDI	22 MOUZA	PARBATIPUR	SANKARISAHI	100	P15	CM Social media grievance-C323754
721	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	JAGATSINGHPUR	PUNANGA	OHALA	100	P16	CM Social media grievance-C334673
722	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	CHIKINIA	REDHUA	SAMALSAHI	25	P17	CM Social media grievance-C365147
723	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	NUAPADA	ICHHAPUR	BANIKUNDA	25	P18	CM Social media grievance-C366888
724	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	CHIKINIA	REDHUA	BARATIRA	25	P19	CM Social media grievance-C366834
725	PARADEEP	JED	BALIKUDA	NAUGAAON	BHATAPADA	DEBIDOLA	SARIABARPATNA	63	P20	CM Social media grievanceC337690
726	PARADEEP	JED	BALIKUDA	NAUGAAON	DERIKI	TIRUNA	GANGADA BAZAR	100	P21	CM Social media grievanceURGENTC342317
727	PARADEEP	JED	JAGATSINGHPUR	DIHASAHI	BHATAPADA	DEBIDOLA	CHADHEIGAON	100	P22	Social media complain vedio-https://www.facebook.com/share/r/1GM9vzKE9a/
728	PARADEEP	JED	BALIKUDA	BALIKUDA-I	BALIKUDA	BORIKINA	TANDUNI	250	P23	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
729	PARADEEP	JED	BALIKUDA	BALIKUDA-I	BALIKUDA	BALIKUDA	HURASAHI	250	P24	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
730	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	JAGATSINGHPUR	ALIPINGAL	JAYABAD HANDIPAKKA	250	P25	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
731	PARADEEP	JED	BALIKUDA	NAUGAAON	NAUGAON	Naugaon HQ	Block chhaka	250	P26	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
732	PARADEEP	JED	BALIKUDA	NAUGAAON	Deriki	Mutunia	Mutunia	500	P27	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
733	PARADEEP	JED	BALIKUDA	BALIKUDA-II	SOVA	AMBASALA	AMBASAL	250	P28	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
734	PARADEEP	JED	BALIKUDA	BALIKUDA-II	DASABATIA	NAHARANA	BAIRAKHA	250	P29	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
735	PARADEEP	JED	JAGATSINGHPUR	MANDASAHI	NABAPATANA	MANDASAI	BIONLA	250	P30	TRANSFORMER LOCATED AT PUBLIC GATHRING AREA
736	PARADEEP	JED	BALIKUDA	NAUGAAON	Deriki	Salijanga	BHATANA	63	P31	CM Social media grievance-URGENTC346089
737	PARADEEP	JED	JAGATSINGHPUR	AGATSINGHPUR-	NUAPADA	NALIBARA	ERADANGA	63	P32	JAGATSINGHPUR-JAYPUR ROAD SIDE AT ERADANGA CM SOCIAL MEDIA TKT NO-URGENTC349097
738	Paradeep	PDP	Paradeep	Paradeep	BIJAYACHANDRAPUR	HANDIA	RICEMILL	250	P1	Fully damaged & in unsafe condition

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
739	Paradeep	PDP	Paradeep	Paradeep	Paradeepgarh	Rangiagada	Rangiagada Old	250	P2	Entrance of the Village
740	Paradeep	PDP	Paradeep	Paradeep	Paradeepgarh	Paradeepgarh	Pahacha gada	250	P3	Entrance of the Village
741	Paradeep	PDP	Paradeep	Paradeep	Paradeepgarh	Atharbanki	Iffco Chhaka	100	P4	Unsafe Condition/Inside reseidential Area
742	Paradeep	PDP	Paradeep	Paradeep	Paradeepgarh	Atharbanki	Bhimanasi	100	P5	Unsafe Condition/Inside reseidential Area
743	Paradeep	PDP	Paradeep	Paradeep	Paradeepgarh	Rangiagada	Katakula	100	P6	Populated Place
744	Paradeep	PDP	Paradeep	Paradeep	Paradeepgarh	Rangiagada	Kanyashrma	100	P7	Inside School Campus/Very Unsafe
745	Paradeep	PDP	Paradeep	Paradeep	Paradeepgarh	Atharbanki	New Jardarpada	100	P8	UNSAFE
746	Paradeep	PDP	Kujanga	Kujanga	KUJANGA	CHATUA	Malipura	100	P9	UNSAFE/Near Residential Area
747	Paradeep	PDP	Kujanga	Kujanga	KUJANGA	CHATUA	Karatutha	100	P10	UNSAFE/Near Residential Area
748	Paradeep	PDP	Kujanga	Kujanga	KUJANGA	CHATUA	Arakhia	100	P11	Unsafe Condition/Inside reseidential Area
749	Paradeep	PDP	TIRTOL	Tirtol	Tirtol	Tirtol Bazar	Arajanga-1	100	P12	UNSAFE/Near Residential Area
750	Paradeep	PDP	KUJANGA	RAHAMA	RAHAMA	PANKAPAL	REPURPATANA 100 KVA	100	P13	UNSAFE/Near Residential Area
751	Paradeep	PDP	TIRTOL	ERASAMA	JAGANNATHPUR	JAGANNATHPUR	SANILO	100	P14	UNSAFE/Near Residential Area
752	Paradeep	PDP	TIRTOL	ERASAMA	ERASAMA	JAPPA	PATAPUR	100	P15	UNSAFE/Near Residential Area
753	Paradeep	PDP	TIRTOL	ERASAMA	ERASAMA	JAPPA	CHANDAPUR	100	P16	UNSAFE/Near Residential Area
754	Paradeep	PDP	TIRTOL	ERASAMA	ERASAMA	JAPPA	JAPPA BAZAR	100	P17	UNSAFE/Near Residential Area
755	Paradeep	PDP	TIRTOL	ERASAMA	ERASAMA	ERASAMA	ORANALA	100	P18	UNSAFE/Near Residential Area
756	Paradeep	PDP	KUJANGA	KUJANGA	KUJANGA	KUJANGA BAZAR	BALARAMPUR GADA	100	P19	UNSAFE/Close to Road
757	Paradeep	PDP	TIRTOL	ERASAMA	ERASAMA	KOTHI	KOTHI	250	P20	UNSAFE/Close to Road
758	Paradeep	PDP	TIRTOL	Tirtol	Tirtol	Kanakpur -1	Tentulipada	100	P21	UNSAFE/Close to Road
759	Paradeep	PDP	TIRTOL	Tirtol	Tirtol	Tirtol Bazar	Log Chhaka	100	P22	UNSAFE/Close to Road
760	Paradeep	PDP	TIRTOL	ERASAMA	ERASAMA	JAPPA	SUNDARAKANI	100	P23	UNSAFE/Close to Road
761	Paradeep	PDP	Tirtol	ERASAMA	ERASAMA	JAPA	KUNJAKOTHI	100	P24	UNSAFE/Road Side
762	Paradeep	PDP	Tirtol	ERASAMA	ERASAMA	JAPA	JAPA	100	P25	UNSAFE/Road Side
763	Paradeep	PDP	Tirtol	ERASAMA	ERASAMA	ERASAMA	ATIMATI	100	P26	UNSAFE/Road Side
764	Paradeep	PDP	Tirtol	ERASAMA	ERASAMA	ERASAMA	NAIGNUA	100	P27	UNSAFE/Near Residential Area
765	Paradeep	PDP	Kujanga	Kujanga	KUJANGA	TALADANDA	Taladanda	100	P28	UNSAFE/Near Residential Area
766	Paradeep	PDP	Kujanga	Kujanga	KUJANGA	CHATUA	Nabadia	100	P29	UNSAFE/Near Residential Area
767	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	BHARATPUR	11 KV BHARATPUR FEEDER	500 KVA BHARATPUR GA	500	P1	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
768	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	BHARATPUR	11 KV BHARATPUR FEEDER	500 KVA BHARATPUR GA	500	P2	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
769	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	BHARATPUR	11 KV BHARATPUR FEEDER	500 KVA BHARATPUR GA NO-2	500	P3	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
770	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	TALAGAD 11 KV	SANAMUNDULI 250 KVA	250	P4	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
771	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	BIDYADHARPUR 250 KVA	250	P5	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
772	BBSR-1	BCDD-3	KHAIDAGI	KALINGANAGAR	KALINGA NAGAR	11 KV RE FEEDER	250 KVA	250	P6	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
773	BBSR-1	BCDD-3	KHAIDAGI	KALINGANAGAR	KALINGA NAGAR	11 KV TAMANDO FEEDER	250 KVA	250	P7	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
774	BBSR-1	BCDD-3	KHAIDAGI	KALINGANAGAR	KALINGA NAGAR	11 KV VIPUL FEEDER	250 KVA PAIKARAPUR	250	P8	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
775	BBSR-1	BCDD-3	KHAIDAGI	KALINGANAGAR	KALINGA NAGAR	11 KV K5 FEEDER	250 KVA SUBUDHIPUR	250	P9	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
776	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	GOTHAPATNA ODSSP	11 KV PAIKARAPUR	250 KVA PAIKARAPUR	250	P10	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
777	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	GOTHAPATNA ODSSP	11 KV PAIKARAPUR	250 KVA PAIKARAPUR	250	P11	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
778	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	GOTHAPATNA ODSSP	11 KV PAIKARAPUR	200 KVA PAIKARAPUR	200	P12	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
779	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	TALAGAD 11 KV	CHAKRADHARPUR 100	100	P13	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
780	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	TALAGAD 11 KV	SANAMUNDULI	100	P14	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
781	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	TALAGAD 11 KV	TALAGAD 100 KVA	100	P15	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
782	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	AKILO NEAR ADARSHA	100	P16	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
783	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	MARTHAPUR 100 KVA	100	P17	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
784	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	BIDYADHARPUR 100	100	P18	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
785	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	PADMALAYANADAR 100	100	P19	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
786	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	BENTAKANPADA 100	100	P20	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
787	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	BIDYADHARPUR 100	100	P21	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
788	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	BIDYADHARPUR 11 KV	PATAPUR 100 KVA	100	P22	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
789	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV KUJIMAHALA	100 KVA GABARI SAHI	100	P23	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
790	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV KUJIMAHALA	100 KVA GATAKA PATAR	100	P24	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
791	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV KUJIMAHALA	100 KVA CHANDU BHAI	100	P25	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
792	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV DASPUR 11 KVA	100 KVA TRINATH TEMPLE ANDHARUA	100	P26	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
793	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV DASPUR	100 KVA BHUASUNI	100	P27	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
794	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV TRISULIA	100 KVA ANDHARUA	100	P28	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
795	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV TRISULIA FEEDER	100 KVA GADEIKUDA	100	P29	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
796	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV TRISULIA FEEDER	100 KVA GADEIKUDA	100	P30	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
797	BBSR-1	BCDD-3	KHAIDAGI	KALINGANAGAR	KALINGA NAGAR	11 KV RE FEEDER	100 KVA JANA	100	P31	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
798	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	GOTHAPATNA ODSSP	11 KV NUAGAON FEEDER	100 KVA GOTHAPATANA	100	P32	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
799	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	GOTHAPATNA ODSSP	11 KV NUAGAON FEEDER	100 KVA GOTHAPATANA	100	P33	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
800	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	GOTHAPATNA ODSSP	11 KV GODIBARI FEEDER	100 KVA KANTABADA	100	P34	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
801	BBSR-1	BCDD-3	KHAIDAGI	BHARATPUR	GOTHAPATNA ODSSP	11 KV GODIBARI FEEDER	100 KVA KAYENI	100	P35	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
802	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	TALAGAD 11 KV	BENTUA 1 63 KVA	63	P36	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
803	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	GODISAHI (RAMDASPUR)	TALAGAD 11 KV	BENTUA 2 63 KVA	63	P37	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
804	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	AHI (RAMDASPUR)	TALAGAD 11 KV	BERENA 63 KVA	63	P38	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
805	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	AHI (RAMDASPUR)	TALAGAD 11 KV	BADAMUNDULI	63	P39	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
806	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	AHI (RAMDASPUR)	TALAGAD 11 KV	THORIAPATNA 63 KVA	63	P40	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
807	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	AHI (RAMDASPUR)	BIDYADHARPUR 11	SADHABANIPUR 63 KVA	63	P41	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
808	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	AHI (RAMDASPUR)	BIDYADHARPUR 11	ARILO KAIBARTYA SAHI	63	P42	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
809	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	AHI (RAMDASPUR)	BIDYADHARPUR 11	ARILO 63 KVA 11/0.4 KV	63	P43	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
810	BBSR-1	BCDD-3	PERIPHERI	BARANGA	AHI (RAMDASPUR)	11 KV INDUSTRIAL	63 KVA BHOLA TARINI	63	P44	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
811	BBSR-1	BCDD-3	PERIPHERI	BARANGA	AHI (RAMDASPUR)	11 KV INDUSTRIAL	63 KVA DALUA VILLAGE	63	P45	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
812	BBSR-1	BCDD-3	PERIPHERI	BARANGA	AHI (RAMDASPUR)	11 KV INDUSTRIAL	63 KVA NIMIDAS	63	P46	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
813	BBSR-1	BCDD-3	PERIPHERI	BARANGA	AHI (RAMDASPUR)	11 KV INDUSTRIAL	63 KVA NUASAHI	63	P47	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
814	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV KUJIMAHALA	100 KVA MEDICAL	63	P48	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
815	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV ANDHARUA	63 KVA KRISHNA	63	P49	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
816	BBSR-1	BCDD-3	KHAINDAGI	KALINGANAGAR	KALINGA NAGAR	11 KV RE FEEDER	63 KVA PANCHUPALLI	63	P50	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
817	BBSR-1	BCDD-3	KHAINDAGI	KALINGANAGAR	KALINGA NAGAR	11 KV K5 FEEDER	63 KVA SIJIPUT	63	P51	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
818	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	BHARATPUR	11 KV BHARATPUR	63 KVA ANDHARUA	63	P52	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
819	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	63 KVA KANTABADA	63	P53	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
820	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	63 KVA JENA SAHI	63	P54	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
821	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	63 KVA BARAL	63	P55	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
822	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	63 KVA GORUMA VILLAGE	63	P56	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
823	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	63 KVA GODIBARI	63	P57	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
824	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	63 KVA MADHUPUR	63	P58	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
825	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	63 KVA SUPRATIK ELIT	63	P59	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
826	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV PAIKARAPUR	63 KVA SUNIL KUMAR	63	P60	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
827	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV PASOLIA	25 KVA	25	P61	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
828	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV TRISULIA	25 KVA SARANGEI	25	P62	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
829	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	25 KVA KANTABADA	25	P63	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
830	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	25 KVA KANTABADA	25	P64	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
831	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	25 KVA KATENI VILLAGE	25	P65	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
832	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	25 KVA BHAGABATI PUR	25	P66	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
833	BBSR-1	BCDD-3	PERIPHERI	GODISAHI	AHI (RAMDASPUR)	TALAGAD 11 KV	MUNDULI 16 KVA	16	P67	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
834	BBSR-1	BCDD-3	PERIPHERI	BARANGA	AHI (RAMDASPUR)	11 KV INDUSTRIAL	16 KVA BHOLA VILLAGE	16	P68	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
835	BBSR-1	BCDD-3	PERIPHERI	BARANGA	CHANDAKA ODSSP	11 KV DASPUR	16 KVA MAHIMA	16	P69	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
836	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV ANDHARUA	16 KVA AMBAPADIA	16	P70	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
837	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV TRISULIA	16 KVA SARANGEI	16	P71	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
838	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV TRISULIA	16 KVA CHUDANGA 1	16	P72	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
839	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV TRISULIA	16 KVA CHUDANGA 2	16	P73	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
840	BBSR-1	BCDD-3	PERIPHERI	BARANGA	NEW BARANGA	11 KV TRISULIA	16 KVA CHUDANGA 3	16	P74	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
841	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	BHARATPUR	11 KV BHARATPUR	16 KVA ANDHARUA-1	16	P75	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
842	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	BHARATPUR	11 KV BHARATPUR	16 KVA ANDHARUA-2	16	P76	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
843	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	16 KVA KALAPATHA	16	P77	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
844	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	16 KVA GODIBARI	16	P78	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
845	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	16 KVA GODIBARI	16	P79	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
846	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	16 KVA MUNDA SAHI	16	P80	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
847	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	16 KVA ACHUTANANDA	16	P81	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
848	BBSR-1	BCDD-3	KHAINDAGI	BHARATPUR	GOTHAPATNA ODSS	11 KV GODIBARI	16 KVA GANGAPATANA	16	P82	BRICK WALL REQUIRED BY RCCF. ELEPHANT MOVEMENT AREA
849	Dhenkanal	TED	PALLAHARA	KHAMAR	KUNJAM	INJIDI	BENIPATHAR 63KVA	63	P1	CMO20261518183- CM GrievanceDEPT20261518210- Energy departmentDM20261518178- Collector Griev
850	Dhenkanal	TED	PALLAHARA	PARABIL	PARABIL	PARABIL	NAIKANALI- 10kva,	25	P2	CMO20251336930, URGENTC348640-CM Grievance
851	Dhenkanal	TED	PALLAHARA	PARABIL	PARABIL	PARABIL	MAHIDHARPUR PIDHASAHI- 25kva,	25	P3	DM20251158090-Anugola Collector Grievance
852	Dhenkanal	TED	CHAINPAL	Banarpal	Banarpal	HINDOL	Tentulianala-25kva,	63	P4	DEPT20261571634, DEPT20261571703-CM Grievance
853	Dhenkanal	TED	PARJANG	PARJANG-1	PARJANG	R. N PUR	ALUMUNDA CHHAK-100K	100	P5	C402283-CM Grievance
854	Dhenkanal	TED	PARJANG	PARJANG-1	PARJANG	KANDARSINGHA	RSINGHA near GP office-1	100	P6	Social media Grievance
855	Dhenkanal	TED	PARJANG	PARJANG-2	PARJANG	OLD SARANG	GADA BANGALI GADIA_01	100	P7	Grievance-C380717, social media Paper cutting
856	Dhenkanal	TED	PARJANG	PARJANG-2	NEW BANARPAL	BHEJIA	Gatarei Nuasahi-25kVA	25	P8	Grievance-URGENTC368963, C375508,C366803, C364670, C360909 social media Paper cutting
857	Dhenkanal	TED	PARJANG	PARJANG-2	NEW BANARPAL	BHEJIA	Solagaon-63kVA	63	P9	Grievance-C334672, social media Paper cutting
858	Dhenkanal	TED	PARJANG	PARJANG-2	NEW BANARPAL	BASULEI	Kulei Sundhi sahi-63kVA	63	P10	Grievance-C320679, social media Paper cutting
859	Dhenkanal	TED	PARJANG	PARJANG-2	MAHABIROAD	GADAPALASUNI	Toradanali Nuasahi-63kVA	63	P11	Grievance-DEPT20241043873
860	Dhenkanal	TED	PARJANG	PARJANG-2	MAHABIROAD	GADAPALASUNI	Kuturia Bileisuni-16kVA	16	P12	Grievance-C331360, social media
861	Dhenkanal	TED	PARJANG	PARJANG-2	NEW BANARPAL	BHEJIA	BHEJIA-63kVA	63	P13	Grievance-C338439, social media
862	Dhenkanal	TED	PALLAHARA	PALLAHARA	PALLAHARA	SEEGARH	NAIKANIPALLI- 10kva,	25	P14	C382502-CM Grievance
863	Dhenkanal	TED	PALLAHARA	PALLAHARA	PALLAHARA	BATISUAN	Batisuan Shrirampur-	63	P15	DEPT20261674989- Grievance, Social media paper cutting
864	Dhenkanal	TED	PALLAHARA	KHAMAR	KUNJAM	NUAGAON	SIARIMALIA 100KVA	100	P16	Grievance
865	Dhenkanal	TED	PALLAHARA	KHAMAR	KUNJAM	NUAGAON	KUNJAM 63 NUASAHI	63	P17	Grievance
866	Dhenkanal	TED	PALLAHARA	KHAMAR	KUNJAM	NUAGAON	MUNDURIBEDA 63 FIELD	63	P18	Grievance
867	Dhenkanal	TED	PALLAHARA	KHAMAR	KUNJAM	NUAGAON	VETIA 100KVA	100	P19	Grievance
868	Dhenkanal	TED	TALCHER	KANIHA	KANIHA	DERENG	KANJAMUNDA JATRA	100	P20	URGENTC342070-CM Grievance

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
869	Dhenkanal	TED	CHAINPAL	CHAINPAL	CHAINPAL	BHOGABERENI	MPRASAD BAZAR CHHAK	250	P21	Market area near School,
870	Dhenkanal	TED	CHAINPAL	CHAINPAL	CHAINPAL	BHOGABERENI	EBASHRAM SCHOOL-63KV	63	P22	Near School
871	Dhenkanal	TED	CHAINPAL	CHAINPAL	CHAINPAL	BHOGABERENI	HEMNA GOPALSAHI 63KV	63	P23	ROAD SIDE
872	Dhenkanal	TED	CHAINPAL	CHAINPAL	CHAINPAL	BHOGABERENI	KENDUPALI 25KVA	25	P24	ROAD SIDE, Traffic Movement
873	Dhenkanal	TED	CHAINPAL	CHAINPAL	CHAINPAL	BHOGABERENI	KAINPHULIA 100KVA	100	P25	Market area
874	Dhenkanal	TED	PARJANG	PARJANG-2	MAHABIROAD	GADAPALASUNI	Nageswar	25	P26	C283475-Social Media
875	Dhenkanal	TED	TALCHER	TALCHER	HATATOTA	HATATOTA RE-1	Dharampur, Talcher	63	P27	C288854-Social Media
876	Dhenkanal	TED	TALCHER	TALCHER	HATATOTA	TOWN-1	Remuan, 12no ward	250	P28	C219706-Social Media
877	Dhenkanal	TED	TALCHER	TALCHER	HATATOTA	HATATOTA RE-1	Remuan, 12no ward	63	P29	C336564-Social Media
878	Dhenkanal	TED	PALLAHARA	PARABIL	PARABIL	PARABIL	ahidharpur, Thakurani Pid	63	P30	DEPT20251158081-CM Grievance
879	Dhenkanal	TED	PALLAHARA	PARABIL	PARABIL	PARABIL	ahidharpur, Thakurani Pid	25	P31	DM20251158090-CM Grievance
880	Dhenkanal	TED	PARJANG	PARJANG-1	PARJANG	Old Parjang	SATIGADIA	63	P32	Forest Range Office Kamakhyanagar, Letter No.-445 on dt.22.07.2025
881	Dhenkanal	TED	PARJANG	PARJANG-1	PARJANG	Old Parjang	BADAJHARA KUNDA SAHI	25	P33	Forest Range Office Kamakhyanagar, Letter No.-445 on dt.22.07.2025
882	Dhenkanal	TED	PARJANG	PARJANG-1	PARJANG	Old Parjang	KAMARDA YATRA PADIA	63	P34	Forest Range Office Kamakhyanagar, Letter No.-445 on dt.22.07.2025
883	Dhenkanal	TED	PARJANG	PARJANG-1	PARJANG	Old Parjang	MAJHIKHAMAN	63	P35	Forest Range Office Kamakhyanagar, Letter No.-445 on dt.22.07.2025
884	Dhenkanal	TED	Chainpal	Banarpal	Banarpal	Meramandali	NUAHATA DIHA SAHI	250	P36	ELEPHANT MOVEMENT AREA/Domestic Animal movement area
885	Dhenkanal	TED	PARJANG	PARJANG-1	PARJANG	Old Parjang	MUKTAPASI MEDICAL 2	250	P37	No fencing, near public area
886	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	BURUKUNA	250	P38	No fencing, near public area
887	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	TELSINGHA CHHAK 1	250	P39	No fencing, near public area
888	Dhenkanal	TED	PALLAHARA	PALLAHARA	PALLAHARA	TOWN FDR	NH -250KV	250	P40	No fencing, near public area, plinth damaged
889	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	BABA STEEL	250	P41	market and school area
890	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	BHIMKAND	100	P42	market and school area
891	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	BHIMKAND	63	P43	market and school area
892	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	BHIMKAND	100	P44	market and school area
893	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	KALIA HOTEL	63	P45	market and school area
894	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	BIGIGOL	100	P46	market and school area
895	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	AMBPAL	63	P47	market area
896	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	GADASILA	100	P48	market area
897	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	GADASILA	63	P49	C373244-CM Grievance
898	Dhenkanal	TED	TALCHER	SAMAL	KANIHA	KARADEI	TELISINGHA ROAD	63	P50	market area
899	Dhenkanal	TED	TALCHER	SAMAL	SAMAL	BIGIGOL	GAMBHARIDIHA	63	P51	elephant movement area
900	Dhenkanal	TED	TALCHER	SAMAL	SAMAL	BIGIGOL	RUTUBHUIN	25	P52	market area, Crowded area
901	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	CHAINPAL	GOTAMARA SCHOOL SAH	100	P53	SCHOOL AREA
902	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	HINDOL	ASAHI 250(LOBHI THAKUI	250	P54	ELEPHANT MOVEMENT
903	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	Meramandali	NUAHATA 100	100	P55	ELEPHANT MOVEMENT
904	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	HINDOL	NUAHATA 100 NH SIDE	100	P56	ELEPHANT MOVEMENT
905	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	HINDOL	NALACHANDRAPUR	100	P57	ELEPHANT MOVEMENT
906	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	HINDOL	GADA SANTRI 100	100	P58	ELEPHANT MOVEMENT
907	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	KULAD	HATA 250	250	P59	PUBLIC GATHERING AREA
908	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	KULAD	BONDA 100	100	P60	ELEPHANT MOVEMENT
909	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	KULAD	CHAURIDIHA 250	250	P61	ELEPHANT MOVEMENT
910	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	KULAD	CHAURIDIHA 100	100	P62	ELEPHANT MOVEMENT
911	Dhenkanal	TED	Chainpal	BANARPAL	BANARPAL	HINDOL	ENDRAPUR SETHI SAHI 25	25	P63	ELEPHANT MOVEMENT
912	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	BALUGAON	K K NUAGAON	250	P1	TOWN AREA
913	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	BALUGAON	GANDHI NAGAR 1	250	P2	TOWN AREA
914	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	BALUGAON	MEDICAL (GOVT. HOSPITA	63	P3	TOWN AREA
915	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	SINGHESWAR	SINGHESHWAR	200	P4	TOWN AREA
916	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	SINGHESWAR	GHUMUSARA PADAR	100	P5	TOWN AREA
917	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	BALUGAON	VIDHYA DHARPUR	250	P6	TOWN AREA
918	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	SINGHESWAR	GOPINATHPUR ROAD	100	P7	TOWN AREA
919	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	BANPUR-1	BHESRI	100	P8	TOWN AREA
920	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	SINGHESWAR	GOBARDHANPUR	100	P9	TOWN AREA
921	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	SINGHESWAR	LAMBO DHAR PUR 1	100	P10	HIGH POPULATED AREA
922	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	SINGHESWAR	BANKIA PALLI2	100	P11	HIGH POPULATED AREA
923	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	SINGHESWAR	ANKULA1	100	P12	HIGH POPULATED AREA
924	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	ANKULACHATI	SAMANT SINGHARPUR 1	100	P13	HIGH POPULATED AREA
925	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	ANKULACHATI	ANKULA CHATTI2	100	P14	HIGH POPULATED AREA
926	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	ANKULACHATI	RAHAN BALLI 2	100	P15	HIGH POPULATED AREA
927	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	ANKULACHATI	KALURI3	100	P16	HIGH POPULATED AREA
928	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	BALUGAON	INJANPUR 1	100	P17	HIGH POPULATED AREA
929	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	BALUGAON	ANDRAPUT ATHARA BATI	100	P18	HIGH POPULATED AREA
930	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	BALUGAON	PANTHA NIWAS ROAD	100	P19	TOWN AREA/ TOURIST PLACE
931	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	BALUGAON	CHHATRAGARH 1	100	P20	HIGH POPULATED AREA
932	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	DHUANLA	BISUNDI	100	P21	HIGH POPULATED AREA
933	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	DHUANLA	KHADANT	100	P22	HIGH POPULATED AREA

S.No.	Circle	Division	Subdivision	Section	Name of the PSS	Name of Feeder	DSS Name	DSS Capacity	Division-wise Priority	Remarks
934	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	DHUANLA	DIXIT PADA	100	P23	HIGH POPULATED AREA
935	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	DHUANLA	KOTARI	100	P24	HIGH POPULATED AREA
936	BBSR-2	BAED	BALUGAON	BALUGAON-2	SOLARI	DHUANLA	PARIKANSARI	100	P25	HIGH POPULATED AREA
937	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	BANPUR-1	RAJPALE	100	P26	HIGH POPULATED AREA
938	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	BANPUR-1	CHANSANGRA (MEDICAL)	100	P27	HIGH POPULATED AREA
939	BBSR-2	BAED	BALUGAON	BALUGAON-2	Balugaon	BANPUR-1	NIMAIMALL	100	P28	HIGH POPULATED AREA
940	BBSR-2	BAED	TANGI	BHUSANDAPUR	Chandpur	CHANDAPUR	MANGLA JODI	100	P29	TOWN AREA/ TOURIST PLACE
941	BBSR-2	BAED	TANGI	BHUSANDAPUR	Chandpur	CHANDAPUR	BHAJA GARH(BANK BALI)	100	P30	HIGH POPULATED AREA
942	BBSR-2	BAED	BALUGAON	BANAPUR-I	BALUGAON	11 kV BANAPUR-2	GOPALPUR	100	P31	HIGH POPULATED AREA
943	BBSR-2	BAED	BALUGAON	Nachuni	ANKULAPADAR	11 kV PANCHUGRAM	BELADHIH 5	63	P32	HIGH POPULATED AREA
944	BBSR-2	BAED	TANGI	KUHUDI	TANGI	KALUPADA	BARAPATANA	63	P33	HIGH POPULATED AREA
945	BBSR-2	BAED	TANGI	KUHUDI	KUHUDI	CHANDESWAR	RAGHUNATHPUR	63	P34	HIGH POPULATED AREA
946	BBSR-2	BAED	TANGI	KUHUDI	KUHUDI	CHANDESWAR	PARIORADA	100	P35	HIGH POPULATED AREA
947	BBSR-2	BAED	TANGI	KUHUDI	TANGI	KALUPADA	TARAPI	100	P36	HIGH POPULATED AREA
948	BBSR-2	BAED	TANGI	TANGI	TANGI	11 kV BADAPARI	RATNAWALI SAHI	100	P37	TOWN AREA
949	BBSR-2	BAED	TANGI	TANGI	TANGI	KALUPADA	CHILIKA CHOWK 3	250	P38	TOWN AREA
950	BBSR-2	BAED	TANGI	TANGI	TANGI	KALUPADA	SANDHA SAHI 1	100	P39	HIGH POPULATED AREA
951	BBSR-2	BAED	BALUGAON	BALUGAON-1	BALUGAON	BANAPUR-1	DOLAMUDAI	63	P40	HIGH POPULATED AREA

ANNEXURE-5

ENHANCING VERTICAL CLEARANCES THROUGH INTERPOSING POLES

Enhancing vertical clearance through Interposing poles					
Sl. No.	***Description***	***Unit***	***Cost per Unit (In Cr.)***	***Total Qty.***	***Total Cost (In Cr.)***
1	BoQ for Installation of Interposing poles- (13 Mtr. WPB) at 33 kV line	EA	***0.006***	***161***	***0.988***
2	BoQ for Installation of Interposing poles- (11 Mtr. WPB) at 33 kV line	EA	***0.005***	***325***	***1.728***
3	BoQ for Installation of Interposing poles- (11 Mtr. WPB) at 11 kV line	EA	***0.0051***	***918***	***4.654***
4	BoQ for Installation of Interposing poles- (9 Mtr. PSC) at LT Line	EA	***0.0014***	***450***	***0.632***
				TOTAL	***8.00***

BoQ for Installation of Interposing poles- (13 Mtr. WPB) at 33 kV line

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	1	33,970.00
2	33 KV V cross Arm (GI)	EA	1,701.00	1	1,701.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	1	81.00
4	Danger Plate	EA	180.00	1	180.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	1.54	120.12
6	GI barbed wire anticlimbing device	KG	74.00	3.00	222.00
7	33 kV pin insulator polymer	EA	398.00	3	1,194.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	1.65	121.88
10	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
A1				**Total Cost of materials**	**37,817.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**6,807.06**
A				**Total landed Cost (A=A1 + A2)**	**44,624.06**
B				Stock, Storage & Insurance i.e 3% of A	1,338.72
C				**Sub Total (A+B)**	**45,962.78**
D				Contigency @ 3% of C	1,378.88
E				Tools & Plants @ 2% of C	919.26
F				Transportation @ 7.5% of C	3,447.21
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				2,064.36
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				467.56
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**54,240.05**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**5,524.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**994.36**
K				**Total landed Cost (K=K1+ K2)**	**6,518.56**
L				**Total (J+K)**	60,758.61
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**60,758.61**
O				CESS 1% of N	607.59
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**61,366.19**

BoQ for Installation of Interposing poles- (11 Mtr. WPB) at 33 kV line

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	28,835.00	1	28,835.00
2	33 KV V cross Arm (GI)	EA	1,701.00	1	1,701.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	1	81.00
4	Danger Plate	EA	180.00	1	180.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	1.54	120.12
6	GI barbed wire anticlimbing device	KG	74.00	3.00	222.00
7	33 kV pin insulator polymer	EA	398.00	3	1,194.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	1.65	121.88
10	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
A1				**Total Cost of materials**	**32,682.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,882.76**
A				**Total landed Cost (A=A1 + A2)**	**38,564.76**
B				Stock, Storage & Insurance i.e 3% of A	1,156.94
C				**Sub Total (A+B)**	**39,721.70**
D				Contigency @ 3% of C	1,191.65
E				Tools & Plants @ 2% of C	794.43
F				Transportation @ 7.5% of C	2,979.13
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				467.56
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**46,906.78**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**4,859.32**
K2				**Applicable Taxes to make it Landed Cost @18%**	**874.68**
K				**Total landed Cost (K=K1+ K2)**	**5,734.00**
L				**Total (J+K)**	52,640.78
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**52,640.78**
O				CESS 1% of N	526.41
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**53,167.18**

BoQ for Installation of Interposing poles- (11 Mtr. WPB) at 11 kV line					
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	11 KV V cross Arm(GI)	EA	851.00	1	851.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	1	81.00
4	Danger Plate	EA	180.00	1	180.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	1.54	120.12
6	GI barbed wire anticlimbing device	KG	74.00	3.00	222.00
7	11 KV pin insulator polymer	EA	140.00	3	420.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	1.37	101.53
10	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
A1				**Total Cost of materials**	**31,037.65**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,586.78**
A				**Total landed Cost (A=A1 + A2)**	**36,624.42**
B				Stock, Storage & Insurance i.e 3% of A	1,098.73
C				**Sub Total (A+B)**	**37,723.16**
D				Contigency @ 3% of C	1,131.69
E				Tools & Plants @ 2% of C	754.46
F				Transportation @ 7.5% of C	2,829.24
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	267.71
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**44,458.56**
Civil & Services					
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**4,859.32**
K2				**Applicable Taxes to make it Landed Cost @18%**	**874.68**
K				**Total landed Cost (K=K1+ K2)**	**5,734.00**
L				**Total Material+Services (J+K)**	50,192.56
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**50,192.56**
O				CESS 1% of N	501.93
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**50,694.49**

BoQ for Installation of Interposing poles- (9 Mtr. PSC) at LT Line

MATERIALS FOR LT AB Cable Line

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
2	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	1	240.00
3	Suspension Clamp with EYE hook for ABC	PAA	193.00	1	193.00
4	10 WAY LT SERVICE Distb.Box	EA	920.00	1	920.00
5	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	4	452.32
6	Coil Earthing	EA	164.00	1	164.00
7	Danger plate (LT)	EA	180.00	1	180.00
8	GI barbed wire anticlimbing device	KG	74.00	3.00	222.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	0.50	37.00
A1				**Total Cost of materials**	**6,176.38**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,111.75**
A				**Total landed Cost (A=A1 + A2)**	**7,288.13**
B				Stock, Storage & Insurance i.e 3% of A	218.64
C				**Sub Total (A+B)**	**7,506.77**
D				Contigency @ 3% of C	225.20
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	150.14
F				Transportation @ 7.5% of C	563.01
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	309.49
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**9,636.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.38	2,493.32
2	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
K1				**Total Civil & Services**	**3,612.66**
K2				Applicable Taxes to make it Landed Cost @18%	650.28
K				**Total landed Cost (K=K1+ K2)**	**4,262.94**
L				**Total (J+K)**	**13,899.92**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**13,899.92**
O				CESS 1% of N	139.00
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**14,038.92**

Location of Interposing Poles at 33 kV Line-

TOTAL					486	
Sl. No.	**Circle**	**Division**	**33 kV Feeder Name**	**Type & Height of Intermediate Pole Required (RSJ/RAIL/PSC)**	**No. of Intermediate Poles Req.**	**Technical Justification**
1	BBSR-I	NED	Balipatna fdr	13 Mtr WPB	18	Long Span - Low Ground clearance
2	BBSR-I	BED	Kesura SBI	13 Mtr WPB	15	low clearance along the road
3	BBSR-I	NED	Patlada O/G	13 Mtr WPB	10	low clearance along the road
4	BBSR-I	NED	Astaranga	13 Mtr WPB	25	low clearance along the road
5	BBSR-II	PED	33kV Ankulapadar Feeder	11 Mtr. WPB	32	Long Span - Low Ground clearance
6	BBSR-II	KHD	33kV Jatani-Harirajpur Feeder	11 Mtr. WPB	27	Reliability,network strengthning & safety
7	BBSR-II	KHD	33kV Dadhimachagadia Feeder	11 Mtr. WPB	10	Long Span - Low Ground clearance
8	BBSR-II	PED	33kV Mahipur-Nuagaon Feeder	11 Mtr. WPB	25	Reliability,network strengthning & safety
9	BBSR-II	NyED	33kV Banki Feeder	11 Mtr. WPB	15	Reliability,network strengthning & safety
10	BBSR-II	KHD	33kV Bramhagiri-Khajuria	11 Mtr. WPB	25	Long Span - Low Ground clearance
11	BBSR-II	KHD	JATAMUNDIA FEEDER	13 Mtr WPB	11	Long Span - Low Ground clearance
12	BBSR-II	KHD	33kV Sunadeimundia- Jatamundia feeder	11 Mtr. WPB	10	Long Span - Low Ground clearance
13	BBSR-II	PED	33 kv Chandanpur- Sakhigopal feeder	13 Mtr WPB	11	Long Span - Low Ground clearance
14	Cuttack	CED	33kv IDCO feeder	13 Mtr WPB	15	Long Span - Low Ground clearance
15	DHENKANAL	TED	33kv Talcher feeder	13 Mtr WPB	24	MITIGATE SAG
16	DHENKANAL	ANED	CHHENDIPADA	WPB - 13M	10	MITIGATE SAG
17	DHENKANAL	DED	SADANGI	WPB - 11M	15	PADDY FIELD, ELEPHANT MOEVEMENT
18	DHENKANAL	DED	33KV MATHAKARGOLA	WPB - 11M	15	PADDY FIELD, PUBLIC MOVEMENT, ELEPHANT MOEVEMENT
19	DHENKANAL	DED	33KV JORANDA	WPB - 11M	30	PADDY FIELD, ELEPHANT MOEVEMENT
20	DHENKANAL	ANED	ATHAMALICK	WPM - 11M	20	MITIGATE SAG
21	DHENKANAL	TED	RENGALI-HANUMANPUR	WPB - 11M	10	PADDY FIELD, ELEPHANT MOEVEMENT
22	DHENKANAL	DED	NIHALPRASAD	WPB - 11M	10	PADDY FIELD, ELEPHANT MOEVEMENT
23	DHENKANAL	TED	BARKOTE - PALALHARA	WPB - 11M	10	PADDY FIELD, ELEPHANT MOEVEMENT
24	DHENKANAL	TED	BARUAN-SAMAL	WPB - 11M	10	PADDY FIELD, ELEPHANT MOEVEMENT
25	PARADEEP	JED	Raghunathpur OG	13 Mtr WPB/H-Pole	22	Paddy Field
26	PARADEEP	KED-1	ADHAJORI	WPB - 11M	12	Reliability,network strengthning & safety
27	PARADEEP	JED	TIRTOL	WPB - 11M	23	Reliability,network strengthning & safety
28	PARADEEP	JED	NABAPATNA-22MOUZA	WPB - 11M	12	Reliability,network strengthning & safety
29	PARADEEP	KED-1	Indupur - Chata	WPB - 11M	14	Reliability,network strengthning & safety

Location of Interposing Poles at 11 kV Line-

TOTAL				918	
Circle	**Division**	**Section**	**11 kV Feeder Name**	**No. of Intermediate Poles Req.**	**Technical Justification**
BBSR-1	NED	PIPILI NO-2	MANGALPUR	20	Network Strengthning & Maintaining Clearances
BBSR-1	NED	PIPILI NO-2	MANGALPUR-2	20	Network Strengthning & Maintaining Clearances
BBSR-1	NED	PIPILI NO-2	MANGALPUR-2	15	Network Strengthning & Maintaining Clearances
BBSR-1	NED	PIPILI NO-2	MANGALPUR	15	Network Strengthning & Maintaining Clearances
BBSR-1	BCDD-2	Godisahi	Naranpur	10	Network Strengthning & Maintaining Clearances
BBSR-1	BCDD-2	Godisahi	Mundamuhan	10	Network Strengthning & Maintaining Clearances
BBSR-1	BED	LAXMISAGAR	MANGARAJ POINT UG	10	Network Strengthning & Maintaining Clearances
BBSR-1	BED	MANCHESWER	FEEDER-2	10	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	Nachuni	Nairi	10	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	TANGI	BADAPARI	20	Network Strengthning & Maintaining Clearances
BBSR-2	NYED	KHANDAPADA	BAIGUNIA	18	Network Strengthning & Maintaining Clearances
BBSR-2	PED	DEALNG	Ghorodia	20	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	BANAPUR-2	11KV NILADRI	12	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SATASANKHA	SATASANKHA BAZAR	7	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SATASANKHA	BALANGA	12	Network Strengthning & Maintaining Clearances
BBSR-2	PED	DEALNG	DELANG	20	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	BANAPUR-1	Banapur-2	15	Network Strengthning & Maintaining Clearances
BBSR-2	NYED	KHANDAPADA	PANIPOILA	10	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SAKHIGOPAL-1	EXPRESS	15	Network Strengthning & Maintaining Clearances
BBSR-2	KHD	KHORDHA 4	KAIPADAR	15	Network Strengthning & Maintaining Clearances
BBSR-2	KHD	RAJSUNAKHALA	BANKOI	15	Network Strengthning & Maintaining Clearances
BBSR-2	KHD	KALAPATHAR	BAIDESWAR	15	Network Strengthning & Maintaining Clearances
BBSR-2	KHD	BEGUNIA	PATNAHAT	15	Network Strengthning & Maintaining Clearances
BBSR-2	KHD	Banki-2	Rajib	35	Network Strengthning & Maintaining Clearances
BBSR-2	KHD	MALIPADA	BADAPOKHARIA	10	Network Strengthning & Maintaining Clearances
BBSR-2	KHD	MALIPADA	MANAPUR	15	Network Strengthning & Maintaining Clearances
CUTTACK	SED	ERAKANA	GOUDGOP	10	Network Strengthning & Maintaining Clearances
CUTTACK	SED	ORIKANTA	SOGAL	10	Network Strengthning & Maintaining Clearances
CUTTACK	SED	ERAKANA	KURUJANGA	10	Network Strengthning & Maintaining Clearances
CUTTACK	AED	Khuntuni	New Megha	10	Network Strengthning & Maintaining Clearances
CUTTACK	CED	BALIKUDA	UTTAMPUR	15	Network Strengthning & Maintaining Clearances
CUTTACK	SED	ERAKANA	LAXMINARAYANPUR	10	Network Strengthning & Maintaining Clearances
CUTTACK	SED	kothapada	JAYPURKOTHPADA	15	Network Strengthning & Maintaining Clearances
CUTTACK	SED	ORIKANTA	Bilahata	20	Network Strengthning & Maintaining Clearances
CUTTACK	SED	ASURESWAR	LUNA	10	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-II	RAMESWAR-SOURI	10	Network Strengthning & Maintaining Clearances
CUTTACK	AED	BADAMBA	BHATTARIKA	10	Network Strengthning & Maintaining Clearances
CUTTACK	AED	KANPUR	BALIJHARI	10	Network Strengthning & Maintaining Clearances
CUTTACK	CDD-2	KANDARPUR	AYATPUR	10	Network Strengthning & Maintaining Clearances
CUTTACK	CED	BALIKUDA	42 MOUZA	10	Network Strengthning & Maintaining Clearances
CUTTACK	CED	Adaspur	Gangeswar	10	Network Strengthning & Maintaining Clearances
CUTTACK	CED	Adaspur	Kantapada	10	Network Strengthning & Maintaining Clearances
Dhenkanal	TED	PARJANG-1	PANIGENGUTIA	20	Network Strengthning & Maintaining Clearances
Dhenkanal	TED	PALLAHARA	PHAPAND	20	Network Strengthning & Maintaining Clearances
Dhenkanal	TED	PARJANG-1	KANKILI	10	Network Strengthning & Maintaining Clearances
Dhenkanal	TED	PARJANG-1	SANDA	15	Network Strengthning & Maintaining Clearances
Dhenkanal	TED	PALLAHARA	SIMILIPAL	14	Network Strengthning & Maintaining Clearances
Dhenkanal	DED	RN Pur	Anaberani	15	Network Strengthning & Maintaining Clearances
Dhenkanal	DED	RN Pur	Kotagada	15	Network Strengthning & Maintaining Clearances
Dhenkanal	AnED	Bantala	RE-2	10	Network Strengthning & Maintaining Clearances
Dhenkanal	AnED	Athamalik	Kiakata	15	Network Strengthning & Maintaining Clearances
PARADEEP	JED	BALIKUDA-I	BADAGAON	25	Network Strengthning & Maintaining Clearances
PARADEEP	JED	DHIASAHI	DIHASAHI	15	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	MARSAGHAI & KORUA	KARILOPATNA	18	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	KORUA	NAGANPUR	18	Network Strengthning & Maintaining Clearances
PARADEEP	PDP	Bhutamundai	Bhutumundai	12	Network Strengthning & Maintaining Clearances
PARADEEP	PDP	RAHAMA	NUAPOKHARI	10	Network Strengthning & Maintaining Clearances
PARADEEP	JED	BIRIDI	Adhanga	10	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	RAJNAGAR-2	JARIMULA	10	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	RAJKANIKA	OSTIA	20	Network Strengthning & Maintaining Clearances
PARADEEP	PDP	Bhutamundai	Bagadia	10	Network Strengthning & Maintaining Clearances
PARADEEP	PDP	Bhutamundai	Santara	12	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	RAJKANIKA	OLAVER	10	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	RAJKANIKA	BHARIGADA	10	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	PATTAMUNDAI-II	Chandannagar	10	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	LUNA	NALADIA	15	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	MAHAKALPADA	DASAMAUJI	10	Network Strengthning & Maintaining Clearances

Location of Interposing Poles at LT Line-

TOTAL					450	
CIRCLE	**Division**	**Section**	**DSS / Location Name**	**DSS RATING**	**No. of Intermediate Poles Req.**	**Technical Justification**
BBSR-1	BCDD-2	Godisahi	Sanamunduli	250	6	Network Strengthning & Maintaining Clearances
BBSR-1	BCDD-2	Godisahi	Fakirpada	100	7	Network Strengthning & Maintaining Clearances
BBSR-1	BCDD-2	DUMDUMA	BARBARI	200	7	Network Strengthning & Maintaining Clearances
BBSR-1	BCDD-2	Baranga	Gurudi Bania No2	250	6	Network Strengthning & Maintaining Clearances
BBSR-1	BED	phulnakhara	pahala	200	8	Network Strengthning & Maintaining Clearances
BBSR-1	NED	PIPILI-1	PETROL PUMP	200	6	Network Strengthning & Maintaining Clearances
BBSR-1	NED	NIMAPADA-1	KANTASAHI	100	6	Network Strengthning & Maintaining Clearances
BBSR-1	NED	PIPILI-1	NAC MARKET	200	8	Network Strengthning & Maintaining Clearances
BBSR-1	NED	KONARK	GAGAPUR	100	8	Network Strengthning & Maintaining Clearances
BBSR-1	NED	PIPILI-1	CHILDERN PARK	250	6	Network Strengthning & Maintaining Clearances
BBSR-1	NED	KONARK	NAGAMATHA	100	6	Network Strengthning & Maintaining Clearances
BBSR-1	BED	phulnakhara	Jaganath pur	500	6	Network Strengthning & Maintaining Clearances
BBSR-1	NED	PIPILI-1	KHAJURI BANIA	250	5	Network Strengthning & Maintaining Clearances
BBSR-1	BED	phulnakhara	atala village	250	5	Network Strengthning & Maintaining Clearances
BBSR-1	BED	UTTARA	Uttara Bazar	500	5	Network Strengthning & Maintaining Clearances
BBSR-1	BED	phulnakhara	Gharia	100	5	Network Strengthning & Maintaining Clearances
BBSR-1	BED	UTTARA	Uttara village	100	5	Network Strengthning & Maintaining Clearances
BBSR-1	BCDD-1	UNIT-1	KEDARAPALI	500	7	Network Strengthning & Maintaining Clearances
BBSR-1	BCDD-1	SAHEED NAGAR	TELGU BASTI	100	8	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SAkhigopal -2	SRIRAMCHANDRAPUR	100	10	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SUNAMUHIN	GOKULAPUR	63	8	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SATASANKHA	CHADRADEIPUR	100	7	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SATASANKHA	KAMAKANTIA	100	7	Network Strengthning & Maintaining Clearances
BBSR-2	PED	SATASANKHA	BALANGA VILLAGE	500	7	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	Banapur-1	Paikasahi	100	6	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	Banapur-1	Champadeipur	100	7	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	Banapur-1	Muktadeipur	100	7	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	Balugaon-1	FISHARY	500	5	Network Strengthning & Maintaining Clearances
BBSR-2	BAED	CHANDPUR	BARAPATANA SAHI	250	5	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-1	CHHANIPUR	100	8	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-1	BATESWAR RIVER SIDE	100	10	Network Strengthning & Maintaining Clearances
CUTTACK	CDD-2	KANDARPUR	KAIJANGA	100	7	Network Strengthning & Maintaining Clearances
CUTTACK	CDD-2	KANDARPUR	UTTARASASAN	100	7	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-II	MALA LENKA SAHI-1	100	6	Network Strengthning & Maintaining Clearances
CUTTACK	CDD-2	42 MOUZA	JHARKATA	250	6	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-1	BALIA KARIMABAD	100	6	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-1	SUNAKHANDI	100	6	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-1	KASHIPUR-2	63	6	Network Strengthning & Maintaining Clearances
CUTTACK	CED	NIALI-II	MADHAB PADHANSAHI	100	5	Network Strengthning & Maintaining Clearances
CUTTACK	CED	Adaspur	Chheda	100	5	Network Strengthning & Maintaining Clearances
CUTTACK	CED	NIALI-1	ALOKNAGAR	250	5	Network Strengthning & Maintaining Clearances
CUTTACK	CED	SITHALO	SUDUSAILO	100	5	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-1	BALLAVPUR	63	5	Network Strengthning & Maintaining Clearances
CUTTACK	SED	SALIPUR-II	KUANRPUR LENKA SAHI	63	5	Network Strengthning & Maintaining Clearances
CUTTACK	CDD-2	KISHORE NAGAR	SALIJUNGA	100	5	Network Strengthning & Maintaining Clearances
CUTTACK	CED	BADACHANA	KUMBHARASAHI	100	5	Network Strengthning & Maintaining Clearances
CUTTACK	CED	CHOUDWAR	SIMILHAND	200	5	Network Strengthning & Maintaining Clearances
CUTTACK	CED	Charibatia	Baideswar colony	250	5	Network Strengthning & Maintaining Clearances
DHENKANAL	AnED	Bantala	Madhupur	100	5	Network Strengthning & Maintaining Clearances
DHENKANAL	AnED	Angul_I	Shiba Filed	100	5	Network Strengthning & Maintaining Clearances
Paradeep	PDP	Tirtol	Tirtol	100	10	Network Strengthning & Maintaining Clearances
Paradeep	PDP	Tirtol	Saralroad	100	10	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	PATTAMUNDAI-II	250 KV KADALIBANA	100	6	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	PATTAMUNDAI-II	kapaleswar shiva mandira	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	RAJNAGAR-II	Reso	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	Indupur	Deogaon	63	7	Network Strengthning & Maintaining Clearances
PARADEEP	KED-1	CHOUDAKULAT	CHANDANGAR	100	7	Network Strengthning & Maintaining Clearances
Paradeep	PDP	Tirtol	college chhak	250	6	Network Strengthning & Maintaining Clearances
PARADEEP	JED	NAUGAON	GADABISANPUR	63	7	Network Strengthning & Maintaining Clearances
PARADEEP	JED	NAUGAON	MISHRA SAHI	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	JED	NAUGAON	GARAM	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	JED	RAGHUNATHPUR	budhisahi	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	JED	RAGHUNATHPUR	THORIPADA	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	JED	RAGHUNATHPUR	BADAKHANDAYTA	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	JED	RAGHUNATHPUR	GHOTAPADA	100	7	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	MAHAKALAPADA	Baharsobal	63	5	CDM Grivance FROM Jansunani
PARADEEP	KED-2	NUAPADA	SRICHANDAPUR	100	5	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	NUAPADA	SIRASTA	63	5	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	NUAPADA	MANDIAKUDA	63	5	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	NUAPADA	MEHENDINAGAR	100	5	Network Strengthning & Maintaining Clearances
PARADEEP	KED-2	NUAPADA	PAILO	100	5	Network Strengthning & Maintaining Clearances

Annexure – 8

LT Bare to Aerial Cable Conversion

- *BoQ & Location*

Conversion of LT Bare to LT AB Cable					
Sl. No.	***Description***	***Per Unit***	***Cost per Unit (In Cr.)***	**Qty**	**Total Cost (In Cr.)**
1	Conversion Bare to AB Cable using - LT ABC 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.1045788	45	4.71
2	Conversion Bare to AB Cable using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.0870525	115	10.01
3	Conversion Bare to AB Cable using - LT ABC 4C×50 mm² (P)+1C×50 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.0739473	190	14.05
4	Conversion Bare to AB Cable using - LT ABC 4C×35 mm² (P)+1C×35 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.0634270	20	1.27
Total				**370**	**30.04**

Conversion Bare to AB Cable using - LT ABC 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)				1	
Dead End 95-150 sq. mm (9/ KM)				9	
Suspension 95-150 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	422.00	1050.00	4,43,100.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	116	13,117.28
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	2	2,600.00
14	Coil Earthing	EA	164.00	8	1,312.00
15	Danger plate (LT)	EA	180.00	10	1,800.00
16	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**5,57,745.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,00,394.26**
A				**Total landed Cost (A=A1 + A2)**	**6,58,140.14**
B				Stock, Storage & Insurance i.e 3% of A	19,744.20
C				**Sub Total (A+B)**	**6,77,884.34**
D				Contigency @ 3% of C	20,336.53
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	13,045.35
F				Transportation @ 7.5% of C	50,841.33
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	60,814.83
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**8,31,746.18**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7	4,000.00	28,000.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,71,279.77**
K2				Applicable Taxes to make it Landed Cost @18%	30,830.36
K				**Total landed Cost (K=K1+ K2)**	**2,02,110.13**
L				**Total (J+K)**	**10,33,856.31**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**10,33,856.31**
O				CESS 1% of N	10,338.56
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**10,44,194.88**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	225.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,350.00**
U				GST @ 18% on Total Inspection Fees (T)	243.00
V				Total Inspection Fees including GST (T+U)	1,593.00
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**10,45,787.88**

Conversion Bare to AB Cable using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)	1
Dead End upto 70 sq. mm (9/ KM)	9
Suspension upto 70 sq. mm (21/ KM)	21

MATERIALS FOR LT AB Cable Line

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	311.00	1050.00	3,26,550.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	116	13,117.28
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	2	2,600.00
14	Coil Earthing	EA	164.00	8	1,312.00
15	Danger plate (LT)	EA	180.00	10	1,800.00
16	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**4,41,195.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**79,415.26**
A				**Total landed Cost (A=A1 + A2)**	**5,20,611.14**
B				Stock, Storage & Insurance i.e 3% of A	15,618.33
C				**Sub Total (A+B)**	**5,36,229.47**
D				Contigency @ 3% of C	16,086.88
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	10,212.25
F				Transportation @ 7.5% of C	40,217.21
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to	46,649.35
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**6,58,218.97**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7	4,000.00	28,000.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,71,279.77**
K2				Applicable Taxes to make it Landed Cost @18%	30,830.36
K				**Total landed Cost (K=K1+ K2)**	**2,02,110.13**
L				**Total (J+K)**	**8,60,329.10**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**8,60,329.10**
O				CESS 1% of N	8,603.29
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**8,68,932.39**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	225.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,350.00**
U				GST @ 18% on Total Inspection Fees (T)	243.00
V				Total Inspection Fees including GST (T+U)	1,593.00
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**8,70,525.39**

Conversion Bare to AB Cable using - LT ABC 4C×50 mm² (P)+1C×50 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-……)				1	
Dead End upto 70 sq. mm (9/ KM)				9	
Suspension upto 70 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×50 mm² (P)+1C×50 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	228.00	1050.00	2,39,400.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	116	13,117.28
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	Insulated piercing connector.Type-D-main 10 to 50 sq.mm & Tap-1.5 to 10 sq.mm	EA	49.00		-
14	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	2	2,600.00
15	Coil Earthing	EA	164.00	8	1,312.00
16	Danger plate (LT)	EA	180.00	10	1,800.00
17	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**3,54,045.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**63,728.26**
A				**Total landed Cost (A=A1 + A2)**	**4,17,774.14**
B				Stock, Storage & Insurance i.e 3% of A	12,533.22
C				**Sub Total (A+B)**	**4,30,307.36**
D				Contigency @ 3% of C	12,909.22
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	8,093.81
F				Transportation @ 7.5% of C	32,273.05
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	36,057.14
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**5,28,464.38**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7	4,000.00	28,000.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,71,279.77**
K2				Applicable Taxes to make it Landed Cost @18%	30,830.36
K				**Total landed Cost (K=K1+ K2)**	**2,02,110.13**
L				**Total (J+K)**	**7,30,574.51**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**7,30,574.51**
O				CESS 1% of N	7,305.75
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**7,37,880.26**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	225.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,350.00**
U				GST @ 18% on Total Inspection Fees (T)	243.00
V				Total Inspection Fees including GST (T+U)	1,593.00
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**7,39,473.26**

Conversion Bare to AB Cable using - LT ABC 4C×35 mm² (P)+1C×35 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)				1	
Dead End upto 70 sq. mm (9/ KM)				9	
Suspension upto 70 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×35 mm² (P)+1C×35 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	167.00	1050.00	1,75,350.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13	116	7,207.08
11	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
12	Insulated piercing connector.Type-D-main 10 to 50 sq.mm & Tap-1.5 to 10 sq.mm	EA	49.00		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	2	2,600.00
14	Coil Earthing	EA	164.00	8	1,312.00
15	Danger plate (LT)	EA	180.00	10	1,800.00
16	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**2,84,085.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**51,135.42**
A				**Total landed Cost (A=A1 + A2)**	**3,35,221.10**
B				Stock, Storage & Insurance i.e 3% of A	10,056.63
C				**Sub Total (A+B)**	**3,45,277.74**
D				Contigency @ 3% of C	10,358.33
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	6,393.21
F				Transportation @ 7.5% of C	25,895.83
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	27,554.17
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**4,24,303.09**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7	4,000.00	28,000.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,71,279.77**
K2				Applicable Taxes to make it Landed Cost @18%	30,830.36
K				**Total landed Cost (K=K1+ K2)**	**2,02,110.13**
L				**Total (J+K)**	**6,26,413.22**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**6,26,413.22**
O				CESS 1% of N	6,264.13
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**6,32,677.35**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	225.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,350.00**
U				GST @ 18% on Total Inspection Fees (T)	243.00
V				Total Inspection Fees including GST (T+U)	1,593.00
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**6,34,270.35**

Proposed Locations for LT Bare to LT AB Cable Conversion

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
BBSR-1	NED	PIPILI	BHARATIPUR	Sadangoi	Chainpur Chandisahi	40.3%	63		0.3			0.3
BBSR-1	NED	PIPILI	BHARATIPUR	Kakudia	Surangapur	40.3%	63		0.3			0.3
BBSR-1	NED	PIPILI	BHARATIPUR	Pipili Urban	Sunamuhin	40.3%	100		0.7			0.7
BBSR-1	NED	PIPILI	BHARATIPUR	Pipili Urban	Bandhapada	40.3%	100		0.5			0.5
BBSR-1	NED	PIPILI	BHARATIPUR	Sadangoi	Patharadiha Matasahi	40.3%	100		0.5			0.5
BBSR-1	NED	NIMAPADA	NIMAPADA-2	Nuasanth	Sunida	45.1%	63		0.4			0.4
BBSR-1	NED	NIMAPADA	NIMAPADA-2	Vhanti	Vhanti	45.1%	63		0.5			0.5
BBSR-1	NED	NIMAPADA	NIMAPADA-2	Vhanti	Amaranga	45.1%	63		0.5			0.5
BBSR-1	NED	NIMAPADA	NIMAPADA-2	Davaro	Olamara	45.1%	100			0.5		0.5
BBSR-1	NED	NIMAPADA	NIMAPADA-2	Vhanti	Kuasa	45.1%	100			0.5		0.5
BBSR-1	NED	NIMAPADA	NIMAPADA-2	BERABOI	Taraboi chhaka	45.1%	100			0.5		0.5
BBSR-1	NED	PIPILI	PIPILI-2	MANGALPUR-1	SIRIAPUR HJ SAHI	45.9%	100		0.3			0.3
BBSR-1	NED	PIPILI	PIPILI-2	MANGALPUR-2	DAKHINA SAHI	45.9%	100		0.3			0.3
BBSR-1	NED	PIPILI	PIPILI-2	RAHAGIRIPUR	MURDUNPUR	45.9%	100			0.5		0.5
BBSR-1	NED	PIPILI	PIPILI-2	MANGALPUR-2	KANHAPUR	45.9%	100			1.5		1.5
BBSR-1	NED	PIPILI	PIPILI-1	OLD RAJAS	FULUPALA	49.2%	63		0.3			0.3
BBSR-1	NED	PIPILI	PIPILI-1	OLD RAJAS	BILIPADA BARIK SAHI	49.2%	100			0.4		0.4
BBSR-1	NED	PIPILI	PIPILI-1	PIPILI BAZAR FEEDER	IB	49.2%	100			0.4		0.4
BBSR-1	NED	PIPILI	PIPILI-1	PATASAHANIPUR	ADANGAPADA	49.2%	63		0.5			0.5
BBSR-1	NED	PIPILI	PIPILI-1	OLD RAJAS	KOSANGA MOHANTY SAHI	49.2%	100			0.5		0.5
BBSR-1	NED	PIPILI	PIPILI-1	PIPILI BAZAR FEEDER	HASSANPUR	49.2%	100			0.5		0.5
BBSR-1	NED	PIPILI	PIPILI-1	PATASANIPUR	PAIKA SAHI	49.2%	63		1			1
BBSR-1	NED	NIMAPADA	GOP	PAYARA	UDAYAGIRISAHI	50.6%	63		0.3			0.3
BBSR-1	NED	NIMAPADA	GOP	MALLAGRAM	DALAVA	50.6%	100			0.4		0.4
BBSR-1	NED	NIMAPADA	GOP	BEGUNIA	DASAHARA PADIA	50.6%	100			0.8		0.8
BBSR-1	NED	NIMAPADA	GOP	BEGUNIA	TINTIARA	50.6%	63		0.8			0.8
BBSR-1	NED	NIMAPADA	GOP	BEGUNIA	KUNDISA	50.6%	100			0.9		0.9
BBSR-1	NED	NIMAPADA	GOP	PAYARA	KARAMALA PARIDASAHI	50.6%	63		1			1
BBSR-1	NED	NIMAPADA	GOP	MALLAGRAM	GOLAPUR	50.6%	100			1		1
BBSR-1	NED	NIMAPADA	GOP	BEGUNIA	GIRIMA	50.6%	100			1.2		1.2
BBSR-1	NED	NIMAPADA	GOP	PAYARA	KANTI	50.6%	100			1.5		1.5
BBSR-1	NED	NIMAPADA	GOP	PAYARA	BASUDEIPUR	50.6%	100			1.5		1.5
BBSR-1	NED	NIMAPADA	GOP	PAYARA	KHADISA	50.6%	63		1.5			1.5
BBSR-1	NED	PIPILI	BALIPATNA	Budhipada	SATAKABAD	51.7%	100		0.3			0.3
BBSR-1	NED	PIPILI	BALIPATNA	NEW BANAMALIPUR	DEWANPATNA MAJHISAHI	51.7%	100			0.4		0.4
BBSR-1	NED	PIPILI	BALIPATNA	Naroda	NARAYANI	51.7%	100			0.5		0.5
BBSR-1	NED	PIPILI	BALIPATNA	Naroda	MOHARANA SAHI	51.7%	63		0.6			0.6
BBSR-1	NED	PIPILI	BALIPATNA	Naroda	AITALANGA	51.7%	100			0.6		0.6
BBSR-1	NED	PIPILI	BALIPATNA	NEW BANAMALIPUR	GUAPUR	51.7%	100			0.6		0.6
BBSR-1	NED	PIPILI	BALIPATNA	Naroda	AITALANGA	51.7%	63		0.7			0.7
BBSR-1	NED	PIPILI	BALIPATNA	Budhipada	GAREDIPANCHAN	51.7%	100			0.7		0.7
BBSR-1	NED	PIPILI	BALIPATNA	Naroda	DORBANG	51.7%	100			0.7		0.7
BBSR-1	NED	PIPILI	BALIPATNA	Naroda	CHANAHATA HIGH SCHOOL	51.7%	100			0.8		0.8
BBSR-1	NED	PIPILI	BALIPATNA	Naroda	PUBAGARH	51.7%	100			0.8		0.8
BBSR-1	NED	KAKATPUR	KAKATPUR-2	BANGURIGAON	KRUJANGA	59.0%	63		0.6			0.6
BBSR-1	NED	KAKATPUR	KAKATPUR-2	NAYAHAT-II	AMAPADA	59.0%	100			0.6		0.6
BBSR-1	NED	KAKATPUR	KAKATPUR-2	NAYAHAT	PATRASAHI	59.0%	63		0.7			0.7
BBSR-1	NED	KAKATPUR	KAKATPUR-2	TULASIPUR	DANDIKIRA	59.0%	63		0.8			0.8
BBSR-1	NED	KAKATPUR	KAKATPUR-2	NAYAHAT-II	BAULANGA	59.0%	63		0.8			0.8
BBSR-1	NED	KAKATPUR	KAKATPUR-2	BANGURIGAON	SANKHIPADA	59.0%	63		0.9			0.9
BBSR-1	NED	KAKATPUR	KAKATPUR-2	TIKARPADA	SADANGA	59.0%	100			0.9		0.9
BBSR-1	NED	KAKATPUR	KAKATPUR-2	TULASIPUR	KANJIRAPATANA	59.0%	100			0.9		0.9
BBSR-1	NED	KAKATPUR	KAKATPUR-2	TIKARPADA	PATAPUR	59.0%	100			1.2		1.2
BBSR-1	NED	NIMAPADA	NIMAPADA-1	charichhaka	Kanapur	61.4%	100		0.3			0.3
BBSR-1	NED	NIMAPADA	NIMAPADA-1	BASANTAMALA	Dihabari Nadiabag	61.4%	100		0.3			0.3
BBSR-1	NED	NIMAPADA	NIMAPADA-1	DIGHALO	Jageswarpur	61.4%	100			0.4		0.4
BBSR-1	NED	NIMAPADA	NIMAPADA-1	ABHAYAMUKHI	Abhyamukhi	61.4%	100			0.45		0.45
BBSR-1	NED	KAKATPUR	KAKATPUR-1	NILAKANTHAPUR	FAKIRSAHI CANAL	61.4%	100			0.5		0.5
BBSR-1	NED	NIMAPADA	NIMAPADA-1	ABHAYAMUKHI	Rangamath	61.4%	100			0.75		0.75
BBSR-1	NED	KAKATPUR	KAKATPUR-1	NILAKANTHAPUR	FAKIRSAHI BASAUPER BASTI	61.4%	100			0.9		0.9
BBSR-1	NED	NIMAPADA	NIMAPADA-1	odakhhanda	Odakhanda Gada Sahi	61.4%	100			1		1
BBSR-1	NED	KAKATPUR	KAKATPUR-1	NILAKANTHAPUR	BARAJISAHI	61.4%	100			1.2		1.2
BBSR-1	NED	NIMAPADA	NIMAPADA-1	odakhhanda	Niangorada Chhak	61.4%	100			1.8		1.8
BBSR-1	NED	NIMAPADA	NIMAPADA-1	odakhhanda	Dhamantira Chhak	61.4%	100			1.8		1.8
BBSR-1	NED	NIMAPADA	NIMAPADA-1	BASANTAMALA	Hansapada Majhi Sahi	61.4%	100			2		2
BBSR-1	NED	NIMAPADA	KONARK	KONARK OH	DALIMBAGORADI BEHERA SAHI	68.2%	100			1		1
BBSR-2	PED	NO-II	SUNAMUHIN	11KV BRAHMAGIRI FEEDER	GOMUNDI	44.6%	100		0.5			0.5
BBSR-2	PED	SD-II	DELANGA	GHORADIA	GUNDUCHIPATANA	47.2%	63	0.55				0.55
BBSR-2	PED	SD-II	DELANGA	MAA GALABAI	HAKAPADA	47.2%	63	0.4				0.4
BBSR-2	PED	SD-II	BRAHMAGIRI	ALARNATH	BAISIBATI	48.3%	100		0.52			0.52
BBSR-2	PED	SD-II	BRAHMAGIRI	ALARNATH	DHABA CHHAKA	48.3%	250			0.25		0.25
BBSR-2	PED	SD-II	BRAHMAGIRI	TALAMALA	SATABARA	48.3%	63	0.28				0.28

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
BBSR-2	PED	SD-II	BRAHMAGIRI	KAPILASWERPUR	KESAKERA	48.3%	100		0.6			0.6
BBSR-2	PED	SD-II	BRAHMAGIRI	KHAJURIA	DHARMAKHITI	48.3%	63		0.28			0.28
BBSR-2	PED	SD-II	BRAHMAGIRI	BASUDEIPUR	BALIKERA	48.3%	100		1.5			1.5
BBSR-2	PED	SD-II	BRAHMAGIRI	KOILAGADA	GORUALA GAON	48.3%	63		0.32			0.32
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	JALVAR	51.0%	63		0.3			0.3
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	GOUDAPATANA	51.0%	63		0.4			0.4
BBSR-2	KHD	BEGUNIA	BEGUNIA	DINGAR	GABADHIA-63	51.0%	63		0.4			0.4
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	NIDHIPUR	51.0%	63		0.5			0.5
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	RAIMULA	51.0%	63		0.5			0.5
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	BADABARABATI-63KVA	51.0%	63		0.5			0.5
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	MANIKPUR PATANA	51.0%	63		0.6			0.6
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	RAIMULA	51.0%	63		0.7			0.7
BBSR-2	KHD	BEGUNIA	BEGUNIA	PATANAHATA	HIRAPUR	51.0%	63		0.7			0.7
BBSR-2	KHD	BEGUNIA	BEGUNIA	DINGAR	KADAB MUSLIM SAHI	51.0%	100		0.8			0.8
BBSR-2	KHD	BANKI	BANKI-3	TALAGADA	BANARA	65.0%	500				0.90	0.9
BBSR-2	KHD	BANKI	BANKI-1	CHAKAPADA	SIMILIPUR	68.0%	250				1.10	1.1
BBSR-2	KHD	BANKI	BANKI-2	VEDA	MUNDALI	59.0%	25	0.6				0.6
BBSR-2	KHD	BANKI	BANKI-2	VEDA	HALIA SAHI	59.0%	100		0.8			0.8
BBSR-2	KHD	BANKI	BANKI-2	VEDA	SCHOOL CHHKA	59.0%	100			1.8		1.8
BBSR-2	KHD	JANKIA	MALIPDA	MANDARBASTA	LOKAPAL	60.0%	63		0.23			0.23
BBSR-2	KHD	JANKIA	MALIPDA	MANDARABASTA	TIMEIPUR	60.0%	63		0.25			0.25
BBSR-2	KHD	JANKIA	MALIPDA	MANAPUR	BHOGAPUR GARAGE	60.0%	63		0.25			0.25
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	BAGHEIPUT	60.0%	100		0.25			0.25
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	TOTAPADA	60.0%	100		0.25			0.25
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	TOTAPADA	60.0%	100		0.25			0.25
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	NALSINGH	60.0%	100		0.25			0.25
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	BADAPOKHARIA	60.0%	100		0.25			0.25
BBSR-2	KHD	JANKIA	MALIPDA	MANDARABASTA	TALASAHI	60.0%	63		0.3			0.3
BBSR-2	KHD	JANKIA	MALIPDA	TAPANGA	ASHOK RAY	60.0%	100		0.3			0.3
BBSR-2	KHD	JANKIA	MALIPDA	NARANGARH -1	KANCHILO	60.0%	63		0.3			0.3
BBSR-2	KHD	JANKIA	JANKIA	OLASINGH	OLASINGH KAMALA BIMALA NO-1	60.0%	100		0.3			0.3
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	BODANGARA	60.0%	100		0.3			0.3
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	KANTHAPUR	60.0%	100		0.3			0.3
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	RUDRAPURPATNA	60.0%	63		0.3			0.3
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	RUDRAPURPATNA	60.0%	63		0.3			0.3
BBSR-2	KHD	JANKIA	JANKIA	GOLABAI	CHANDRAMAPATPUR NO-2	60.0%	63		0.3			0.3
BBSR-2	KHD	JANKIA	JANKIA	GOLABAI	PAIKAPUT	60.0%	63	0.3				0.3
BBSR-2	KHD	JANKIA	JANKIA	HAJA	DHUDHUA OLIC	60.0%	100	0.35				0.35
BBSR-2	KHD	JANKIA	MALIPDA	MANDARABASTA	DIHAPUR	60.0%	63		0.4			0.4
BBSR-2	KHD	JANKIA	MALIPDA	TAPANGA	HATIA	60.0%	100			0.4		0.4
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	NALSINGH	60.0%	100		0.4			0.4
BBSR-2	KHD	JANKIA	JANKIA	GOLABAI	CHANDRAMAPATPUR NO-2	60.0%	63		0.4			0.4
BBSR-2	KHD	JANKIA	JANKIA	GOLABAI	LAHANGA	60.0%	63		0.4			0.4
BBSR-2	KHD	JANKIA	MALIPDA	MANDARABASTA	CHHOTIJODI	60.0%	25	0.48				0.48
BBSR-2	KHD	JANKIA	JANKIA	GOLABAI	BALIGADIA UPPERSAHI NO-2	60.0%	100	0.5				0.5
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	RATAMATI	60.0%	100		0.5			0.5
BBSR-2	KHD	JANKIA	MALIPDA	MANDARABASTA	GADASANAPUT	60.0%	100			0.6		0.6
BBSR-2	KHD	JANKIA	MALIPDA	MANDARABASTA	MANGARAJ SAHI	60.0%	100			0.6		0.6
BBSR-2	KHD	JANKIA	JANKIA	BADAPOKHARIA	NILAGIRIPATNA	60.0%	100		0.65			0.65
BBSR-2	KHD	JANKIA	JANKIA	GOLABAI	BALIGADIA NO-1	60.0%	100			0.7		0.7
BBSR-2	KHD	JANKIA	JANKIA	SIKO	BAUTI No-1	60.0%	100	0.8				0.8
BBSR-2	KHD	JANKIA	JANKIA	GOLABAI	BALIGADIA NO-2	60.0%	100			0.8		0.8
BBSR-2	KHD	JANKIA	JANKIA	HAJA	TANKOL NO-2	60.0%	100	0.8				0.8
BBSR-2	KHD	JANKIA	JANKIA	SIKO	KHADIPADAR No-2	60.0%	100	0.9				0.9
BBSR-2	KHD	JANKIA	JANKIA	SIKO	BAGHATOTA No-1	60.0%	63	1				1
BBSR-2	KHD	JANKIA	JANKIA	SIKO	BAGHATOTA No-2	60.0%	25	1				1
BBSR-2	KHD	JANKIA	JANKIA	SIKO	KHADIPADAR No-2	60.0%	100	1.2				1.2
BBSR-2	KHD	JANKIA	JANKIA	SIKO	BAUTI N0-2	60.0%	63		1.4			1.4
BBSR-2	KHD	BANKI	BANKI-1	TOWN	KHAMARNGA	68.0%	250				1.20	1.2
BBSR-2	KHD	BANKI	BANKI-3	TALAGADA	RAMACHNADI VILLAGE	65.0%	500				1.30	1.3
BBSR-2	KHD	BANKI	BANKI-3	RAMACHNADI	JATAMUNDIA RWSS	65.0%	100	0.6				0.6
BBSR-2	KHD	BANKI	BANKI-3	RAMACHANDI	UPPERPATHPUR LI	65.0%	100	0.6				0.6
BBSR-2	KHD	BANKI	BANKI-3	RAMACHANDI	PATHAPUR 3 NOSAHI	65.0%	63	1.4				1.4
BBSR-2	KHD	BANKI	BANKI-3	RAMACHANDI	AMARENDRAPUR	65.0%	250		1.5			1.5
BBSR-2	PED	SD-II	KANAS	JAGANNATHPUR	JANGHAR	66.2%	63	0.4				0.4
BBSR-2	PED	SD-II	KANAS	JAGANNATHPUR	ANDALASINGH	66.2%	100		0.3			0.3
BBSR-2	PED	SD-II	KANAS	JAGANNATHPUR	TIPURI	66.2%	100		0.3			0.3
BBSR-2	BAED	TANGI	TANGI	KALUPADA	CHILIKA CHOWK 3	68.0%	250			0.4		0.4
BBSR-2	BAED	TANGI	KUHUDI	KUHUDI	LAXMIDHARPUR 2	68.0%	100		0.5			0.5
BBSR-2	BAED	TANGI	KUHUDI	KUHUDI	DINABANDHUPUR NEW	68.0%	100		0.3			0.3
BBSR-2	BAED	TANGI	KUHUDI	KUHUDI	TARAPI	68.0%	100		0.5			0.5
BBSR-2	BAED	TANGI	KUHUDI	Badapari	BRAHMUNDI1	68.0%	100		0.5			0.5
BBSR-2	BAED	TANGI	TANGI	11 kV BADAPARI	NUAGAON2	68.0%	63		0.989			0.989
BBSR-2	BAED	TANGI	TANGI	11 kV BADAPARI	ARJUNPUR 3	68.0%	63		0.82			0.82
BBSR-2	BAED	TANGI	TANGI	11 kV KALUPADA	BADA PAIKA SAHI 1	68.0%	100			1.032		1.032
BBSR-2	BAED	TANGI	TANGI	11 kV KALUPADA	JARIPADA HARIZAN SAHI	68.0%	250			0.52		0.52
BBSR-2	BAED	TANGI	TANGI	11 kV KALUPADA	WASH PADAR	68.0%	100		0.336			0.336
BBSR-2	BAED	TANGI	TANGI	11 kV KALUPADA	PANCHWATIA	68.0%	100		0.731			0.731

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
BBSR-2	BAED	TANGI	TANGI	11 kV KALUPADA	HANUMAUTA 1	68.0%	63	0.3				0.3
BBSR-2	BAED	TANGI	KUHUDI	11 kV KUHUDI	PATNASAHI	68.0%	100		0.7			0.7
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	DUDHIAJHAR	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	KHANDISHI VILLAGE	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	BELAPADA 63 KVA	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	JAGANNATHPUR	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	PAIKABHUNI	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	BIRUDA	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	MUKTA PUR	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Chandpur	MADHUBAN SAHI	68.9%	100		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	BARANGAGADIA KAMANA SAHI	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	BENT	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Chandpur	TANGI SAHI	68.9%	250			0.3		0.3
BBSR-2	BAED	Tangi	Chandpur	Mayurjhalia	HARIHARA PUR VILLAGE	68.9%	100		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Raipada	NUAPADA	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Raipada	PETROL PUMP	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	CHAMPAPEDI VILLAGE	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	MAHATPALLA VILLAGE	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	BARANGAGADIA VILLAGE	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	NUAPALLI VILLAGE	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Gopalpur	WINLO ROUTRAYPUR	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Chandpur	NAKHATRA PUR SAHI	68.9%	250			0.3		0.3
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	BENT	68.9%	63	0.5				0.5
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	DUDHIAJHAR	68.9%	63	0.3				0.3
BBSR-2	BAED	Tangi	Chandpur	Kamaguru	MUKTA PUR	68.9%	63	0.4				0.4
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	CHAMPAPEDI VILLAGE	68.9%	63		0.9			0.9
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	BARANGAGADIA VILLAGE	68.9%	63		1.2			1.2
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	KHANDISHI VILLAGE	68.9%	63		0.3			0.3
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	MAHATPALLA VILLAGE	68.9%	63		0.9			0.9
BBSR-2	BAED	Tangi	Chandpur	Mahatapalla	NUAPALLI VILLAGE	68.9%	63		1.2			1.2
BBSR-2	BAED	Tangi	Chandpur	Gopalpur	WINLO ROUTRAYPUR	68.9%	63		1.2			1.2
BBSR-2	BAED	Tangi	Chandpur	Mayurjhalia	HARIHARA PUR VILLAGE	68.9%	100		0.6			0.6
BBSR-2	BAED	Tangi	Chandpur	Raipada	NUAPADA	68.9%	63	0.6				0.6
BBSR-2	BAED	Tangi	Chandpur	Chandpur	MADHUBAN SAHI	68.9%	100		0.4			0.4
BBSR-2	BAED	Tangi	Chandpur	Chandpur	NAKHATRA PUR SAHI	68.9%	250			1.2		1.2
BBSR-2	BAED	Tangi	Chandpur	Chandpur	TANGI SAHI	68.9%	250			0.5		0.5
BBSR-2	BAED	Tangi	Chandpur	Raipada	PETROL PUMP	68.9%	63	0.6				0.6
CUTTACK	CED	NIALI	SITHALO	SITHALO	GARAPADA	33.3%	63	0.28				0.28
CUTTACK	CED	NIALI	SITHALO	ERANCHA	ROHAMBA SAHI 1	33.3%	100			0.32		0.32
CUTTACK	CED	NIALI	SITHALO	SITHALO	SAGADAELO 1	33.3%	100			0.32		0.32
CUTTACK	CED	NIALI	SITHALO	KASARDA	PATRAKANA 1	33.3%	100			0.36		0.36
CUTTACK	CED	NIALI	SITHALO	ADASPUR	URADHA BHOI SAHI	33.3%	100			0.37		0.37
CUTTACK	CED	NIALI	SITHALO	KULASHREE	KULASHREE 14	33.3%	250			0.4		0.4
CUTTACK	CED	NIALI	SITHALO	SITHALO	KNTAGDIAMELAK	33.3%	100			0.48		0.48
CUTTACK	CED	NIALI	SITHALO	KULASHREE	KULASHREE 1	33.3%	100			0.51		0.51
CUTTACK	CED	BADACHANA	BADACHANA	SAKUNTALAPUR	VIDHIYADHARPUR 4	36.2%	100		0.3			0.3
CUTTACK	CED	BADACHANA	BADACHANA	KADAMPAL	NOSTA 2	36.2%	100		0.25			0.25
CUTTACK	CED	BADACHANA	BADACHANA	DEULAPUR (LOCAL)	SINGH SAI	36.2%	100		0.7			0.7
CUTTACK	CED	BADACHANA	BADACHANA	SAKUNTALAPUR	NVWA GAWA 1	36.2%	100		0.25			0.25
CUTTACK	CED	BADACHANA	BADACHANA	OLD BADACHANA	GOPALPUR	36.2%	100		1.52			1.52
CUTTACK	CED	BADACHANA	BADACHANA	CHANDIKHOL	SHANSAN SHIMBHA 2	36.2%	250		1.6			1.6
CUTTACK	CED	BADACHANA	BADACHANA	BADCHANA - BALICHANDRAPUR	SURKHADAIPUR 1	36.2%	100		1.5			1.5
CUTTACK	AED	ATHAGARH	ATHAGARH-2	SAMSARPUR	KUANALA	38.4%	63	0.3				0.3
CUTTACK	AED	ATHAGARH	ATHAGARH-2	KANTAPANHARA	JAGIAPADA NO-2	38.4%	100		1.35			1.35
CUTTACK	AED	ATHAGARH	ATHAGARH-2	SAMSARPUR	SANKARPUR	38.4%	250		0.7			0.7
CUTTACK	AED	ATHAGARH	ATHAGARH-2	SAMSARPUR	PAMALA	38.4%	100		0.3			0.3
CUTTACK	AED	ATHAGARH	ATHAGARH-2	DORADA	DEOPADA	38.4%	63		0.25			0.25
CUTTACK	CED	BADACHANA	CHHATIA	CHAMPAPUR	HARIPUR	42.3%	100		0.24			0.24
CUTTACK	CED	BADACHANA	CHHATIA	KADHEI	NELIA2	42.3%	100		0.24			0.24
CUTTACK	CED	BADACHANA	CHHATIA	BANDALO (CHHATIA)	OLAR VILLAGE	42.3%	100		0.32			0.32
CUTTACK	CED	BADACHANA	CHHATIA	KADHEI	SALAR	42.3%	100		0.32			0.32
CUTTACK	CED	BADACHANA	CHHATIA	BAIREE	TALASAHI	42.3%	100		0.4			0.4
CUTTACK	CED	BADACHANA	CHHATIA	KADHEI	KADAI VILLAGE	42.3%	100		0.4			0.4
CUTTACK	CED	BADACHANA	CHHATIA	BANDALO (CHHATIA)	OLAR MUNDA SAHI	42.3%	100		0.6			0.6
CUTTACK	CED	BADACHANA	CHHATIA	SIHA	KAMPIRA 4	42.3%	100		1			1
CUTTACK	CED	BADACHANA	CHHATIA	CHAMPAPUR	JASHARAJAPUR	42.3%	100		1			1
CUTTACK	CED	BADACHANA	CHHATIA	HARIPUR	KHETRAPADA03	42.3%	100		1.14			1.14
CUTTACK	CED	NIALI	NIALI-II	PODANA	PAHANGA VILLAGE 2	42.8%	100		0.53			0.53
CUTTACK	CED	NIALI	NIALI-II	PANIMALA	BANMALIPUR VILLAGE	42.8%	100		0.85			0.85
CUTTACK	CED	NIALI	NIALI-II	PANIMALA	MADHAK BUNISHIPUR MAIN ROAD	42.8%	100		0.9			0.9
CUTTACK	AED	NARSINGHPUR	BADAMBA	GOPAMATHURA	KANTAPADA PRADHANSAHI	43.4%	100		0.3			0.3
CUTTACK	AED	NARSINGHPUR	BADAMBA	GOPAPUR LOCAL	MAJHIPATANA	43.4%	63		0.3			0.3
CUTTACK	AED	NARSINGHPUR	BADAMBA	GOPAPUR LOCAL	NARANPRASAD	43.4%	100		0.3			0.3
CUTTACK	AED	NARSINGHPUR	BADAMBA	RATTAPATA 1	MADHUBAN	43.4%	63		0.32			0.32
CUTTACK	AED	NARSINGHPUR	BADAMBA	RATTAPATA 1	DEULI	43.4%	100			0.33		0.33
CUTTACK	AED	NARSINGHPUR	BADAMBA	KHUNTAKATA	KADUAPADA	43.4%	63		0.35			0.35
CUTTACK	AED	NARSINGHPUR	BADAMBA	BANGERISINGA	JODUM TALASAHI	43.4%	63		0.35			0.35
CUTTACK	AED	NARSINGHPUR	BADAMBA	RATTAPATA 1	BADABARENA	43.4%	63		0.35			0.35

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
CUTTACK	AED	NARSINGHPUR	BADAMBA	RAGADIPADA	GADAPOKHARI	43.4%	100		0.4			0.4
CUTTACK	AED	NARSINGHPUR	BADAMBA	GOPINATHPUR	TELENIA MATHASAHI	43.4%	100			0.4		0.4
CUTTACK	AED	NARSINGHPUR	BADAMBA	BHATTARIKA	KARADIBANDHA PANCHAYAT	43.4%	100			0.5		0.5
CUTTACK	AED	NARSINGHPUR	BADAMBA	BHATTARIKA	BHATTARIKA TEMPLE	43.4%	100			0.5		0.5
CUTTACK	AED	NARSINGHPUR	BADAMBA	GOPINATHPUR	MUGAGAHIRA	43.4%	100			0.5		0.5
CUTTACK	AED	NARSINGHPUR	BADAMBA	RATTAPATA 1	BISWAMBARPUR	43.4%	100			0.5		0.5
CUTTACK	AED	NARSINGHPUR	BADAMBA	BHATTARIKA	KARADIBANDHA	43.4%	100			0.6		0.6
CUTTACK	AED	ATHAGARH	ATHAGARH-1	TOWN	OLD TAHASIL	48.0%	500				0.50	0.5
CUTTACK	AED	ATHAGARH	ATHAGARH-1	TOWN	Girls High School	48.0%	250				0.50	0.5
CUTTACK	AED	ATHAGARH	TIGIRIA	PANCHAGAON	PANCHAGAON BEO OFFICE	45.8%	63		0.3			0.3
CUTTACK	AED	ATHAGARH	TIGIRIA	BINDHANIMA	KARADAPALLI 3	45.8%	100		0.3			0.3
CUTTACK	AED	ATHAGARH	TIGIRIA	TIGIRIA	TIGIRIA RAJABATI	45.8%	63		0.3			0.3
CUTTACK	AED	ATHAGARH	TIGIRIA	BINDHANIMA	KALPANA CHHAKA	45.8%	500			0.3		0.3
CUTTACK	AED	ATHAGARH	TIGIRIA	BINDHANIMA	BISHNUPUR	45.8%	100		0.3			0.3
CUTTACK	AED	ATHAGARH	TIGIRIA	BINDHANIMAA	BISHNUPUR	45.8%	100		0.3			0.3
CUTTACK	AED	ATHAGARH	TIGIRIA	PURUNA TIGIRIA	BAULANGA	45.8%	100		0.4			0.4
CUTTACK	AED	ATHAGARH	TIGIRIA	BINDHANIMA	BINDHANIMA MEDICAL	45.8%	100			0.4		0.4
CUTTACK	AED	ATHAGARH	TIGIRIA	PURUNATIGIRIA	BAULANGA	45.8%	100			0.4		0.4
CUTTACK	AED	ATHAGARH	TIGIRIA	BINDHANIMA	KARADAPALLI 1	45.8%	63		0.5			0.5
CUTTACK	AED	ATHAGARH	TIGIRIA	BINDHANIMA	KARADAPALLI 2	45.8%	63		0.6			0.6
CUTTACK	AED	ATHAGARH	KHUNTUNI	GURUDJHATIA LOCAL	CHHOTIAMBA	47.0%	63		0.3			0.3
CUTTACK	AED	ATHAGARH	KHUNTUNI	GURUDJHATIA LOCAL	KOLATHAPANGI	47.0%	63		0.3			0.3
CUTTACK	AED	ATHAGARH	KHUNTUNI	KUMARPUR	CHARABHAUNRI	47.0%	63		0.3			0.3
CUTTACK	AED	ATHAGARH	KHUNTUNI	KUMARPUR	CHHAGAON	47.0%	250			0.3		0.3
CUTTACK	AED	ATHAGARH	KHUNTUNI	GURUDJHATIA LOCAL	BALI	47.0%	250			0.4		0.4
CUTTACK	AED	ATHAGARH	KHUNTUNI	MAHALAXMIPUR	MANITRI	47.0%	63		0.5			0.5
CUTTACK	AED	ATHAGARH	KHUNTUNI	MEGHA NEW	ANANTAPUR	47.0%	63		0.5			0.5
CUTTACK	AED	ATHAGARH	KHUNTUNI	MEGHA NEW	DASPUR	47.0%	63		0.6			0.6
CUTTACK	AED	ATHAGARH	KHUNTUNI	MEGHA NEW	DASPUR	47.0%	63		0.6			0.6
CUTTACK	AED	ATHAGARH	KHUNTUNI	MEGHA NEW	BOULAPADA	47.0%	100			0.6		0.6
CUTTACK	AED	ATHAGARH	KHUNTUNI	MAHALAXMIPUR	MACHHYAPUR	47.0%	63		0.7			0.7
CUTTACK	AED	ATHAGARH	KHUNTUNI	MEGHA NEW	ANANTAPUR	47.0%	100			0.8		0.8
CUTTACK	AED	ATHAGARH	KHUNTUNI	MEGHA NEW	PATENIGAON	47.0%	100			0.8		0.8
CUTTACK	AED	ATHAGARH	KHUNTUNI	GURUDJHATIA OLD	RADHADAMODARPUR	47.0%	100			1		1
CUTTACK	AED	ATHAGARH	KHUNTUNI	KUMARPUR	GOBARA SASAN	47.0%	63		1			1
CUTTACK	AED	ATHAGARH	KHUNTUNI	KUMARPUR	SASANGA	47.0%	100			1		1
CUTTACK	AED	ATHAGARH	KHUNTUNI	KULAILO	KULAILO	47.0%	63		1.4			1.4
CUTTACK	AED	ATHAGARH	KHUNTUNI	KULEILO	KHUNTUN I	47.0%	500			1.5		1.5
CUTTACK	AED	ATHAGARH	ATHAGARH-1	TOWN	RCMS	48.0%	100			0.8		0.8
CUTTACK	AED	ATHAGARH	ATHAGARH-1	KANTOLA	HANUMAN MANDIR	48.0%	250				0.90	0.9
CUTTACK	AED	ATHAGARH	KHUNTUNI	KULAILO	TOTAPADA	47.0%	250				1.00	1
CUTTACK	CED	NIALI	NIALI-I	TOLA	MAHANGA (NEW)	52.3%	63	0.25				0.25
CUTTACK	CED	NIALI	NIALI-I	TOLA	BAHARANA RATHA PADIA	52.3%	100		0.58			0.58
CUTTACK	CED	NIALI	NIALI-I	NIALI TOWN	NARISO SASON	52.3%	100		0.76			0.76
CUTTACK	CED	NIALI	NIALI-I	NIALI TOWN	BADA MATHA	52.3%	63	0.77				0.77
CUTTACK	CED	BADACHANA	BALICHANDRAPUR	BALICHANDRAPUR	KUSHUPUR 8	53.8%	100		1.28			1.28
CUTTACK	CED	BADACHANA	BALICHANDRAPUR	BALICHANDRAPUR	NADIA SAHASPUR 3	53.8%	100		1.47			1.47
CUTTACK	CED	BADACHANA	BALICHANDRAPUR	BANDARESWARA	PARIPALAI 7	53.8%	100		1.5			1.5
CUTTACK	SED	N KOILI	ORIKANTA	NARENDRAPUR	NARUA 2	54.3%	100			0.5		0.5
CUTTACK	SED	N KOILI	ORIKANTA	NARENDRAPUR	NAIGUAN	54.3%	100			0.7		0.7
CUTTACK	SED	N KOILI	ORIKANTA	SOGAL	PANIMANDO	54.3%	63		1.2			1.2
CUTTACK	SED	N KOILI	ORIKANTA	NEMALO	BHAGABANPUR	54.3%	100			1.5		1.5
CUTTACK	CED	CHOUDWAR	CHARIBATIA	SANKARPUR	BEHERA SAHI	55.4%	250		0.86			0.86
CUTTACK	CED	CHOUDWAR	CHARIBATIA	BERHAMPUR	BELDA POND 1	55.4%	100		1.07			1.07
CUTTACK	AED	ATHAGARH	KHUNTUNI	MAHALAXMIPUR	KHUNTUN I	47.0%	250				1.20	1.2
CUTTACK	AED	ATHAGARH	NUAPATNA	NUAPATNA	BANAMALIPUR	60.3%	100		0.6			0.6
CUTTACK	AED	ATHAGARH	NUAPATNA	MANIABANDHA	DHANAPALLI	60.3%	100		0.8			0.8
CUTTACK	AED	ATHAGARH	NUAPATNA	NUAPATNA	PANKALA	60.3%	100		1			1
CUTTACK	AED	ATHAGARH	NUAPATNA	NUAPATNA	BIDYANAGARI	60.3%	250			1.2		1.2
CUTTACK	CED	CHOUDWAR	CHOUDWAR 1	CITY BARRAGE	KAYALPADA	61.4%	100		0.28			0.28
CUTTACK	CED	CHOUDWAR	CHOUDWAR 1	CHARBATIA KALINGA	GAUDA SAHI 2	61.4%	100		0.38			0.38
CUTTACK	CED	CHOUDWAR	CHOUDWAR 1	LOCAL	BRAMHAN SAHI 3	61.4%	250			0.56		0.56
CUTTACK	AED	ATHAGARH	ATHAGARH-1	KANTOLA	Kantola Hata	48.0%	250				1.20	1.2
CUTTACK	SED	N KOILI	ORIKANTA	GOPINATHPUR	SARADA-1	63.3%	100			2.5		2.5
CUTTACK	AED	ATHAGARH	ATHAGARH-1	TOWN	Rasarasikapur	48.0%	250				1.40	1.4
CUTTACK	SED	SALIPUR	SALIPUR-1	KENDUPATNA	PATPUR	66.3%	100		0.5			0.5
CUTTACK	AED	ATHAGARH	KHUNTUNI	KUMARPUR	GOBARA	47.0%	500				1.50	1.5
CUTTACK	CED	GOPALPUR	ADASPUR	ADASPUR	NEAR EACHCH PUR-2	65.3%	200			0.31		0.31
CUTTACK	CED	GOPALPUR	ADASPUR	ADASPUR	MASANIKUDA	65.3%	100		0.4			0.4
CUTTACK	CED	GOPALPUR	ADASPUR	KANTAPADA	JOHAL	65.3%	100		0.4			0.4
CUTTACK	CED	GOPALPUR	ADASPUR	KANTAPADA	KHERASA 2	65.3%	100		0.4			0.4
CUTTACK	CED	GOPALPUR	ADASPUR	GANGESWAR	KURANGA PRADHAN 1	65.3%	250			0.52		0.52
CUTTACK	CED	GOPALPUR	ADASPUR	SUNDERGRAM	SISIO	65.3%	100		0.7			0.7
CUTTACK	CED	GOPALPUR	GOBINDAPUR	GOBINDPUR-II	SIMALADA 3	65.8%	63		0.24			0.24
CUTTACK	SED	SALEPUR	BAHUGRAM	GOPINATHPUR	GANAPUR	66.3%	25	0.5				0.5
CUTTACK	SED	SALEPUR	BAHUGRAM	NANDOL	BHATAPADA	66.3%	100			0.5		0.5
CUTTACK	SED	SALEPUR	BAHUGRAM	GOPINATHPUR	MAHAJANPUR	66.3%	500			0.6		0.6

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
CUTTACK	SED	SALEPUR	BAHUGRAM	PADMAPUR	R.I OFFICE(MADHYAKACHHA)	66.3%	100			0.7		0.7
CUTTACK	SED	SALEPUR	BAHUGRAM	GOPINATHPUR	MAHAJANPUR(SINGHASAHI)	66.3%	63		1			1
CUTTACK	SED	SALEPUR	BAHUGRAM	PADMAPUR	SATABATIA	66.3%	250			1		1
CUTTACK	SED	SALIPUR	BAHUGRAM	11 kV BARRAGE	SUNAKHALA	66.3%	100		1.5			1.5
CUTTACK	CED	CHOUDWAR	CHOUDWAR 1	OTM	OTM COLONY	61.4%	250				1.50	1.5
CUTTACK	SED	SALEPUR	BAHUGRAM	PATAPUR	SINGHAMAPUR	66.3%	250		1.5			1.5
CUTTACK	SED	SALEPUR	BAHUGRAM	PADMAPUR	PASCHIMKACHHA(KASAM P)	66.3%	100		1.5			1.5
CUTTACK	SED	SALEPUR	BAHUGRAM	PADMAPUR	DOLAMUNDAI	66.3%	250			2		2
CUTTACK	SED	SALEPUR	BAHUGRAM	PADMAPUR	UPPAR BAZAR	66.3%	250				1.50	1.5
CUTTACK	SED	SALEPUR	BAHUGRAM	GOPINATHPUR	PRADHANPADA	66.3%	100		2			2
CUTTACK	SED	SALEPUR	BAHUGRAM	PADMAPUR	BAHADULAPATANA	66.3%	100			2		2
CUTTACK	SED	SALEPUR	BAHUGRAM	NANDOL	NANDOL	66.3%	500				2.00	2
CUTTACK	SED	SALEPUR	BAHUGRAM	NANDOL	NIAMATPUR	66.3%	250				2.00	2
CUTTACK	SED	N.KOILI	N.KOILI	MANAHAR PUR	BARADO	68.0%	63		0.25			0.25
CUTTACK	CED	CHOUDWAR	CHOUDWAR 2	BHATTIMUNDA	GOKULPUR 2	68.4%	100		0.28			0.28
CUTTACK	SED	SALEPUR	BAHUGRAM	GOPINATHPUR	MAHAJANPUR	66.3%	500				3.00	3
CUTTACK	CED	CHOUDWAR	CHOUDWAR 2	TANGI LOCAL	HADUA	68.4%	100		0.4			0.4
CUTTACK	CED	CHOUDWAR	CHOUDWAR 2	MANGULI	OREJANTA 2	68.4%	100		0.7			0.7
CUTTACK	CED	CHOUDWAR	CHOUDWAR 2	GOBINDPUR-2	GHASI	68.4%	100		0.8			0.8
CUTTACK	CED	CHOUDWAR	CHOUDWAR 2	HARIPUR	MANIA01	68.4%	100		1			1
CUTTACK	CED	CHOUDWAR	CHOUDWAR 2	HARIPUR	SWARI 4	68.4%	100		1			1
CUTTACK	SED	N.KOILI	N.KOILI	KHANDASAHI	TENTAL PUR -2	69.4%	63	0.4				0.4
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	MERAMANDALI MEDICAL CHWOK	31.0%	250			1		1
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	KOCHILAMADA UP SCHOOL 1	31.0%	250			1		1
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	MERAMANDALI	31.0%	250			0.7		0.7
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	MANGALAPUR	31.0%	250			0.6		0.6
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	KAMALANGA	31.0%	100		0.5			0.5
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV JIRAL	JIRALBAZAR_02	52%	250				0.5	0.5
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV JIRAL	ASANAPATIA	52%	100				0.5	0.5
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV SURAPRATAP	KUNDIGUDA	52%	100				0.5	0.5
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV SURAPRATAP	DIHISAHI SURAPRATAPUR	52%	100				0.5	0.5
DHENKANAL	DED	K NAGAR	KAMAKHYANAGAR	Mahulpal	Mahulpal Village	54%	250				0.5	0.5
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Kotagara	Tumusinga 01	57%	250				0.5	0.5
DHENKANAL	ANED	ANGUL	ANGUL-II	PTC	MAHURIA COLONY	64.6%	250				0.50	0.5
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV SURAPRATAP	KUNDIGODA_02	52%	250				0.6	0.6
Dhenkanal	TED	PARJANG	PARJANG-I	KANDARSINGHA	KANDARSINGHA UPAR SAHI 100 KVA	50.0%	100		0.7			0.7
Dhenkanal	TED	PARJANG	PARJANG-I	KANDARSINGHA	KUNDANDEIPUR 100 KVA	50.0%	100		0.7			0.7
Dhenkanal	TED	PARJANG	PARJANG-I	KANDARSINGHA	KATABAHAL 100 KVA	50.0%	100		0.7			0.7
Dhenkanal	TED	PARJANG	PARJANG-I	KANDARSINGHA	GAILO 100 KVA	50.0%	100		0.7			0.7
Dhenkanal	TED	PARJANG	PARJANG-I	RENGALI	KHANDUALMUNDA 100 KVA	50.0%	100		0.6			0.6
Dhenkanal	TED	PARJANG	PARJANG-I	KANKILI	JARITAILA	50.0%	100		0.5			0.5
Dhenkanal	TED	PARJANG	PARJANG-I	OLD PARJANG	CHANDPUR 100 KVA	50.0%	100		0.5			0.5
Dhenkanal	TED	PARJANG	PARJANG-I	SANDA	NEW TALABERANA (NALA SAHI)	51.0%	100		0.8			0.8
DHENKANAL	DED	K NAGAR	KAMAKHYANAGAR	Mahulpal	Kangeila village	54%	250				0.7	0.7
DHENKANAL	ANED	ANGUL	ANGUL-II	AMLAPADA	GIRLS HIGH SCHOOL	64.6%	500				0.80	0.8
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV BALISAHI	GUMPHASAHI	52%	100		0.7			0.7
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV JIRAL	ARAKHAPALDANDICHUA	52%	250		0.8			0.8
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV JIRAL	SARADEIPUR_01	52%	100		0.3			0.3
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV GUNEIBILLI	GUNEIBILLI_02	52%	250	0.8				0.8
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV MARTHAPUR	ODHANA_04	52%	100	0.8				0.8
DHENKANAL	ANED	BOINDA	ATHAMALIK	ATHAMALLIK	BANGALASAHI	67.3%	500				0.80	0.8
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Kotagara	Tumusinga Patiagoda_02	57%	200				0.9	0.9
DHENKANAL	DED	K NAGAR	MATHAKARGOLA	11 kV SURAPRATAP	KANTASAHI SURAPRATAPUR	52%	250				1	1
Dhenkanal	TED	TALCHER	HATATOTA	RE-2	BANGALI TAILA	54.0%	100		0.7			0.7
Dhenkanal	TED	TALCHER	HATATOTA	RE-1	RANIA	54.0%	100		0.4			0.4
DHENKANAL	TED	TALCHER	HATATOTA	RE-1	SAREILO	54.0%	100		0.3			0.3
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	GOPABANDU 250 KVA	55.0%	250			0.5		0.5
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	BAJRAKOTE	55.0%	100		1			1
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	NALAM TALASAHI	55.0%	100		1			1
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	KANTAPAL	55.0%	100		1			1
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	POIPAL	55.0%	100		1			1
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	TALAPADA	55.0%	100		1			1
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	DURGAPUR	55.0%	100		1			1
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	MEDICAL SAHI 100 KVA	55.0%	100		0.8			0.8
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	TALAPADA	55.0%	250			0.5		0.5
DHENKANAL	TED	Pallahara	RENGALI	BAJARKOTE	Khalpal	55.0%	250			0.5		0.5
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	OLANDA 250 KVA	55.0%	250			0.5		0.5
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	BARAPADA 100 KVA	55.0%	100		0.7			0.7
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	BADADANDA SAHI 100KVA	55.0%	100		0.7			0.7

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	Poipal 100 kva	55.0%	100		0.7			0.7
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	Kantapal	55.0%	100		0.7			0.7
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	BALIPASI	55.0%	100		0.7			0.7
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	MANDIRA SAHI 100 KVA	55.0%	100		0.6			0.6
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	NALAM 100 KVA	55.0%	100		0.6			0.6
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	KHALPAL 250 KVA	55.0%	250			0.5		0.5
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	BARAPADA	55.0%	100		0.5			0.5
Dhenkanal	TED	PALLAHARA	RENGALI	BAJARKOTE	BAJRAKOTE MANDIRA SAHI	55.0%	100		0.5			0.5
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	NALAM BARAPALI SAHI	55.0%	100		0.5			0.5
Dhenkanal	TED	PALLAHARA	RENGALI	GUNDURI	TALAPADA 100 KVA	55.0%	100		0.4			0.4
DHENKANAL	TED	PALLAHARA	RENGALI	RENGALI	MANDIRA CHHAK	55.0%	250			0.3		0.3
DHENKANAL	DED	GONDIA	GONDIA	11 kV GONDIA	GONDIA SADAK SAHI 1	57%	100		0.3			0.3
DHENKANAL	DED	GONDIA	GONDIA	11 kV PASUPATI	SORSIAPADA 1	57%	100		0.3			0.3
DHENKANAL	DED	GONDIA	GONDIA	11 kV KAPILASH	CHANDRASEKHARPUR 4	57%	100		0.4			0.4
DHENKANAL	DED	GONDIA	GONDIA	11 kV KAPILASH	NEAR DEAR PARK	57%	100		0.3			0.3
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	KOTAGARA	KALIAHATA	57%	100		1			1
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	KOTAGARA	Putasahi	57%	100		1			1
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	KOTAGARA	PUTASAHI UPAR TAILA	57%	100		0.8			0.8
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	KOTAGARA	SRIMULA CHHAKA	57%	100		0.5			0.5
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	ANLABERENI	BIJADIHI_01	57%	63		0.5			0.5
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Kotagara	Dhoba bahali	57%	100		0.8			0.8
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Kotagara	Gangijodi_02	57%	63		0.6			0.6
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Sogar	Hadabereni	57%	63	0.3				0.3
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Baruan	Ambabola	57%	100		0.5			0.5
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Baruan	Nuapali Sahi	57%	63		0.4			0.4
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	Baruan	Baruan	57%	100		0.3			0.3
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	ANLABERENI	Khuntabadi	57%	100		0.3			0.3
DHENKANAL	DED	K NAGAR	RAINARSINGHPUR	ANLABERENI	Khatuahata	57%	100		0.3			0.3
DHENKANAL	DED	Hindol Road	HINDOL TOWN	HINDOL	KANTAMILA NEAR UP SCHOOL	59%	63	0.5				0.5
DHENKANAL	DED	Hindol Road	HINDOL TOWN	HINDOL	KANATAMILA UP SCHOOL	59%	100		0.5			0.5
DHENKANAL	DED	Hindol Road	HINDOL TOWN	HINDOL	DHUNDINALI 2	59%	250		0.3			0.3
Dhenkanal	TED	TALCHER	KANIHA	DERANG	DERANG 100 KVA NAIK SAHI	60.0%	100		0.7			0.7
Dhenkanal	TED	CHAINPAL	CHAINPAL	GOTAMARA	LINGARA KATA	60.0%	100		0.5			0.5
Dhenkanal	TED	CHAINPAL	CHAINPAL	GOTAMARA	CHAINPAL	60.0%	100		0.5			0.5
Dhenkanal	TED	PALLAHARA	KHAMAR	SANKHAMUR	PANIGHARA	60.0%	100		0.5			0.5
Dhenkanal	TED	CHAINPAL	CHAINPAL	GOTAMARA	LINGARA KATA	60.0%	100		0.5			0.5
Dhenkanal	TED	CHAINPAL	CHAINPAL	GOTAMARA	CHAINPAL	60.0%	250			0.5		0.5
Dhenkanal	TED	PALLAHARA	KHAMAR	BARKOTIA	SANASADA	60.0%	100		0.4			0.4
Dhenkanal	TED	CHAINPAL	CHAINPAL	GOTAMARA	SALAGADIA	60.0%	100		0.3			0.3
Dhenkanal	TED	PALLAHARA	KHAMAR	BARKOTIA	NUAPADA	60.0%	100		0.3			0.3
Dhenkanal	TED	CHAINPAL	CHAINPAL	BALLHAR	NUAGAON	60.0%	100		0.3			0.3
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV Tarva	TARAVA	61%	250		0.4			0.4
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV Chaulia/Khamara	SOGARPASI	61%	63	0.4				0.4
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV Chaulia/Khamara	DUDHUKATENI GANDHI CHHAK 1	61%	100		0.5			0.5
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV GOVINDPUR(DKL)	TALABARKOT	61%	250		0.5			0.5
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV Tarva	NIMATAILA	61%	100		0.6			0.6
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV Chaulia/Khamara	CHAULIA	61%	63		0.4			0.4
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV Tarva	NUAGAON	61%	100		0.45			0.45
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV GOVINDPUR(DKL)	GOVINDPUR CHHAKA	61%	250			0.6		0.6
DHENKANAL	DED	DHENKANAL	DHENKANAL-2	11 kV GOVINDPUR(DKL)	FRENCH COLONY	61%	200			0.8		0.8
DHENKANAL	ANED	Chhendipada	KOSALA	JARASINGHA	KAMARGUDI	61.5%	100		1			1
DHENKANAL	ANED	Chhendipada	KOSALA	JARASINGHA	BEDASAR	61.5%	63		1			1
Dhenkanal	TED	TALCHER	TALCHER	BANTOL	BANATOL RAILWAY SIDE 2	62.0%	250			0.5		0.5
Dhenkanal	TED	TALCHER	TALCHER	TOWN II	NABA MISHRA COLONY ROAD	62.0%	250			0.5		0.5
Dhenkanal	TED	TALCHER	TALCHER	TOWN I	THANA ROAD	62.0%	100		0.3			0.3
Dhenkanal	TED	TALCHER	TALCHER	TOWN II	MAHESH SAHOO 100KVA	62.0%	100		0.3			0.3
Dhenkanal	TED	TALCHER	BALANDA	KALAMCHHUIN	SOLADA THAKURANI SAHI	63.0%	100		0.7			0.7
Dhenkanal	TED	TALCHER	BALANDA	GOPALPRASAD	Kumunda No-1	63.0%	100		0.6			0.6
Dhenkanal	TED	TALCHER	BALANDA	GOBRA	KOIPASI	63.0%	100		0.4			0.4

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
DHENKANAL	ANED	BOINDA	BOINDA	LUHAMUNDA	KAMPOOL	63.9%	63		0.5			0.5
DHENKANAL	ANED	BOINDA	BOINDA	PAIKSAHI	SAPAGHARA	63.9%	63	0.25				0.25
DHENKANAL	TED	Pallahara	Rengali	11 KV OHPC FEEDER 2	Market	45.0%	500				1.50	1.5
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	BHAGABATPUR	65.0%	100		1			1
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	SANTRIPIDHA SAHI	65.0%	250			1		1
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	NUAHATA PATNA1	65.0%	100		1			1
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	KUSUNA	65.0%	250			1		1
Dhenkanal	TED	CHAINPAL	BANARPAL	MRDL	RAJIV GANDHI PARK	65.0%	100		1			1
Dhenkanal	TED	CHAINPAL	BANARPAL	KULAD	GOBARDHAN NAGAR HATA SAHI	65.0%	250			1		1
Dhenkanal	TED	CHAINPAL	BANARPAL	KULAD	BONDA VILLAGE	65.0%	100		1			1
Dhenkanal	TED	CHAINPAL	BANARPAL	CHAINPAL	GOTMARA SCHOOL SAHI(NALCO BOUNDARY)	65.0%	100		1			1
Dhenkanal	TED	CHAINPAL	BANARPAL	CHAINPAL	GOTMARA PANCHAYAT SAHI	65.0%	100		1			1
Dhenkanal	TED	CHAINPAL	BANARPAL	PHULPADA	TALMUL SASAN	65.0%	250			0.5		0.5
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	LANGULIABEDA	65.0%	100		0.8			0.8
Dhenkanal	TED	CHAINPAL	BANARPAL	KULAD	KULAD ME SCHOOL FRONT	65.0%	250			0.5		0.5
Dhenkanal	TED	CHAINPAL	BANARPAL	MRDL	TALABAHALI	65.0%	100		0.7			0.7
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	BAULIGAD VILL	65.0%	100		0.7			0.7
Dhenkanal	TED	CHAINPAL	BANARPAL	KULAD	KUSUMAGARH 100 KVA	65.0%	100		0.5			0.5
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	NUAHATA GODA SAHI	65.0%	250			0.5		0.5
Dhenkanal	TED	CHAINPAL	BANARPAL	MRDL	JORAGADIA	65.0%	100		0.5			0.5
Dhenkanal	TED	CHAINPAL	BANARPAL	KULAD	CHARIDIHA	65.0%	100		0.5			0.5
Dhenkanal	TED	CHAINPAL	BANARPAL	CHAINPAL	GOTMATARA DINA GHARA	65.0%	250			0.5		0.5
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	BADKHALI	65.0%	100		0.4			0.4
Dhenkanal	TED	CHAINPAL	BANARPAL	HINDOL	SANTRI NALACHANDRAPUR	65.0%	100		0.4			0.4
Dhenkanal	TED	CHAINPAL	BANARPAL	KULAD	SANTRI CHHAK 100 KVA	65.0%	100		0.3			0.3
DHENKANAL	TED	CHAINPAL	BANARPAL	MRDL	BUDHAPANKA MAIN VILLAGE	65.0%	500				1.90	1.9
DHENKANAL	ANED	BOINDA	ATHAMALIK	MADHAPUR	MADHAPUR	67.3%	100		1.5			1.5
DHENKANAL	ANED	BOINDA	ATHAMALIK	kiakata	DEULI	67.3%	63		0.9			0.9
DHENKANAL	ANED	BOINDA	ATHAMALIK	MADHAPUR	MAKUNDAPUR	67.3%	63		0.5			0.5
DHENKANAL	ANED	BOINDA	ATHAMALIK	lunahandi	JANHIMUNDA	67.3%	63		0.5			0.5
DHENKANAL	ANED	BOINDA	ATHAMALIK	lunahandi	LUNAHANDI	67.3%	63		0.55			0.55
DHENKANAL	ANED	BOINDA	ATHAMALIK	MADHAPUR	SHARADHAPUR COLONY	67.3%	100		0.7			0.7
DHENKANAL	ANED	BOINDA	ATHAMALIK	lunahandi	CHHEPRA	67.3%	100		1.7			1.7
DHENKANAL	TED	CHAINPAL	MERAMANDALI	KAMALANGA	MERAMANDALI	69.0%	500				2.00	2
DHENKANAL	TED	Pallahara	Rengali	11 KV OHPC FEEDER 2	Filter House	45.0%	500				3.00	3
DHENKANAL	ANED	ANGUL	BANTALA	KHINDA	JAMUGADIA	68.0%	100		0.6			0.6
DHENKANAL	ANED	ANGUL	BANTALA	BANTALA	KARATAPATA	68.0%	63		0.5			0.5
DHENKANAL	ANED	ANGUL	BANTALA	BANTALA	POKATUNGA	68.0%	100		0.7			0.7
DHENKANAL	ANED	ANGUL	BANTALA	BANTALA	POKATUNGA VILLAGE	68.0%	100		0.8			0.8
DHENKANAL	ANED	ANGUL	BANTALA	BANTALA	DHOKUTA	68.0%	100		0.65			0.65
DHENKANAL	ANED	ANGUL	BANTALA	BANTALA	MADHUPUR	68.0%	100		0.5			0.5
DHENKANAL	ANED	ANGUL	BANTALA	BANTALA	MANAPUR	68.0%	100		0.85			0.85
DHENKANAL	ANED	ANGUL	BANTALA	BANTALA	BANTALA	68.0%	100		0.8			0.8
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	KAMALANGA	69.0%	100		0.5			0.5
Dhenkanal	TED	CHAINPAL	MERAMANDALI	PPKOTE	JHADABANDHA	69.0%	100		0.4			0.4
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	SURAVI	69.0%	100		0.4			0.4
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	KUSPANGA	69.0%	250			0.4		0.4
Dhenkanal	TED	CHAINPAL	MERAMANDALI	KAMALANGA	DURGAPUR BISWAL SAHI	69.0%	100		0.4			0.4
DHENKANAL	TED	Pallahara	Rengali	11 KV OHPC FEEDER 2	Hatiadanda	45.0%	500				3.90	3.9
PARADEEP	PDP	Paradeep	Bhutumundai	Bhutumundai	Talapada 100KVA(SANTARA 5)	51.3%	100			0.8		0.8
PARADEEP	PDP	Paradeep	Bhutumundai	SANTARA	Sahoo Bazar(GOPIA KUDHA 1)	51.3%	100			0.8		0.8
PARADEEP	PDP	Paradeep	Bhutumundai	SANTARA	Kabalpur(GOPIA KUDHA 6)	51.3%	100			0.9		0.9
PARADEEP	PDP	Paradeep	Bhutumundai	Kothi	Jhimani(KOTHI 1)	51.3%	100			0.9		0.9
PARADEEP	PDP	Paradeep	Bhutumundai	SANTARA	Gothadia(GOPIA KUDHA 3)	51.3%	100		1.2			1.2
PARADEEP	PDP	Paradeep	Bhutumundai	Bhutumundai	Bhutumundai 250KVA	51.3%	250				1.00	1
PARADEEP	PDP	Paradeep	Bhutumundai	Bhutumundai	MANGARAJ PUR 3	51.3%	250				1.00	1
PARADEEP	PDP	Kujanga	Kujanga	KUJANGA BAZAR	Balaramapur Gada	65.8%	100			0.5		0.5
PARADEEP	PDP	Kujanga	Kujanga	SANTARA	Bipin Chhaka -1	65.8%	100			0.5		0.5
PARADEEP	PDP	Kujanga	Kujanga	TALADANDA	Taladanda -3	65.8%	63		0.5			0.5
PARADEEP	PDP	Kujanga	Kujanga	TALADANDA	Gourapada-1	65.8%	100			0.5		0.5
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Badabandha-1	65.8%	100			0.6		0.6
PARADEEP	PDP	Kujanga	Kujanga	SANTARA	Mohantysahi,Balarampur	65.8%	63		0.6			0.6
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Ranipada -2	65.8%	63		0.7			0.7
PARADEEP	PDP	Kujanga	Kujanga	SANTARA	Rasungadia, Balarampur	65.8%	100			0.7		0.7
PARADEEP	KED-1	Kendrapara	Indupur	Nikirai	Badamangalapur	67.6%	100		0.3			0.3
PARADEEP	KED-1	Kendrapara	Indupur	Dhumat	khamardanda	67.6%	100		0.3			0.3
PARADEEP	KED-1	Kendrapara	Indupur	Nikirai	Nikirai Patana	67.6%	100			0.4		0.4
PARADEEP	KED-1	Kendrapara	Indupur	Nikirai	Nikirai Mathasahi	67.6%	100			0.4		0.4
PARADEEP	KED-1	Kendrapara	Indupur	Ghagara	Jariabada	67.6%	100			0.4		0.4
PARADEEP	KED-1	Kendrapara	Indupur	Dhumat	Jayakrushnapur Dandamunda	67.6%	100			0.4		0.4
PARADEEP	KED-1	Kendrapara	Indupur	Dhumat	Sasan	67.6%	63		0.4			0.4
PARADEEP	KED-1	Kendrapara	Indupur	Ghagara	Balipadia	67.6%	100			0.45		0.45
PARADEEP	KED-1	Kendrapara	Indupur	Nikirai	Paikarapur	67.6%	100			0.5		0.5
PARADEEP	KED-1	Kendrapara	Indupur	Nikirai	Palli	67.6%	100			0.5		0.5

Circle	Division	Sub division	Section	11 kV Feeder	Name of DSS	Section LT BE	Rating of DSS in kVA	4x35 sqmm	4x50 sqmm	4x70 sqmm	4x95 sqmm	Total Proposed Ckt. Km
PARADEEP	KED-1	Kendrapara	Indupur	Nikirai	chandapur	67.6%	100			0.7		0.7
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Arakhia-2	65.8%	63		0.8			0.8
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Badanga chhaka	65.8%	100			0.8		0.8
PARADEEP	PDP	Kujanga	Kujanga	SANTARA	Jaganatha Vihar,Balarampur	65.8%	100			0.8		0.8
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Arakhia -1	65.8%	100		0.9			0.9
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Patapur -1	65.8%	63		1.1			1.1
PARADEEP	PDP	Kujanga	Kujanga	SANTARA	Chitrakarsahi,Balarampur	65.8%	100			1.2		1.2
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Kanjiakana-2-BALIA	65.8%	63		1.3			1.3
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Daleisahi	65.8%	100			1.5		1.5
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Karatutha-2	65.8%	100		1.5			1.5
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Borikhi-1	65.8%	63		1.5			1.5
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Kanjiakana-1	65.8%	100			1.9		1.9
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Tenteikuda	65.8%	63		2.1			2.1
PARADEEP	PDP	Kujanga	Kujanga	SANTARA	Nuasahi,Balarampur	65.8%	100			2.1		2.1
PARADEEP	PDP	Kujanga	Kujanga	CHATUA	Tentulia-1	65.8%	100			2.2		2.2
PARADEEP	KED-1	Kedrapara	Ked2	thakurpatana	RAIPUR	67.6%	63		1			1
PARADEEP	KED-1	Kedrapara	Ked2	Bharatapur	Nankar	67.6%	100			1.2		1.2
PARADEEP	KED-1	Kedrapara	Ked2	thakurpatana	BADAMANGRAJPUR	67.6%	100			1.5		1.5
PARADEEP	KED-1	Kedrapara	Ked2	thakurpatana	BALIPATNA	67.6%	100			1.5		1.5
PARADEEP	KED-1	Kedrapara	Ked2	thakurpatana	KHASAPADIA	67.6%	100			1.5		1.5
PARADEEP	KED-1	Kedrapara	Ked2	thakurpatana	GHANSHYAMPUR	67.6%	100			1.5		1.5
PARADEEP	KED-1	RAJNAGAR	RAJNAGAR 2	RAJNAGAR	JUNAPANGARA	69.3%	100			0.4		0.4
PARADEEP	KED-1	RAJNAGAR	RAJNAGAR 2	JARIMULA	HANSINA	69.3%	100			0.4		0.4
PARADEEP	KED-1	RAJNAGAR	RAJNAGAR 2	RAJNAGAR	GAJARAJPUR	69.3%	100			0.5		0.5

Annexure - 9

Scope of Work, estimates and Cost Benefit Analysis for Grid Sub-station Automation System

PSS - Wise Scope of Work identified

Sl. No.	Circle	Division	PSS name	CRP3F	CRP2T	STANDALONE	SWGR (2I/C+ 2BPT+ B/C+4 O/G)	BCPU	Control cable	Battery System	RTU	Total Cost As Per NEG (In Cr.)
1	BBSR2	Khordha	Sunadeimundia	1	1	1		7	6			0.39
2	BBSR2	Khordha	Jatamundia	1	1	3		5	8			0.40
3	PDP	JED	Nabapatna	2	1	0			8			0.42
4	BBSR2	Nayagarh	NUAGAON	2	1	0			8			0.42
5	DKL	TED	KHAMAR	2	1	1			9			0.43
6	DKL	TED	Kaniha	1	1	1		12	6			0.46
7	DKL	AnED	Bantala	2	1	0		3	8			0.46
8	PDP	KED1	Aul	2	1	0		4	8			0.47
9	CUTTACK	AED	BADAMBA	3	1	0			11			0.56
10	DKL	AnED	JARAPADA	3	1	0			11			0.56
11	PDP	JED	Sova	3	1	0			11			0.56
12	BBSR2	PED	CHANDANPUR	3	1	0			11			0.56
13	PDP	KED2	Mahakalpada	3	1	0		1	11			0.57
14	BBSR2	Nayagarh	GANIA	2	2	1			11			0.56
15	PDP	PDP	RAHAMA	0	0	0	1	0	1			1.28
16	BBSR2	PED	SATASANKHA	0	1	0	1		3			1.41
17	CUTTACK	AED	NUAPATNA	0	1	3	1		6			1.47
18	BBSR1	NED	BALAKATI	3	1	0			11	1	1	0.72
19	DKL	DED	KALIAPANI	1	0	0			3	1	1	0.30
20	DKL	AnED	Anandpur	1	1	0			5	1	1	0.43
21	DKL	AnED	MADHAVPUR	1	1	1			6	1	1	0.45
22	DKL	AnED	CHHENDIPADA	2	1	2		2	10	1	1	0.64
23	DKL	DED	Kankadahad	3	1	0			11	1	1	0.72
24	PDP	JED	Balikuda	3	1	0			11	1	1	0.72
25	PDP	PDP	Trilochanpur	0	0	0		9	0	1	1	0.29
			Total	**44**	**23**	**13**	**3**	**43**	**194**	**8**	**8**	**15.25**

Grid Sub-station Automation System (GSAS) for reliability Improvement					
Sl. No.	***Description***	***Unit***	***Per Unit Cost (In Cr.)***	***Total Qty.***	***Total Cost (In Cr.)***
1	BOQ for Installation of CR panel for 3 Feeder Protection (33 kV or 11 kV)-CRP3F	EA	***0.103***	***44***	***4.55***
2	BOQ for Installation of CR panel for 2 Feeder Protection (33 kV or 11 kV)-CRP2T	EA	***0.100***	***23***	***2.30***
3	BOQ for Installation of CR panel (Stand alone) for Feeder Protection (33 kV or 11 kV) (Existing CR Panel to be re-used)	EA	***0.006***	***13***	***0.07***
4	BOQ for Installation of BCPU (33 kV or 11 kV)	EA	***0.014***	***43***	***0.62***
5	BOQ for Installation of 11 kV Switchgear Panel Board	EA	***1.270***	***3***	***3.81***
6	BOQ for different size of Control Cable (Total-400 Mtr./Location)	EA	***0.014***	***194***	***2.64***
7	Battery & Battery Charger	EA	***0.039***	***8***	***0.31***
8	RTU	EA	***0.120***	***8***	***0.96***
				TOTAL	***15.25***

BOQ for Installation of CR panel for 3 Feeder Protection (33 kV or 11 kV)-CRP3F

No. of Fdr. Protection Panel Requirement	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	1	1,300.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	35	2,761.20
3	Indoor CR panel for 3 Feeder Protection (33 kV or 11 kV) (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	6,80,085.00	1	6,80,085.00
A1				**Total Cost of materials**	**6,84,146.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,23,146.32**
A				**Total landed Cost (A=A1 + A2)**	**8,07,292.52**
B				Stock, Storage & Insurance i.e 3% of A	24,218.78
C				**Sub Total (A+B)**	**8,31,511.29**
D				Contigency @ 3% of C	24,945.34
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	16,598.63
F				Transportation @ 7.5% of C	62,363.35
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	82,993.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**10,18,411.73**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	1	3,784.73
K1				**Total Civil & Services**	**3,784.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**681.25**
K				**Total landed Cost (K=K1+ K2)**	**4,465.98**
L				**Total Material +services (J+K)**	**10,22,877.71**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**10,22,877.71**
O				CESS 1% of (N)	10,228.78
P				**Total (N+O)**	**10,33,106.49**

BOQ for Installation of CR panel for 2 Feeder Protection (33 kV or 11 kV)-CRP2T

No. of Fdr. Protection Panel Requirement	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	1	1,300.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	35	2,761.20
3	Indoor CR panel for 2 Feeder Protection (33 kV or 11 kV) (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	6,57,000.00	1	6,57,000.00
A1				**Total Cost of materials**	**6,61,061.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,18,991.02**
A				**Total landed Cost (A=A1 + A2)**	**7,80,052.22**
B				Stock, Storage & Insurance i.e 3% of A	23,401.57
C				**Sub Total (A+B)**	**8,03,453.78**
D				Contigency @ 3% of C	24,103.61
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	16,037.48
F				Transportation @ 7.5% of C	60,259.03
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	80,187.38
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**9,84,041.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	1	3,784.73
K1				**Total Civil & Services**	**3,784.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**681.25**
K				**Total landed Cost (K=K1+ K2)**	**4,465.98**
L				**Total Material +services (J+K)**	**9,88,507.26**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**9,88,507.26**
O				CESS 1% of (N)	9,885.07
P				**Total (N+O)**	**9,98,392.34**

BOQ for Installation of CR panel (Stand alone) for Feeder Protection (33 kV or 11 kV) (Existing CR Panel to be re-used)

No. of Fdr. Protection Panel Requirement	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	1	1,300.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	35	2,761.20
3	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV or 11 kV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	
A1				**Total Cost of materials**	**4,061.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**731.02**
A				**Total landed Cost (A=A1 + A2)**	**4,792.22**
B				Stock, Storage & Insurance i.e 3% of A	143.77
C				**Sub Total (A+B)**	**4,935.98**
D				Contigency @ 3% of C	148.08
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	67.12
F				Transportation @ 7.5% of C	370.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	335.60
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,856.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	1	3,784.73
2	ITC of CR PANEL Feeder	EA	18,003.04	1	18,003.04
3	Transportation of CR Panel	EA	10,500.00	2	21,000.00
K1				**Total Civil & Services**	**42,787.77**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,701.80**
K				**Total landed Cost (K=K1+ K2)**	**50,489.57**
L				**Total Material +services (J+K)**	**56,346.54**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**56,346.54**
O				CESS 1% of (N)	563.47
P				**Total (N+O)**	**56,910.01**

BOQ for Installation of BCPU (33 kV or 11 kV)

No. of BCPU	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	1	1,300.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	35	2,761.20
3	BCPU (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	88,500.00	1	88,500.00
A1				**Total Cost of materials**	**92,561.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,661.02**
A				**Total landed Cost (A=A1 + A2)**	**1,09,222.22**
B				Stock, Storage & Insurance i.e 3% of A	3,276.67
C				**Sub Total (A+B)**	**1,12,498.88**
D				Contigency @ 3% of C	3,374.97
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	2,218.38
F				Transportation @ 7.5% of C	8,437.42
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,091.89
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,37,621.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	1	3,784.73
K1				**Total Civil & Services**	**3,784.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**681.25**
K				**Total landed Cost (K=K1+ K2)**	**4,465.98**
L				**Total Material +services (J+K)**	**1,42,087.51**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**1,42,087.51**
O				CESS 1% of (N)	1,420.88
P				**Total (N+O)**	**1,43,508.39**

BOQ for Installation of 11 kV Switchgear Panel Board

No. of Switchgear Panel Board	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	2	2,600.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	71	5,522.40
3	11kv 2000A VCB with 11 panel board Switchgear (2 incoming, 6 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA	86,04,870.00	1	86,04,870.00
A1				**Total Cost of materials**	**86,12,992.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,50,338.63**
A				**Total landed Cost (A=A1 + A2)**	**1,01,63,331.03**
B				Stock, Storage & Insurance i.e 3% of A	3,04,899.93
C				**Sub Total (A+B)**	**1,04,68,230.96**
D				Contigency @ 3% of C	3,14,046.93
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	134.24
F				Transportation @ 7.5% of C	7,85,117.32
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	671.19
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,15,68,200.65**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	2	7,569.46
2	Erection of Panel Board	EA	8,47,000.00	1	8,47,000.00
K1				**Total Civil & Services**	**8,54,569.46**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,53,822.50**
K				**Total landed Cost (K=K1+ K2)**	**10,08,391.96**
L				**Total Material +services (J+K)**	**1,25,76,592.61**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**1,25,76,592.61**
O				CESS 1% of (N)	1,25,765.93
P				**Total (N+O)**	**1,27,02,358.53**

BOQ for different size of Control Cable (Total-400 Mtr./Location)

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Control Cable 12Core x 2.5 mm2	Mtr	329.00	60	19,740.00
2	Control Cable 16Core x 2.5 mm2	Mtr	426.00	80	34,080.00
3	Control Cable 4Core x 2.5 mm2	Mtr	124.00	200	24,800.00
4	Control Cable 7Core x 2.5 mm2	Mtr	196.00	60	11,760.00
A1				**Total Cost of materials**	**90,380.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,268.40**
A				**Total landed Cost (A=A1 + A2)**	**1,06,648.40**
B				Stock, Storage & Insurance i.e 3% of A	3,199.45
C				**Sub Total (A+B)**	**1,09,847.85**
D				Contigency @ 3% of C	3,295.44
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	2,196.96
F				Transportation @ 7.5% of C	8,238.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	10,984.79
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,34,563.62**
	Civil & Services				
K1				**Total Civil & Services**	**-**
K2				**Applicable Taxes to make it Landed Cost @18%**	**-**
K				**Total landed Cost (K=K1+ K2)**	**-**
L				**Total (J+K)**	**1,34,563.62**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**1,34,563.62**
O				CESS 1% of (N)	1,345.64
P				**Gross Total Material +Services (N+O)**	**1,35,909.25**

Annexure-16.6

BOQ for Installation of Battery Charger with DCDB					
No. of Battery Charger Cum DCDB			1		
MATERIALS					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	1	1,300.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	35	2,761.20
3	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	20	2,940.00
4	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	2,49,965.00	1	2,49,965.00
A1				**Total Cost of materials**	**2,56,966.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,253.92**
A				**Total landed Cost (A=A1 + A2)**	**3,03,220.12**
B				Stock, Storage & Insurance i.e 3% of A	9,096.60
C				**Sub Total (A+B)**	**3,12,316.72**
D				Contigency @ 3% of C	9,369.50
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,214.73
F				Transportation @ 7.5% of C	23,423.75
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,073.67
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,82,398.38**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	1	3,784.73
K1				**Total Civil & Services**	**3,784.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**681.25**
K				**Total landed Cost (K=K1+ K2)**	**4,465.98**
L				**Total Material +services (J+K)**	**3,86,864.36**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**3,86,864.36**
O				CESS 1% of (N)	3,868.64
P				**Total (N+O)**	**3,90,733.00**

BoQ for installation of RTU at PSS

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**SCADA**		1.00		-
1.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
1.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
1.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
1.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
1.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
1.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
1.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
1.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
1.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
1.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
1.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
1.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
1.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
1.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
1.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
1.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
1.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**8,28,940.59**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of SCADA**				-
1.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**59,661.56**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**8,28,940.59**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,49,209.31**
A	**Total landed Cost (A=A1 + A2)**				**9,78,149.90**
B	Stock , Storage & Insurance @ 3 % of A				**29,344.50**
C	Sub - Total (A+B)				**10,07,494.39**
D	Contingency @ 3 % of C				**30,224.83**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**75,562.08**
G	**Sub - Total (C+D+E+F)**				**11,13,281.31**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				59,661.56
H2	Total Cost for CIVIL WORKS				-
H3	**Total Cost for Erection & Civil works (H1+H2)**				**59,661.56**
H4	**Applicable Taxes to make it Landed Cost @18%**				**10,739.08**
H	**Total landed Cost (H=H3 + H4)**				70,400.64
I	**Total Cost (G+H)**				11,83,681.95
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**11,83,681.95**
L	CESS @ 1% of K				11,836.82
M	**Total Cost (K+L)**				**11,95,518.77**

Cost Benefir Analysis

No. of operators before GSAS	No. of operators after GSAS (7/3PSS)	Salary of operator (INR)	Salary Benefit (Annual)	Calculations	Value	unit
A	B = no. of PSS x 7/3	C	D = (A-B)XCx12			
149	59	22000	2,37,60,000.00	Total Scheme Cost (incl. Taxes)	15.25	Cr.
				Pay Back Period of Scheme (F=Total Project Cost/E)	6.42	Years
				% Rate of Return	15.58	%

Sl No	Circle	Division	PSS name	Estimated Cost (in Rs)	No. Of Operators
1	BBSR2	Khordha	Sunadeimundia	0.391	6
2	BBSR2	Khordha	Jatamundia	0.401	5
3	PDP	JED	Nabapatna	0.415	5
4	BBSR2	Nayagarh	NUAGAON	0.415	7
5	DKL	TED	KHAMAR	0.434	7
6	DKL	TED	Kaniha	0.463	7
7	DKL	AnED	Bantala	0.458	6
8	PDP	KED1	Aul	0.473	7
9	CUTTACK	AED	BADAMBA	0.559	7
10	DKL	AnED	JARAPADA	0.559	7
11	PDP	JED	Sova	0.559	6
12	BBSR2	PED	CHANDANPUR	0.559	4
13	PDP	KED2	Mahakalpada	0.574	5
14	BBSR2	Nayagarh	GANIA	0.561	7
15	PDP	PDP	RAHAMA	1.284	6
16	BBSR2	PED	SATASANKHA	1.411	4
17	CUTTACK	AED	NUAPATNA	1.469	6
18	BBSR1	NED	BALAKATI	0.718	7
19	DKL	DED	KALIAPANI	0.303	4
20	DKL	AnED	Anandpur	0.430	7
21	DKL	AnED	MADHAVPUR	0.449	7
22	DKL	AnED	CHHENDIPADA	0.641	7
23	DKL	DED	Kankadahad	0.718	5
24	PDP	JED	Balikuda	0.718	6
25	PDP	PDP	Trilochanpur	0.288	4
				15.249	**149**

Annexure-10

Ref: MUM/TPCODL/2026-27/014 **Date: 14.08.2026**

To,
TP Central Odisha Distribution Ltd
Odisha

Subject:- SEBA KMT/ Megger make Cable fault locating systems Cable Test Van (Force Traveler MH 02 ER 6726 and MH 02 ER 6725)
Model SPG40 (SN : 12798530001 & 12852490002).

Dear Sir,

We would like to inform you that the said systems were in service for more than 8 years. Please be informed that the complete life cycle of the Cable fault locating system is a maximum 10 years. Often after 10 years, the components used in such machines would not be available in the global market due to continuous innovation in the electronics sector. In this case, we are witnessing the non-availability of most of the components & spare, due to which further service and repair of this system are difficult.

In view of the above factors please be informed that it will be difficult to repair the instrument if it fails in the near future.

This information is for your kind reference and further action. We request you to kindly plan your future action plans accordingly.

Thanking you and assuring you best of our services and support.

for Megger (India) Private Limited

Name :Sarit Marwah
Mobile.No. 9910313085
Email: sarit.marwah@megger.com

ANNEXURE-13

REPLACEMENT OF AGED PTRs

TO IMPROVE RELIABILITY

Summary-Replacement of Aged PTR's to improve reliability						
Sl. No.	***Description***	***Unit***	***Per Unit Cost (In Cr.)***	***Total Qty.***	***Total Cost (In Cr.)***	***Annexure***
1	Replacement of Sick 12.5MVA PTR with new 12.5/16MVA PTR	EA	***3.41***	***2***	***6.83***	Annexure-13.1
	Replacement of Sick 7.5MVA PTR or 8MVA PTR with new 8MVA PTR	EA	***2.33***	***2***	***4.66***	Annexure-13.2
				TOTAL	***11.49***	

Annexure- 13.1

Replacment of Sick 12.5 MVA PTR or 8 MVA PTR with new 12.5/16 MVA PTR

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	12.5/16 MVA, 33/11 KV Power Transformer with OLTC	Nos.	1,92,15,911.02	1	1,92,15,911.02
2	50x6mm GI Flat for earthing, 2.36kg/mtr.	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe (medium gauge) earthing device with 3 mtr. long	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,754.24	240	4,21,017.60
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	Set	15,760.00	6	94,560.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	Set	15,970.00	6	95,820.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1				**Total Cost of materials**	**2,09,15,268.62**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,64,748.35**
A				**Total landed Cost (A=A1 + A2)**	**2,46,80,016.97**
B				Stock, Storage & Insurance i.e 3% of A	7,40,400.51
C				**Sub Total (A+B)**	**2,54,20,417.48**
D				Contigency @ 3% of C	7,62,612.52
E				Tools & Plants @ 2% of C	4,75,615.46
F				Transportation @ 7.5% of C	19,06,531.31
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	11,67,750.91
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)	42,575.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kV	-
J				**Sum of (C to I)**	**2,97,75,503.15**
	Civil and Services Works (As per Technical Specification)				
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Laying, Commissioning & Testing of 11kV, 1CoreX1000sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 12.5/8MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	1,10,000.00	1	1,10,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Tractor with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board. Item whose loading& unloading is to be done with crane, charges for crane will be paid separately.	EA	24,000.00	2	48,000.00
10	**Construction of BOT**	LS	3,91,000.00	1	3,91,000.00

11	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
12	**Construction of Cable Trench**	M	26,500.00	50	13,25,000.00
13	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
K1	**Total Civil & Services**				**32,80,702.89**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,90,526.52**
K	**Total landed Cost (K=K1+K2)**				**38,71,229.41**
L	**Total (J+K)**				**3,36,46,732.56**
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub Total (L+M)**				**3,36,46,732.56**
O	Total GST @ 18% of (N)				
P	CESS 1% of N				3,36,467.33
Q	**Gross Total Material +Services (N+O+P)**				**3,39,83,199.88**
a	Inspection Fee of Drawing Checking and Approval				750.00
b	Inspection Fee of PTR				1,27,500.00
c	Inspection Fee of Breaker				-
R1	**Total Inspection Fees (a+b+c)**				**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)				**23,085.00**
R	Total Inspection charges including GST (R1+R2)				**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**				**3,41,34,534.88**

Annexure- 13.2

Annexure- 13.2- Replacment of Sick 5 MVA PTR with new 8 MVA PTR

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	8 MVA, 33/11 KV Power Transformer with OLTC	EA	1,19,64,736.45	1	1,19,64,736.45
2	50x6mm GI Flat for earthing	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe for earthing	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,037.00	240	2,48,880.00
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,220.00	6	43,320.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,390.00	6	44,340.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1				**Total Cost of materials**	**1,33,89,236.45**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,10,062.56**
A				**Total landed Cost (A=A1 + A2)**	**1,57,99,299.01**
B				Stock, Storage & Insurance i.e 3% of A	4,73,978.97
C				**Sub Total (A+B)**	**1,62,73,277.98**
D				Contigency @ 3% of C	4,88,198.34
E				Tools & Plants @ 2% of C	2,99,353.91
F				Transportation @ 7.5% of C	12,20,495.85
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	7,27,097.03
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)	42,575.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kV	-
J				**Sum of (C to I)**	**1,90,50,998.57**
	Civil and Services Works (As per Technical Specification)				
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Laying, Commissioning & Testing of 11kV, 1CoreX630sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 12.5/8MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	1,10,000.00	1	1,10,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Trailer with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, 14 mt Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board . Item whose loading& unloading is to be done with crane , charges for crane will be paid separately. (Full Trailer)	EA	24,000.00	2	48,000.00
10	**Construction of BOT**	LS	3,91,000.00	1	3,91,000.00

11	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
12	**Construction of Cable Trench**	M	26,500.00	50	13,25,000.00
13	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
K1	**Total Civil & Services**				**32,80,702.89**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,90,526.52**
K	**Total landed Cost (K=K1+K2)**				**38,71,229.41**
L	**Total (J+K)**				**2,29,22,227.98**
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub Total (L+M)**				**2,29,22,227.98**
O	Total GST @ 18% of (N)				
P	CESS 1% of N				2,29,222.28
Q	**Gross Total Material +Services (N+O+P)**				**2,31,51,450.26**
a	Inspection Fee of Drawing Checking and Approval				750.00
b	Inspection Fee of PTR				1,27,500.00
c	Inspection Fee of Breaker				-
R1	**Total Inspection Fees (a+b+c)**				**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)				**23,085.00**
R	Total Inspection charges including GST (R1+R2)				**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**				**2,33,02,785.26**

Location of Replacement of Aged PTR

Sl. No.	Name of Division	PSS Name	PTR rating in MVA	MAKE	SL NO	YOM	PTR age (in Years) as on FY 26	Proposed PTR rating in MVA	Remarks
1	KED	Harirajpur	7.5	ELECTRA	ET-406/1	1988	38	8	
2	BED	RANPUR	7.5	IMP	PT-1826	1989	37	8	
3	PDP	Paradeep	7.5	IMP	PT-1825	1989	37	16	Considering future load growth 16 MVA is proposed
4	BCDD2	New Barang	8	Vijai	191516	1994	32	16	

ANNEXURE-14

New PSS to meet Network Reliability

ANNEXURE-14

New PSS to meet Network Reliability

Summary of Proposal Details:

Sl. No.	Name of Circle	Name of Division	Name of New 33/11kV PSS	Proposal Details	Amount (in cr.)	Annex.
1	BBSR-1	BCDD-2	Gadakana	Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS along with associated 33kV and 11kV lines. (Existing PTR will be utilized, cost is not included)	16	Annex-14.1
2	BBSR-1	BCDD-2	Patharagadia	Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS along with associated 33kV and 11kV lines. (Existing PTR and switchgear will be utilized, cost is not included)	9	Annex-14.2
				Total Cost (Cr.)	**25**	

1.0 New 33/11kV Primary Substation at Gadakana to meet Network Reliability

Proposal:

Construction of New 33/11kV Primary Substation at Gadakana under BCDD-2 division of BBSR-1 circle for enhancement of network reliability.

Requirement/ Need of the Proposal:

Existing Scenario:

- The Gadakana area is a rapidly developing urban load centre witnessing significant and sustained growth in load demand. At present, the load in the area is catered through the 11kV Kelucharan Park feeder from Sainik School PSS and the 11kV Pokharan and 11kV Shree Vihar feeders from C.S. Pur-I PSS, all of which are experiencing increasing loading levels and frequent trippings, adversely affecting supply reliability. Further, approximately 4MVA of additional load is expected to be connected in the near future. Considering the dense urban development, limited right-of-way availability and the presence of existing utility infrastructure on both sides of the roads, construction of new 11kV feeders from existing substations would require extensive underground cabling involving substantial capital expenditure, increased feeder lengths, higher technical losses and repeated future investments for load bifurcation and construction of new 11kV feeders. In this context, the construction of a new 33/11kV Gadakana Primary Substation (PSS) at the load centre along with associated network strengthening works is the most viable proposal.
- Loading of 11kV Kelucharan Park feeder (Sainik School PSS), 11kV Pokharan feeder and 11kV Shree Vihar feeder (C.s.pur-1 PSS) are 2.29MVA, 2.06MVA and 4.64MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (15% load growth per year for 2years), the projected loading of Summer'28 for Kelucharan Park feeder (Sainik School PSS), Pokharan feeder and Shree Vihar feeder (C.s.pur-1 PSS) would be 3.02MVA, 2.72MVA and 6.14MVA respectively.
- Frequent tripping is observed in the 11kV feeders which result to frequent shutdowns affecting consumers in the urban area of the city.
  - Total 2298nos. consumers are connected to the 11kV Kelucharan Park feeder (Sainik School PSS). The no. of 11kV feeder tripping in FY'26 was 67nos. and 27nos. from April'26 till July'26.
  - Total 1251nos. consumers are connected to the 11kV Pokhran feeder (C.s.pur-1 PSS). The no. of 11kV feeder tripping in FY'26 was 77nos. and 50nos. from April'26 till July'26.
  - Total 3236nos. consumers are connected to the 11kV Shree Vihar feeder (C.s.pur-1 PSS). The no. of 11kV feeder tripping in FY'26 was 23nos. and 14nos. from April'26 till July'26.
- Further, the 11kV Shree Vihar feeder (C.s.pur-1) will be overloaded up to 118%, w.r.t the current carrying capacity of the conductor with 2years load growth (15% load growth per year) in Summer'28.

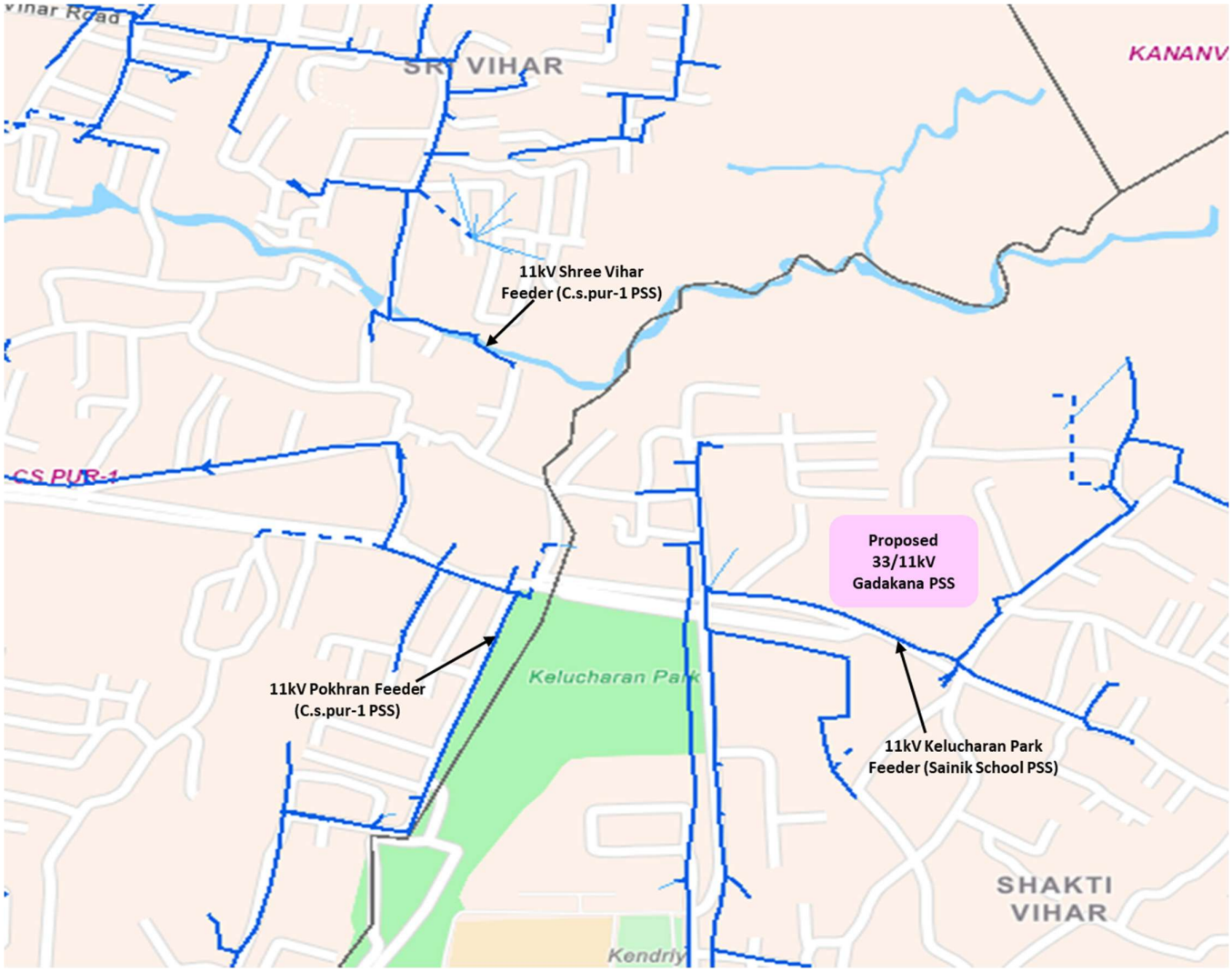
Existing Summer'26 Loading and projected load:

Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading
Sainik School	Kelucharan Park	5.18	2.29	44%	3.02	58%

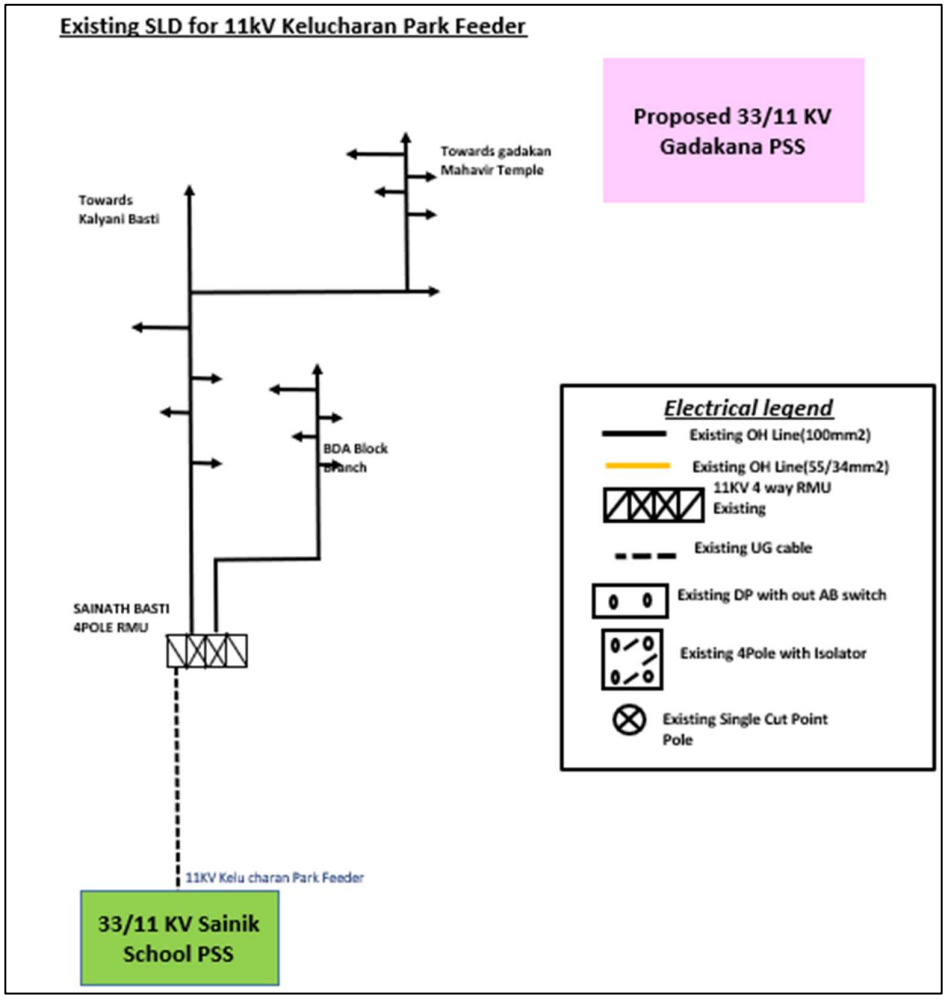
Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading
C.s.pur-1	Pokharan	4.51	2.06	46%	2.72	60%

Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading
C.s.pur-1	Shree Vihar	5.18	4.64	90%	6.14	118%

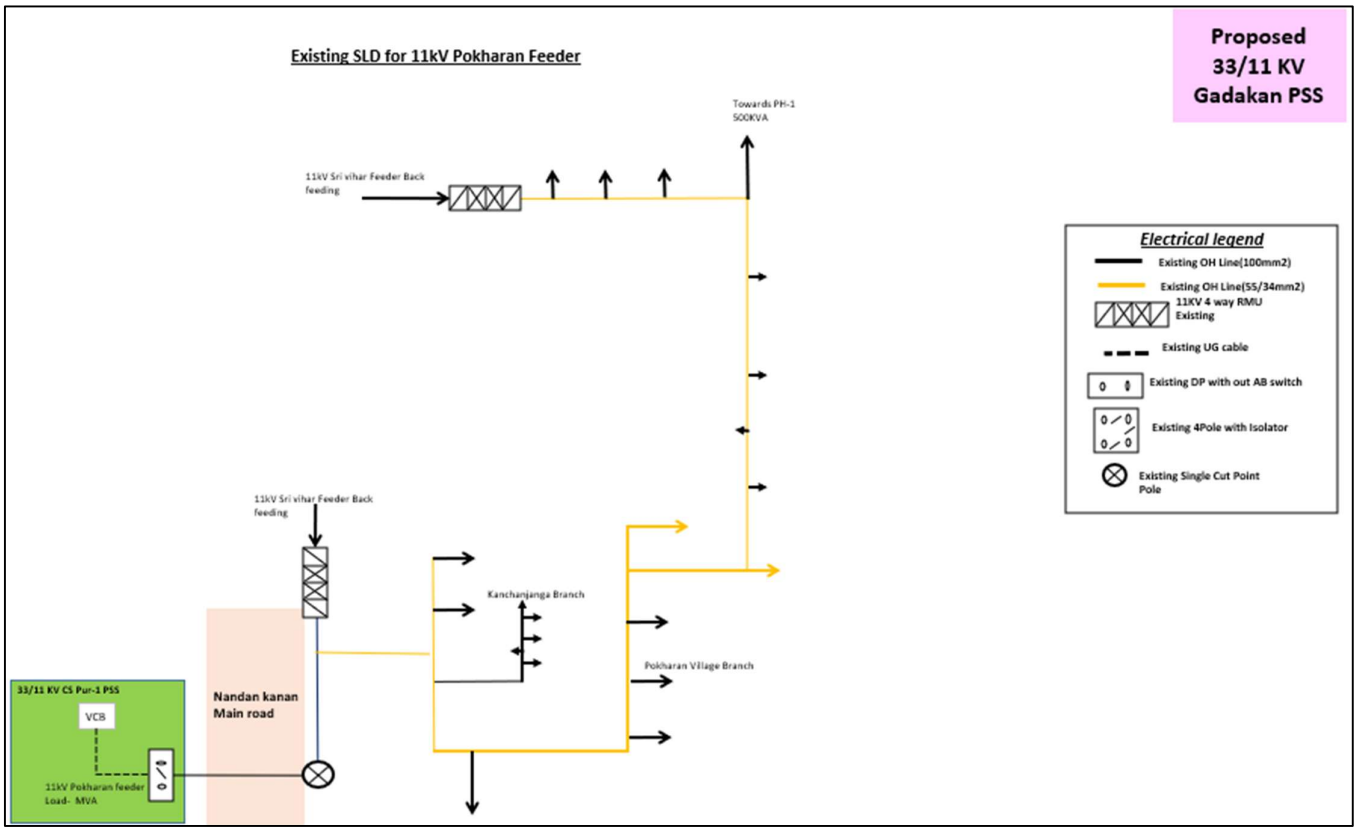
Existing Scenario (Gadakana area):



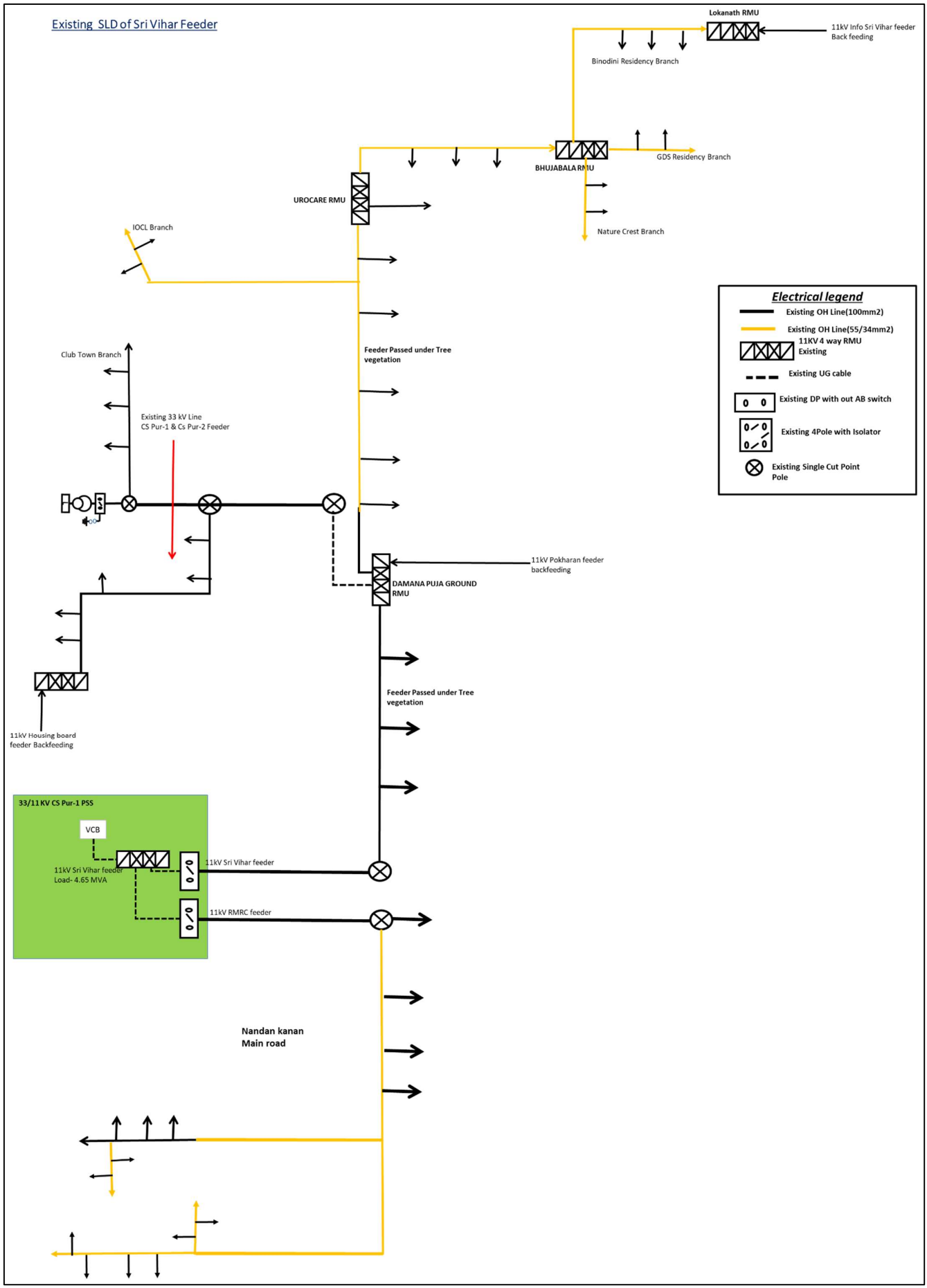
Existing SLD of 11kV Kelucharan Park feeder (Sainik School PSS):



Existing SLD of 11kV Pokharan feeder (C.s.pur-1 PSS):



Existing SLD of 11kV Shree Vihar feeder (C.s.pur-1 PSS):



Priority and Timeline of the Project:

Priority: The existing 11kV feeders supplying the Gadakana area are experiencing substantial load growth, with feeder loading levels steadily approaching the current carrying capacity of the conductors. The feeders have already been constructed with optimum standard conductor sizes and any further augmentation of conductor capacity is neither technically practical nor financially viable. Construction of new 11kV feeders from the existing 33/11kV Primary Substations (PSS) would require significant capital investment and extensive network development, making the option economically less feasible. As a result, the existing network is increasingly stressed and vulnerable to reliability issues. Further, the PSS is proposed to address the frequent tripping of the 11kV feeders.

Further, approximately 4MVA of load has been released in the area during the last two years, and several additional loads are expected to be connected in the near future. The anticipated increase in demand will further aggravate feeder loading and network constraints. In the absence of suitable reliability enhancement measures and network strengthening initiatives, consumers connected to these feeders will continue to experience frequent and prolonged power supply interruptions. Therefore, implementation of an appropriate network reliability improvement scheme is essential to ensure reliable and uninterrupted power supply, accommodate future load growth, and enhance the overall operational performance of the distribution system in the Gadakana area.

Technical Justification

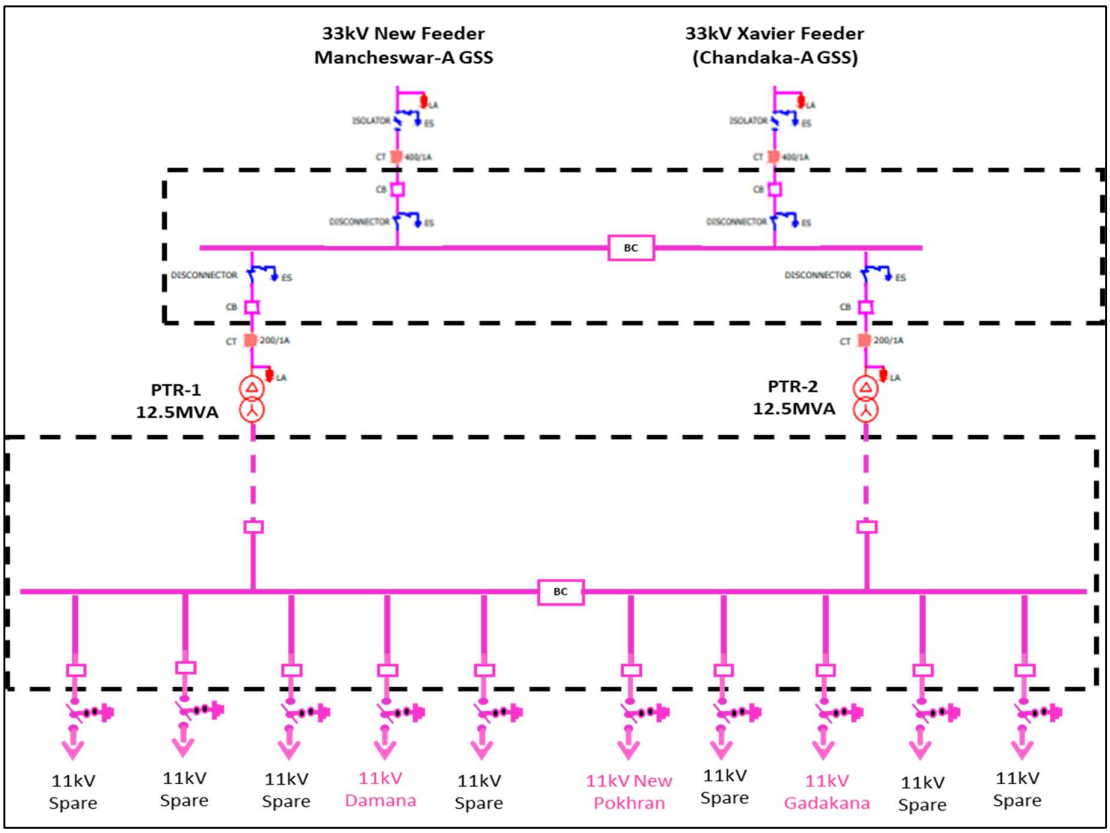
The existing 11kV feeders supplying the Gadakana area are experiencing sustained and significant load growth due to rapid urbanization and the continuous addition of consumers. Continued growth in demand is resulting in higher feeder loading, increased voltage drops, elevated technical losses and reduced operational margins, thereby adversely affecting network reliability and power quality. Although construction of additional 11kV feeders from the existing 33/11kV Primary Substations could partially address the loading issue, such an approach would require extensive underground cabling due to right-of-way constraints and the densely developed urban environment, involving substantial capital expenditure and the creation of long feeder corridors. Moreover, repeated feeder extensions and load bifurcation measures would provide only a short-term solution and would not adequately address the long-term load growth requirements of the area. In view of the existing network constraints, recurring feeder overloading and anticipated demand growth, the current distribution system is becoming increasingly stressed and vulnerable to frequent interruptions, making the establishment of a dedicated load centre through a new 33/11kV Primary Substation the most viable solution for ensuring reliable power supply and future network scalability in the Gadakana area.

Proposed Scenario:

To address the growing load demand, improve network reliability and reduce frequent feeder interruptions in the Gadakana area, following works are proposed:

- Construction of 1no. 33/11kV primary substation at Gadakana and laying of 3.5Ckm 33kV 3C, 400sqmm underground cable from Mancheswar-A to proposed 33/11kV Gadakana PSS and tapping at 33kV Xavier feeder to proposed 33/11kV Gadakana PSS.
- Laying of 0.5Ckm 11kV UG cable from Proposed Gadakana PSS to linking with 11kV Kelucharan Park feeder.
- Laying of 0.95Ckm 11kV UG cable from Proposed Gadakana PSS to Kelucharan Park for linking with Pokhran feeder along with augmentation of 11kV Pokharan feeder of length 2Ckm.
- Laying of 1.5Ckm 11kV UG cable from Proposed Gadakana PSS to Damana Square for linking of Shree Vihar feeder along with augmentation of 11kV Shree Vihar feeder of length 4Ckm and 11kV Info-Shree Vihar feeder of length 1.5Ckm.
- Installation of 2nos. 12.5MVA Power Transformers (PTRs) at the proposed Gadakana PSS through swapping from 33/11kV Unit-8 PSS and 33/11kV Badagada PSS. The transformers are proposed to be made available following the PTR augmentation works planned under CAPEX FY 2027-28 at the respective substations.
- This PSS will cater 12MVA load out of which 4MVA is upcoming load and 8MVA load diversion from the existing 11kV nearby feeders of different PSS (C.s.pur-1 PSS, Sainik School PSS).
- The proposal will facilitate load bifurcation from the heavily loaded existing feeders, cater to the load growth of the area, improve voltage profile, reduce feeder trippings and outage duration and enhance the overall reliability and quality of power supply for existing as well as upcoming consumers.

Proposed SLD of Proposed Gadakana 33/11kV PSS:



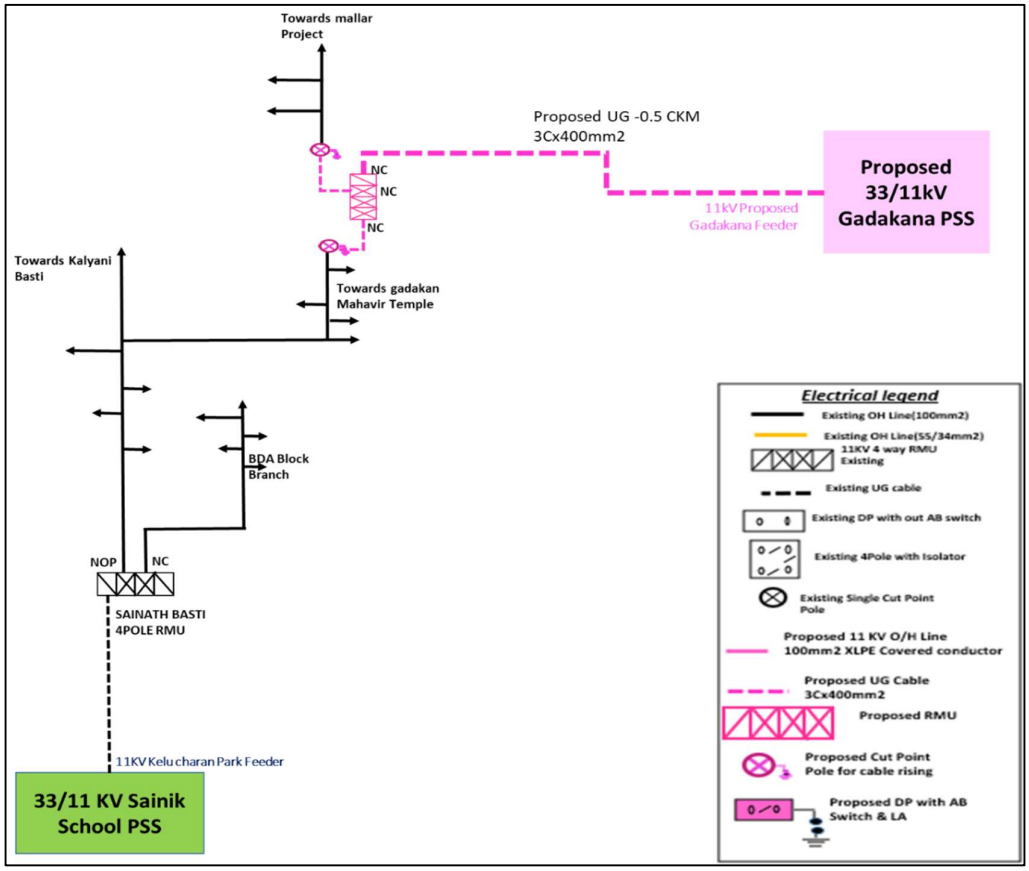
Existing 11kV feeder load diversion to New PSS (2X12.5MVA at Gadakana):

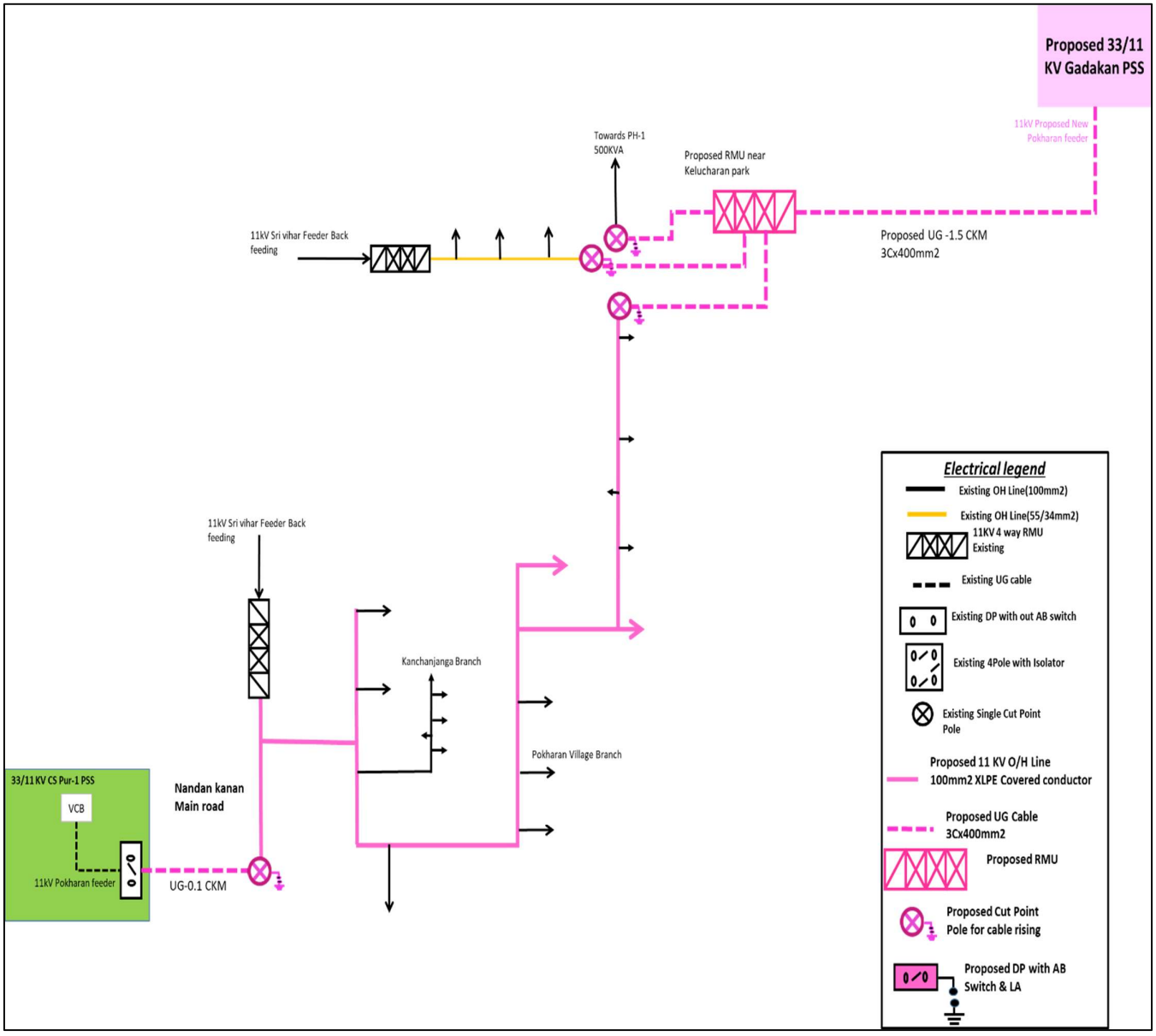
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer-28 Loading without Proposal	% Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer-28
Sainik School	Kelucharan Park	5.18	3.02	58%	1.02	20%
Gadakana	Proposed Gadakana	5.18	_	_	2.00	39%

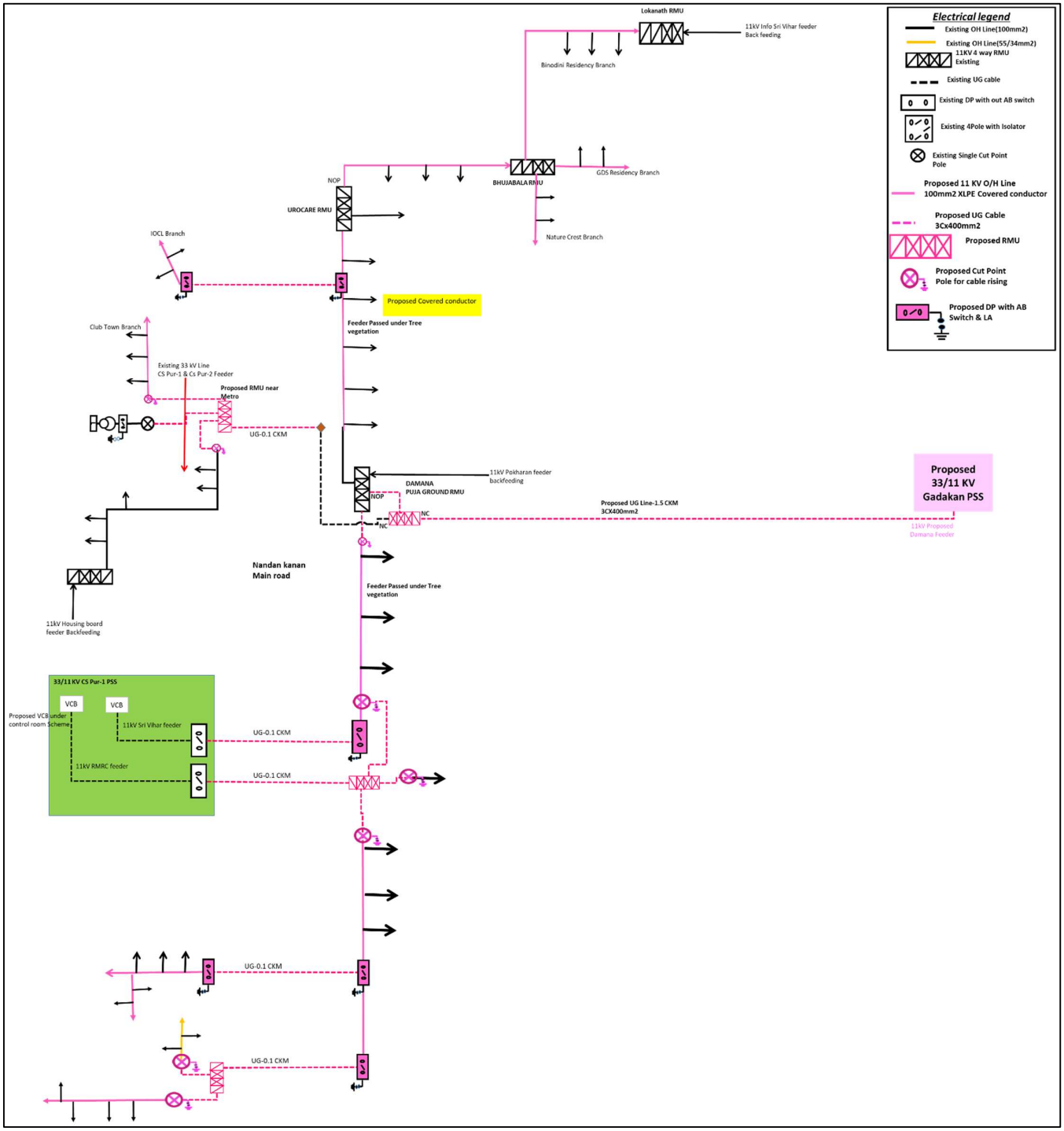
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer-28 Loading without Proposal	% Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer-28
C.s.pur-1	Pokharan	5.18	2.72	53%	0.72	14%
Gadakana	Proposed New Pokharan	5.18	_	_	2.00	39%

Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer-28 Loading without Proposal	% Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer-28
C.s.pur-1	Shree Vihar	5.18	6.14	118%	2.14	41%
Gadakana	Proposed Damana	5.18	_	_	4.00	77%

Proposed SLD of 11kV Proposed Feeders:




Proposed 33/11
KV Gadakan PSS
11kV Proposed New
Pokharan feeder
Towards PH-1
500KVA
Proposed RMU near
Kelucharan park
11kV Sri vihar Feeder Back
feeding
Proposed UG -1.5 CKM
3Cx400mm2
11kV Sri vihar Feeder Back
feeding
Kanchanjanga Branch
Pokharan Village Branch
33/11 KV CS Pur-1 PSS
VCB
11kV Pokharan feeder
Nandan kanan
Main road
UG-0.1 CKM
Electrical legend
Existing OH Line(100mm2)
Existing OH Line(55/34mm2)
11KV 4 way RMU
Existing
Existing UG cable
Existing DP with out AB switch
Existing 4Pole with Isolator
Existing Single Cut Point
Pole
Proposed 11 KV O/H Line
100mm2 XLPE Covered conductor
Proposed UG Cable
3Cx400mm2
Proposed RMU
Proposed Cut Point
Pole for cable rising
Proposed DP with AB
Switch & LA



Scope of Work:

- Construction of 1no. 33/11kV primary substation at Gadakana and laying of 3.5Ckm 33kV 3C, 400sqmm underground cable.
- Laying of 0.5Ckm 11kV UG cable from Proposed Gadakana PSS to linking with 11kV Kelucharan Park feeder.
- Laying of 0.95Ckm 11kV UG cable from Proposed Gadakana PSS to Kelucharan Park for linking with Pokhran feeder along with augmentation of 11kV Pokharan feeder of length 2Ckm.

- Laying of 1.5Ckm 11kV UG cable from Proposed Gadakana PSS to Damana Square for linking of Shree Vihar feeder along with augmentation of 11kV Shree Vihar feeder of length 4Ckm and 11kV Info-Shree Vihar feeder of length 1.5Ckm.

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-2
Name of the Sub-Division : -	Nayapalli
Name of the Section : -	VSS Nagar
Name of the Work :-	1- Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS (Existing PTR of Unit-8 -12.5 MVA and Badagada- 12.5 MVA will be shifted to Gadakana PSS) along with Laying of 3.5km 33kV feeder with 3C, 400sqmm U/G Cable. 2- Laying of 11kV UG cable of length 0.5 CKM from Gadakan PSS to linking with 11kV kelucharan Park feeder long with installation of 1no. of RMU in Kelucharan park feeder. 3- Laying of 11kV UG cable of length0.85 CKM from Gadakan PSS to Kelucharan Park. Laying of 0.1 KM UG cable for road crossing in 11kV pokharan feeder along with installation of 1no. of RMU near Kelucharan park. Augmentation of 11kV Pokharan feeder of length 2Ckm 4- Laying of 11kV UG cable of length-0.7Ckm using 3Cx400sqmm XLPE UG cable for road crossing of 11kV Sri Vihar feeder. Laying of 1.5Ckm UG cable from Proposed Gadakan PSS to Damana Square along with installation of 4 Nos. of RMU near CS Pur-1 PSS, RMRC Chowk, near Metro Homes & Damana Square.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**

PART A:- Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS. PART B :- Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders. PART- C :- Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS. PART- D :- Construction of 5 no. of 11 kV DP with Isolator and Earth Switch at PSS. PART E: Dismantling portion PART- F :- 1. Supply and Laying of 3.5 KM 33kV 3C, 400sqmm U/G Cable for Gadakana PSS. 2. Supply and Installation of 1 No. of 33 kV 4 Way RMU (LLVV+Aux. PT)	11,28,31,237.49
1. laying of 11kV UG cable of length 0.5 CKM from Gadakan PSS to linking with 11kV kelucharan Park feeder. 2. Installation of 1no. of RMU in Kelucharan park feeder.	51,94,221.51
1. Laying of 11kV UG cable of length0.85 CKM from Gadakan PSS to Kelucharan Park. 2. Laying of 0.1km UG cable for road crossing in 11kV pokharan feeder. 3. Installation of 1no. of RMU near Kelucharan park. 4. Augmentation of 11kV Pokharan feeder of length 2Ckm	1,25,40,261.10
1. Laying of 11kV UG cable of length-0.7 CKM using 3Cx400mm2 XLPE UG cable for road crossing of 11kV Sri Vihar feeder. 2. Laying of 11kV 1.5 CKM UG cable from Proposed Gadakan PSS to Damana Square. 3. Installation of 4 Nos. of RMU near CS Pur-1 PSS, RMRC Chowk, near Metro Homes & Damana Square. 4. Augmentation of 11kV Srivihar feeder Branch Line of length 4 CKM (1.6 CKM for Sri Vihar & 2.4 CKM for RMRC Branch Line) (Refer Proposed SLD) 5. Augmentation of backfeeding 11kV Info Srivihar feeder of length 1.5Ckm (Sri Vihar Branch, Nature Crest Breanch, GDS Residency Branch, Binodini Residency Branch)	3,23,10,943.46
Total Amount	**16,28,76,663.56**
Total Amount (in Cr.)	**₹ 16.29**
Total estimated cost is Rs. 16.29 Crore. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 16.29cr. (For detailed BoQ refer Annexure-14.1).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Benefit to the System and Consumers:

- To improve reliability and quality of power supply.
- Create additional load centre with adequate transformation capacity to cater to the existing load, upcoming loads as well as future load growth in the area.
- To improve voltage profile.
- To improve operational flexibility and network redundancy.

2.0 New 33/11kV Primary Substation at Patharagadia to meet Network Reliability

Proposal:

Construction of New 33/11kV Primary Substation at Patharagadia under BCDD-2 division of BBSR-1 circle for enhancement of network reliability.

Requirement/ Need of the Proposal:

Existing Scenario:

- The Patharagadia area is a rapidly developing urban load centre witnessing significant and sustained growth in load demand. At present, the load in the area is catered through the 11kV Patharagadia feeder from Chandaka PSS and the 11kV Rajvatika and 11kV Polymer Complex feeders from Infocity PSS, all of which are experiencing increasing loading levels and frequent trippings, adversely affecting supply reliability. Further, approximately 3MVA of additional load is expected to be connected in the near future. Considering the dense urban development, limited right-of-way availability and the presence of existing utility infrastructure on both sides of the roads, construction of new 11kV feeders from existing substations would require extensive underground cabling involving substantial capital expenditure, increased feeder lengths, higher technical losses and repeated future investments for load bifurcation and construction of new 11kV feeders. In this context, the construction of a new 33/11kV Patharagadia Primary Substation (PSS) at the load centre along with associated network strengthening works is the most viable proposal.
- Loading of 11kV Patharagadia feeder (Chandaka PSS), 11kV Rajvatika feeder and 11kV Polymer Complex feeder (Infocity PSS) are 4.0MVA, 2.78MVA and 4.19MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (15% load growth per year for 2years), the projected loading of Summer'28 for 11kV Patharagadia feeder (Chandaka PSS), 11kV Rajvatika feeder and 11kV Polymer Complex feeder (Infocity PSS) would be 5.29MVA, 3.68MVA and 5.54MVA respectively.
- Frequent tripping is observed in the 11kV feeders which result to frequent shutdowns affecting consumers in the urban area of the city.
  - Total 2625nos. consumers are connected to the 11kV Patharagadia feeder (Chandaka PSS). The no. of 11kV feeder tripping in FY'26 was 370nos. and 153nos. from April'26 till July'26.
  - Total 444nos. consumers are connected to the 11kV Rajvatika feeder (Infocity PSS). The no. of 11kV feeder tripping in FY'26 was 93nos. and 57nos. from April'26 till July'26.
  - Total 1360nos. consumers are connected to the 11kV Polymer Complex feeder (Infocity PSS). The no. of 11kV feeder tripping in FY'26 was 245nos. and 28nos. from April'26 till July'26.
- Further, the 11kV Patharagadia feeder (Chandaka PSS), 11kV Rajvatika feeder and 11kV Polymer Complex feeder (Infocity PSS) will be overloaded up to 102%, 104% and 123% respectively, w.r.t the current carrying capacity of the conductor with 2years load growth (15% load growth per year) in Summer'28.

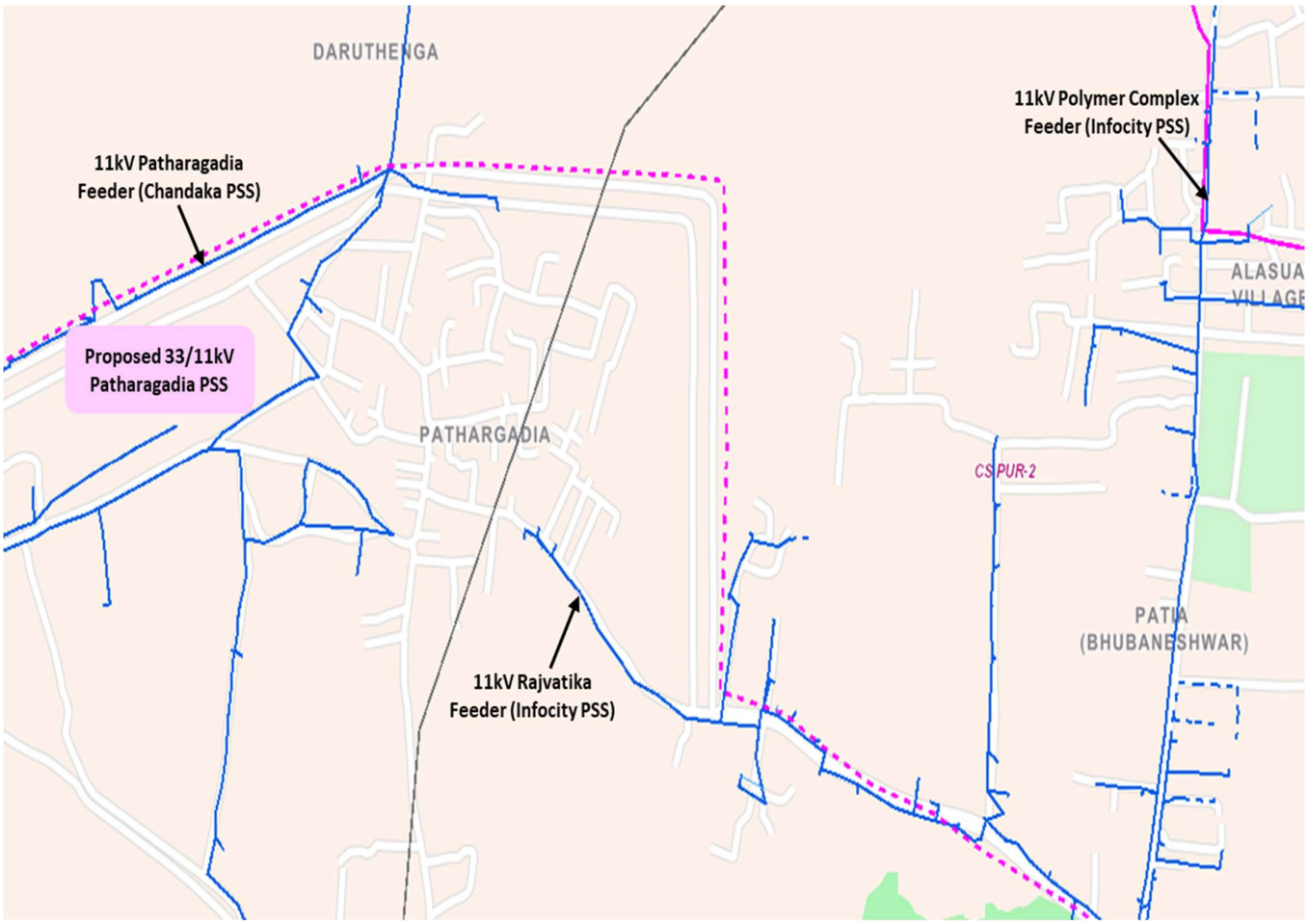
Existing Summer'26 Loading and projected load:

Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading
Chandaka	Patharagadia	5.18	4	77%	5.29	102%

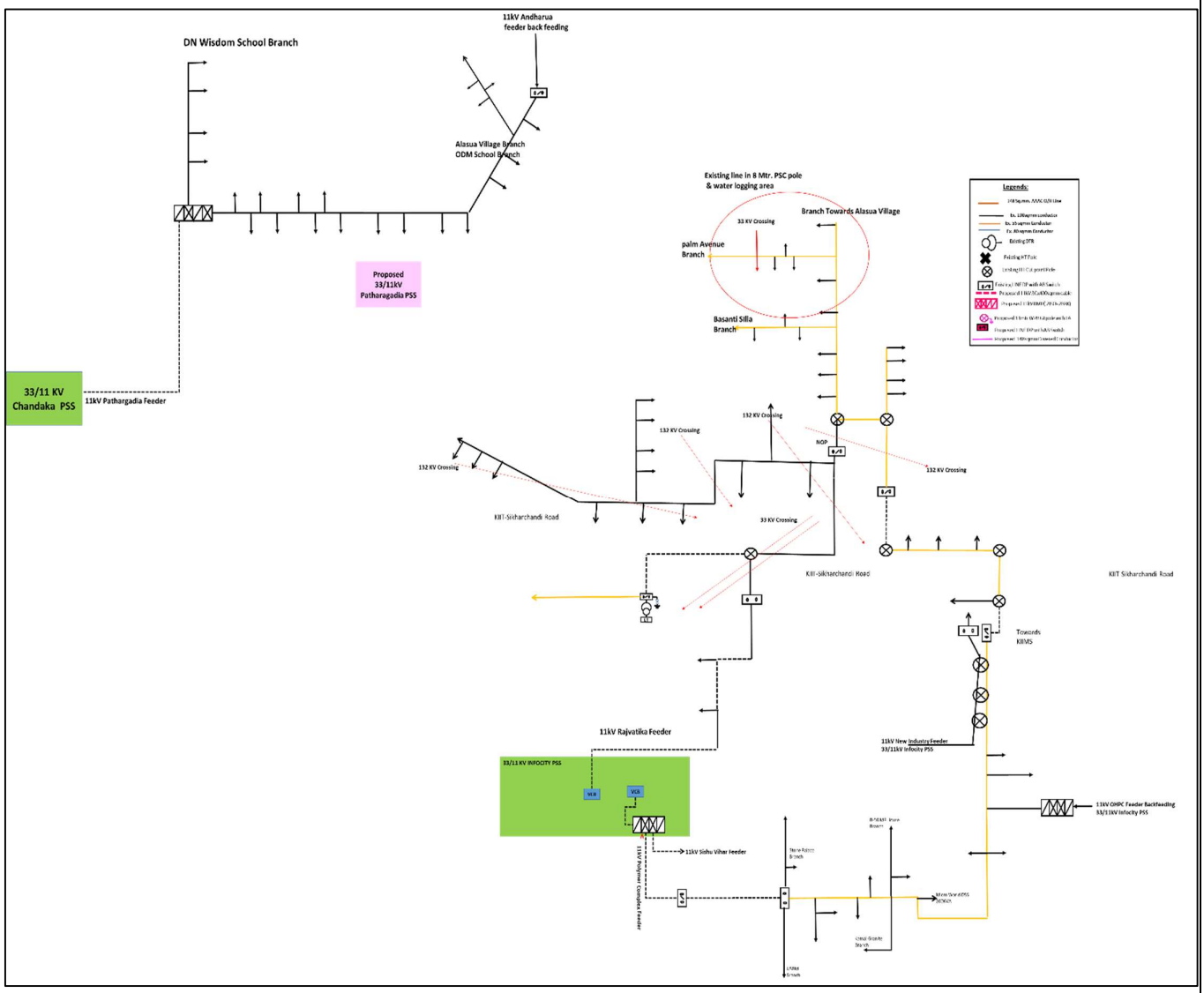
Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading
Infocity	Rajvatika	3.54	2.78	78%	3.68	104%

Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading
Infocity	Polymer Complex	4.51	4.19	93%	5.54	123%

Existing Scenario (Patharagadia area):



Existing SLD of 11kV Patharagadia feeder (Chandaka PSS), 11kV Rajvatika feeder and 11kV Polymer Complex feeder (Infocity PSS):



Priority and Timeline of the Project:

Priority: The existing 11kV feeders supplying the Patharagadia area are experiencing substantial load growth, with feeder loading levels steadily approaching the current carrying capacity of the conductors. The feeders have already been constructed with optimum standard conductor sizes and any further augmentation of conductor capacity is neither technically practical nor financially viable. Construction of new 11kV feeders from the existing 33/11kV Primary Substations (PSS) would require significant capital investment and extensive network development, making the option economically less feasible. As a result, the existing network is increasingly stressed and vulnerable to reliability issues. Further, the PSS is proposed to address the frequent tripping of the 11kV feeders.

Further, approximately 3MVA of load has been released in the area during the last two years, and several additional loads are expected to be connected in the near future. The anticipated increase in demand will further aggravate feeder loading and network constraints. In the absence of suitable reliability enhancement measures and network strengthening initiatives, consumers connected to these feeders will continue to

experience frequent and prolonged power supply interruptions. Therefore, implementation of an appropriate network reliability improvement scheme is essential to ensure reliable and uninterrupted power supply, accommodate future load growth, and enhance the overall operational performance of the distribution system in the Patharagadia area.

Technical Justification

The existing 11kV feeders supplying the Patharagadia area are experiencing sustained and significant load growth due to rapid urbanization and the continuous addition of consumers. Continued growth in demand is resulting in higher feeder loading, increased voltage drops, elevated technical losses and reduced operational margins, thereby adversely affecting network reliability and power quality. Although construction of additional 11kV feeders from the existing 33/11kV Primary Substations could partially address the loading issue, such an approach would require extensive underground cabling due to right-of-way constraints and the densely developed urban environment, involving substantial capital expenditure and the creation of long feeder corridors. Moreover, repeated feeder extensions and load bifurcation measures would provide only a short-term solution and would not adequately address the long-term load growth requirements of the area. In view of the existing network constraints, recurring feeder overloading and anticipated demand growth, the current distribution system is becoming increasingly stressed and vulnerable to frequent interruptions, making the establishment of a dedicated load center through a new 33/11kV Primary Substation the most viable solution for ensuring reliable power supply and future network scalability in the Patharagadia area.

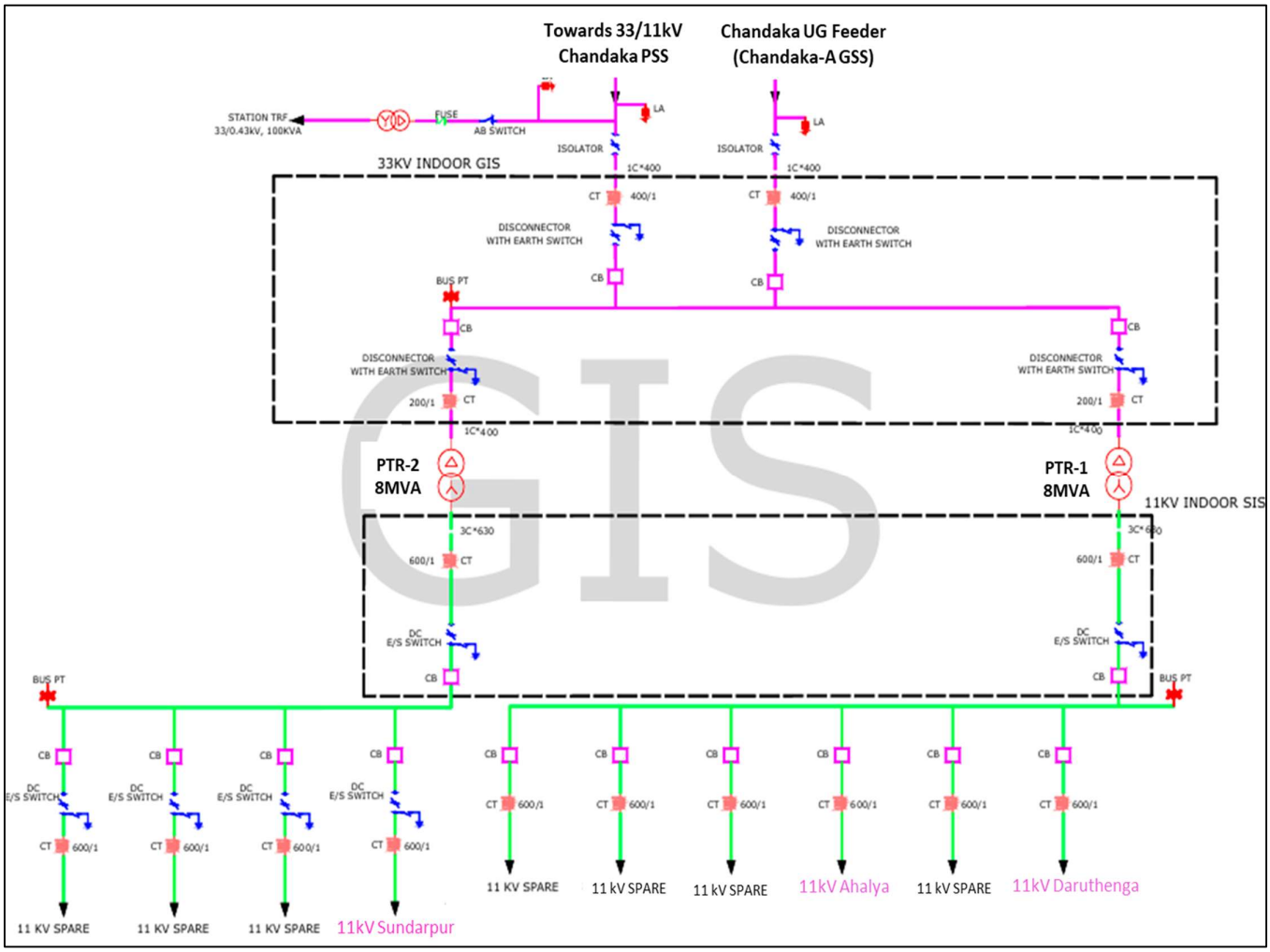
Proposed Scenario:

To address the growing load demand, improve network reliability and reduce frequent feeder interruptions in the Patharagadia area, following works are proposed:

- Construction of 1no. 33/11kV primary substation at Patharagadia and laying of 0.6Ckm 33kV 3C, 400sqmm underground cable for LILO of 33kV Chandaka UG feeder (Chandaka-A GSS) to proposed 33/11kV Patharagadia PSS.
- Laying of 4km UG cable from Proposed Pathargadia PSS to linking with 11kV Rajvatika, 11kV Polymer Complex & 11kV Pathargadia feeder for load diversion along with installation of 4 nos. of LVVV RMU & 2nos. of 3 Way LVV RMU in different location of Pathargadia, Polymer Complex & Rajvatika Feeder.
- Augmentation of 11kV Rajvatika & Polymer Complex feeder of length 4.5Ckm.
- Installation of E-House from 33/11kV Mulapadia substation.
- Installation of 2nos. 8MVA Power Transformers (PTRs) at the proposed Patharagadia PSS through swapping from 33/11kV Samanga PSS and 33/11kV Balugaon PSS. The transformers are proposed to be made available following the PTR augmentation works planned under CAPEX FY 2027-28 at the respective substations.
- This PSS will cater 7.5MVA load out of which 3MVA is upcoming load and 4.5MVA load diversion from the existing 11kV nearby feeders of different PSS (Chandaka PSS, Infocity PSS).

- The proposal will facilitate load bifurcation from the heavily loaded existing feeders, cater to the load growth of the area, improve voltage profile, reduce feeder trippings and outage duration and enhance the overall reliability and quality of power supply for existing as well as upcoming consumers.

Proposed SLD of Proposed Patharagadia 33/11kV PSS:

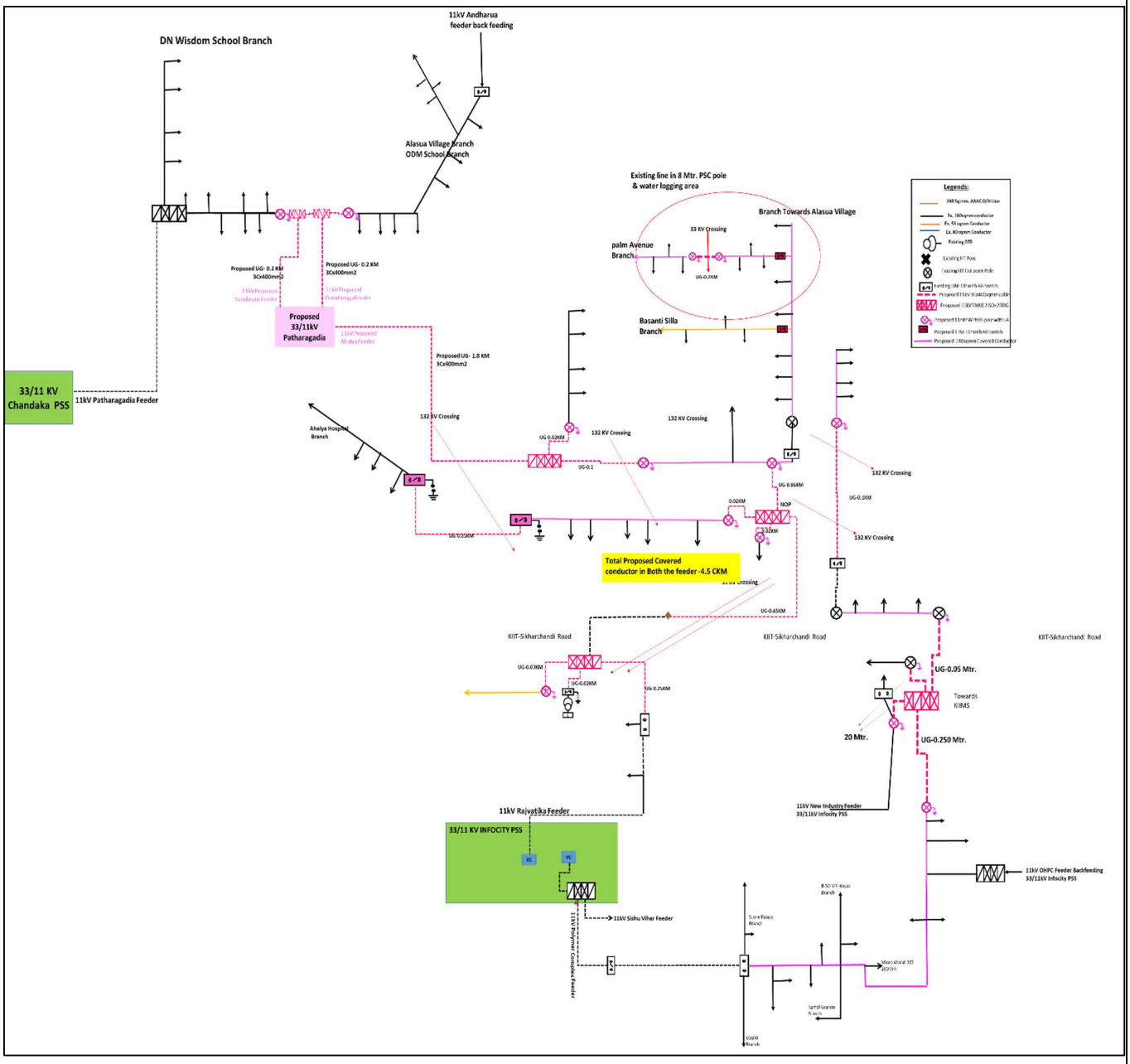


Existing 11kV feeder load diversion to New PSS (2X8MVA at Patharagadia):

Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer-28 Loading without Proposal	% Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer-28
Chandaka	Patharagadia	5.18	5.29	102%	3.79	73%
Patharagadia	Proposed Daruthenga	5.18	_	_	1.5	29%
	Proposed Sundarpur	5.18	_	_	1	19%

Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer-28 Loading without Proposal	% Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer-28
Infocity	Rajvatika	5.18	3.68	71%	2.68	52%
	Polymer Complex	5.18	5.54	107%	4.54	88%
Patharagadia	Proposed Ahalya	5.18	_	_	2	39%

Proposed SLD of 11kV Proposed Feeders:



Scope of Work:

- Construction of 1no. 33/11kV primary substation at Patharagadia and laying of 0.6Ckm 33kV 3C, 400sqmm underground cable.
- Laying of 4km UG cable from Proposed Pathargadia PSS to linking with 11kV Rajvatika, 11kV Polymer Complex & 11kV Pathargadia feeder for load diversion along with installation of 4 nos. of LVVV RMU & 2nos. Of 3 Way LVV RMU in different location of Pathargadia, Polymer Complex & Rajvatika Feeder.
- Augmentation of 11kV Rajvatika & Polymer Complex feeder of length 4.5Ckm.

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-2
Name of the Sub-Division : -	Periphery
Name of the Section : -	CS Pur-2 & Baranga
Name of the Work :-	1- Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS (Existing PTR of Samanga -8 MVA and Balugaon- 8 MVA will be shifted to Patharagadia PSS) along with laying of 0.6km 33kV 3C, 400sqmm U/G Cable. 2- Laying of 4 KM UG cable from Proposed Pathargadia PSS to linking with 11kV Rajvatika, 11kV Polymer Complex & 11kV Pathargadia feeder for load diversion along with installation of 4 nos. of LVVV RMU & 2nos. Of 3 Way LVV RMU in different location of Pathargadia, Polymer Complex & Rajvatika Feeder. Augmentation of 11kV Rajvatika & Polymer Complex feeder of length 4.5Ckm
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)

Abstract of Estimate

Description	**Total**
PART A:- Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS. PART B:- Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders. PART- C :- Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS. PART- D :- Construction of 5 no. of 11 kV DP with Isolator and Earth Switch at PSS. PART E: Dismantling portion PART- F :- Supply and Laying of 0.6 KM 33kV 3C, 400sqmm U/G Cable for Patharagadia PSS.	4,49,38,804.67

1. laying of 4 KM UG cable from Proposed Pathargadia PSS to linking with 11kV Rajvatika, 11kV Polymer Complex & 11kV Pathargadia Feeder for load diversion. 2. Installation of 4 nos. of LVVV RMU & 2nos. Of 3 Way LVV RMU in different location of Pathargadia, Polymer Complex & Rajvatika Feeder. 3. Augmentation of 11kV Rajvatika & Polymer Complex feeder of length 4.5Ckm	4,52,20,287.62
Total Amount	**₹ 9,01,59,092.30**
Total Amount (in Cr.)	**₹ 9.02**
Total estimated cost is Rs. 9.02 Crore. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 9.02cr. (For detailed BoQ refer Annexure-14.2).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Benefit to the System and Consumers:

- To improve reliability and quality of power supply.
- Create additional load centre with adequate transformation capacity to cater to the existing load, upcoming loads as well as future load growth in the area.
- To improve voltage profile.
- To improve operational flexibility and network redundancy.

ANNEXURE -14.1	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-2
Name of the Sub-Division : -	Nayapalli
Name of the Section : -	VSS Nagar
Name of the Work :-	1- Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS (Existing PTR of Unit-8 -12.5 MVA and Badagada- 12.5 MVA will be shifted to Gadakana PSS) along with Laying of 3.5km 33kV feeder with 3C, 400sqmm U/G Cable. 2- Laying of 11kV UG cable of length 0.5 CKM from Gadakan PSS to linking with 11kV kelucharan Park feeder long with installation of 1no. of RMU in Kelucharan park feeder. 3- Laying of 11kV UG cable of length0.85 CKM from Gadakan PSS to Kelucharan Park. Laying of 0.1 KM UG cable for road crossing in 11kV pokharan feeder along with installation of 1no. of RMU near Kelucharan park. Augmentation of 11kV Pokharan feeder of length 2Ckm 4- Laying of 11kV UG cable of length-0.7Ckm using 3Cx400sqmm XLPE UG cable for road crossing of 11kV Sri Vihar feeder. Laying of 1.5Ckm UG cable from Proposed Gadakan PSS to Damana Square along with installation of 4 Nos. of RMU near CS Pur-1 PSS, RMRC Chowk, near Metro Homes & Damana Square.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A:- Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS. PART B :- Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders. PART- C :- Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS. PART- D :- Construction of 5 no. of 11 kV DP with Isolator and Earth Switch at PSS. PART E: Dismantling portion PART- F :- 1. Supply and Laying of 3.5 KM 33kV 3C, 400sqmm U/G Cable for Gadakana PSS. 2. Supply and Installation of 1 No. of 33 kV 4 Way RMU (LLVV+Aux. PT)	11,28,31,237.49
1. laying of 11kV UG cable of length 0.5 CKM from Gadakan PSS to linking with 11kV kelucharan Park feeder. 2. Installation of 1no. of RMU in Kelucharan park feeder.	51,94,221.51
1. Laying of 11kV UG cable of length0.85 CKM from Gadakan PSS to Kelucharan Park. 2. Laying of 0.1km UG cable for road crossing in 11kV pokharan feeder. 3. Installation of 1no. of RMU near Kelucharan park. 4. Augmentation of 11kV Pokharan feeder of length 2Ckm	1,25,40,261.10
1. Laying of 11kV UG cable of length-0.7 CKM using 3Cx400mm2 XLPE UG cable for road crossing of 11kV Sri Vihar feeder. 2. Laying of 11kV 1.5 CKM UG cable from Proposed Gadakan PSS to Damana Square. 3. Installation of 4 Nos. of RMU near CS Pur-1 PSS, RMRC Chowk, near Metro Homes & Damana Square. 4. Augmentation of 11kV Srivihar feeder Branch Line of length 4 CKM(1.6 CKM for Sri Vihar & 2.4 CKM for RMRC Branch Line)(Refer Proposed SLD) 5. Augmentation of backfeeding 11kV Info Srivihar feeder of length 1.5Ckm (Sri Vihar Branch,Nature Crest Breanch, GDS Residency Branch, Binodini Residency Branch)	3,23,10,943.46
Total Amount	**₹ 16,28,76,663.56**
Total Amount (in Cr.)	**₹ 16.29**
Total estimated cost is Rs. 16.29 Crore. (On TPCODL CAPEX Scheme)	

ANNEXURE -14.1

PART A:

Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Gadakana PSS

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**33 kV Indoor Switch Panel Board**				
1.1	33 kV 1250 A Indoor AIS Panle Board with 10 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA	1.00	1,10,43,128.00	1,10,43,128.00
2	**Lightning Arrester**				-
2.1	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter) For Transformers - Outdoor type	EA	9.00	13,781.00	1,24,029.00
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter For Transformers - Outdoor type	EA	6.00	1,960.16	11,760.96
3	**11 kV Indoor Switch Panel Board**				-
3.1	11kv 2000A VCB with 15 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA	1.00	1,16,19,630.00	1,16,19,630.00
4	**SCADA**		1.00		-
4.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
4.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
4.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
4.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
4.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
4.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
4.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
4.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
4.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
4.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
4.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
4.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
4.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
4.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
4.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
4.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
4.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
5	**Transformer and Accessories**				-
6	12.5/16 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA		1,92,15,911.00	-
7	100 KVA 33/0.433kV Energy efficient Station Transformer with HV & LV BOX	EA	1.00	5,00,997.00	5,00,997.00
6	**Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	20615.00	71.94	14,83,043.10
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	3600.00	71.94	2,58,984.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	1,300.00	52,000.00
7	**33, 11 and Station Trf Structure**				-
7.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	77.62	41,293.84

7.2	(100 x 50 x5) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	77.62	17,809.13
7.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	90.00	45,000.00
7.4	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	613.86	6,138.60
7.5	LTDB for 100KVA, 33/0.433kV Station Transformer	EA	1.00	32,714.34	32,714.34
8	**33 and 11 kv Power and Control, XLPE cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	1,278.81	7,67,286.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	7,280.00	65,520.00
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	7,521.00	67,689.00
8.4	Supply of 33kV, 3Core, 95sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA) For Station Trf	M	50.00	1,757.00	87,850.00
8.5	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf	EA	2.00	2,060.00	4,120.00
8.6	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf (Touchproof)	EA	2.00	1,830.00	3,660.00
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	1,438.00	8,62,800.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,260.00	74,340.00
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,518.00	76,662.00
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	200.00	126.69	25,338.00
9.2	7 Core x 2.5 mm^2	M	200.00	203.16	40,632.00
9.3	10 Core x 2.5 mm^2	M	200.00	273.73	54,746.00
9.4	12 Core x 2.5 mm^2	M	200.00	344.91	68,982.00
9.5	16 Core x 2.5 mm2	M	200.00	400.00	80,000.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	200.00	147.00	29,400.00
10	**1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	805.08	40,254.00
10.2	XLPE 4 Core x 95 mm2	M	50.00	499.41	24,970.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	268.02	13,401.00
10.4	XLPE 4 Core 16 mm2	M	50.00	125.29	6,264.50
10.5	XLPE 2 Core 16 mm2	M	50.00	62.53	3,126.50
11	**Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,96,75,507.56**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of 33kV Equipment for (INDOOR Sub-Station)**				-
1.1	33 kV 1250 A Indoor AIS Panle Board with 10 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA	1.00	9,60,000.00	9,60,000.00
2	**Lightning Arrester**				-
2.1	30kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester (for 33kV Incoming Line, HT side of 2nos. Power Transformers and 33/0.433kV Station Transformer) - Outdoor Type with Surge Counter	EA	9.00	1,847.36	16,626.24
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter(For Transformers & Out Going Feeders) - Outdoor type	EA	6.00	1,350.00	8,100.00

3	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
3.1	11kv 2000A VCB with 15 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA	1.00	11,55,000.00	11,55,000.00
4	**Erection, Commissioning, Testing of SCADA**				-
4.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
5	**Erection, Commissioning, Testing of Transformer and RMU**				-
5.1	12.5/16 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories	EA	2.00	3,40,000.00	6,80,000.00
5.2	100 KVA 11/0.433kV Energy efficient Station Transformer along with HT & LT cable connection	EA	1.00	10,229.00	10,229.00
5.3	ITC RTCC UNIT DC 24-48V	EA	1.00	10,000.00	10,000.00
5.4	Services of FRTU Panel, Communication and Other Supplied System	EA	1.00	6,755.00	6,755.00
6	**Erection, Laying of Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	3.50	43,660.00	1,52,810.00
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	1.50	43,660.00	65,490.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	3,784.73	1,51,389.20
7	**Erection of System GI 33, 11 and Station Trf Structure**				-
7.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	13.50	7,182.00
7.2	(100 x 50 x6) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	27.62	6,337.13
7.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	135.00	67,500.00
7.4	Supply & Erection of GI Pipe of dia. 150mm, Class-B	M	200.00	1,496.91	2,99,382.00
7.5	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	306.87	3,068.70
7.6	LTDB for 100KVA, 33/0.433kV Station Transformer along with all cable connection & fixing	EA	1.00	748.76	748.76
8	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	96.66	57,996.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	2,129.37	19,164.33
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	2,129.37	19,164.33
8.4	Laying, Commissioning & Testing of 33kV, 3Core, 1Run, 95sqmm, XLPE insulation (extruted type) UG cable with spare by open trench method.	M	50.00	100.17	5,008.50
8.5	Erection of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.6	Erection of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	96.66	57,996.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.2	7 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.3	10 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.4	12 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.5	16 Core x 2.5 mm2	M	200.00	16.57	3,314.00

9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	200.00	47.87	9,574.00
10	**Laying of 1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	73.65	3,682.50
10.2	XLPE 4 Core x 95 mm2	M	50.00	47.87	2,393.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	47.87	2,393.50
10.4	XLPE 4 Core 16 mm2	M	50.00	47.87	2,393.50
10.5	XLPE 2 Core 16 mm2	M	50.00	47.87	2,393.50
11	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
12	**Erection, Commissioning , Wiring & Testing of Sub-station Lighting And Fire Fighting System**				-
12.1	SITC of 8way LDB with accessories	EA	1.00	9,898.28	9,898.28
12.2	SITC of Sub-Station Switchyard Lighting , Control Room Lighting (it includes supply of fixtures & Lamps (LED) with switch gear, GI Conduit etc.(Tentative qty. as 120Wx 4 sets and 100Wx6 sets out side the control room, 20 Watt CFL tube-10 sets inside control room. Control Room wiring to be done with Copper wires as per the requirement (Lighting fixtures are to be fixed rigidly on the Column at a suitable height with GI tubular pole so that the required lux as per the technical specification is maintained). Qty. of Lights shall be provided as per lux level calculations for both indoor & outdoor lighting	Lot	1.00	14,01,922.49	14,01,922.49
12.3	SITC of 1.5 Ton capacity Split Air Conditioning units with Remote control facility: Including supply of split Air conditioner 5 Star rated, voltage stabiliser, control boxes etc. for completing the A.C scheme. (As per specification) for control room.	No	1.00	89,707.51	89,707.51
12.4	SITC of 1400 mm sweep 250Volt A/C Celling Fan	No	3.00	3,128.69	9,386.07
12.5	SITC of 300 mm sweep 70W A/C Exhaust Fan (for Battery room and Toilet)	No	3.00	3,128.69	9,386.07
13	**Fire Detection Alarm System**				-
13.1	SITC of Main Fire ALARM Control Panel (Ul /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
13.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96
13.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
13.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
13.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
13.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
13.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
13.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
13.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50

13.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
13.11	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
14	**Fire Fighting System (portable and wheel mounted sets for control room)**				-
14.1	SITC of Foam type- 5 Ltrs	No	3.00	9,406.83	28,220.49
14.2	SITC of CO_2 - 4.5 Kgs	No	3.00	9,335.53	28,006.59
14.3	SITC of Dry powder 4.5 Kg	No	3.00	9,406.83	28,220.49
14.4	SITC of Fire Bucket with GI Stand with GI Canopy arrangement (4nos. in one Stand=1 Set)	Set	3.00	4,202.27	12,606.81
15	**AC & DC System for Auxiliary supply**				-
15.1	**AC System**				-
15.2	SITC of ACDB as per specification	Lot	1.00	5,04,000.00	5,04,000.00
15.3	SITC of Main Lighting Distribution Board (as per specification)	Lot	1.00	7,86,076.16	7,86,076.16
15.4	SITC of Indoor Lighting Distribution Board as per specification	Lot	1.00	1,26,921.17	1,26,921.17
15.5	SITC of Receptable Panel near Power Transformer	No	1.00	1,37,772.32	1,37,772.32
16	**DC System**				-
16.1	SITC of 48 V DC Distribution Board as per specification .	No	1.00	85,200.00	85,200.00
16.2	SITC of Water Cooler with water purifier system as per Technical Specification	No	1.00	17,803.06	17,803.06
16.3	SITC of Maintenance Testing Equipment as per Technical Specification	Lot	1.00	3,59,498.62	3,59,498.62
16.4	SITC of Tools and Plants (T&P's) Requirement as per Technical Specification	Lot	1.00	25,825.66	25,825.66
16.5	SITC of Office Furniture as per Technical Specification	Lot	1.00	2,63,500.00	2,63,500.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**82,73,963.32**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	Construction of 100kVA 11/0.4 kV station Trf. Plinth	EA	1.00	2,15,000.00	2,15,000.00
2	New Control Room (22 Mtr. x 12 Mtr.)	LS	1.00	76,00,000.00	76,00,000.00
3	PTR Foundation suitable for 20 MVA Power Transformer	EA	2.00	8,00,000.00	16,00,000.00
4	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
5	RCC CABLE TRENCH	RM	100.00	26,500.00	26,50,000.00
6	ROAD WORK	RM	30.00	11,500.00	3,45,000.00
7	Chainlink Fencing of Switchyard	RM	100.00	4,570.00	4,57,000.00
8	Compound Wall	RM	180.00	17,520.00	31,53,600.00
9	BOT AND NIFPS FOUNDATION	EA	1.00	3,91,000.00	3,91,000.00
10	Area Development work with Filling for (50X40X2mtr)	Sqm	2000.00	1,389.00	27,78,000.00
	Sub-Total for CIVIL WORKS (In Rs.)				**1,96,39,600.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,96,75,507.56**
A2	**Applicable Taxes to make it Landed Cost @18%**				**53,41,591.36**
A	**Total landed Cost (A=A1 + A2)**				**3,50,17,098.92**
B	Stock , Storage & Insurance @ 3 % of A				**10,50,512.97**
C	Sub - Total (A+B)				**3,60,67,611.89**
D	Contingency @ 3 % of C				**10,82,028.36**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**27,05,070.89**
G	**Sub - Total (C+D+E+F)**				**3,98,54,711.14**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				82,73,963.32
H2	Total Cost for CIVIL WORKS				1,96,39,600.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**2,79,13,563.32**
H4	**Applicable Taxes to make it Landed Cost @18%**				**50,24,441.40**
H	**Total landed Cost (H=H3 + H4)**				3,29,38,004.72
I	**Total Cost (G+H)**				7,27,92,715.86
J	Other Overhead /(including Supervision Charges) @ 6 % of I				

K	Total Estimated Capital Cost i.e. I+J	**7,27,92,715.86**
L	CESS @ 1% of K	7,27,927.16
M	**Total Cost (K+L)**	7,35,20,643.02
N	Inspection Charges (As per Gov. Notification)	85,000.00
O	GST @ 18% of N	15,300.00
P	Total Inspection Charges with GST (N+O)	1,00,300.00
Q	**Total Estimate to be deposit (M+P)**	**7,36,20,943.02**

ANNEXURE -14.1

PART B: Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***400***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	400	2,375.00	9,50,000.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**9,94,640.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	400	110.00	44,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**60,000.00**

A1	**Sub Total (Supply Portion)**	**9,94,640.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,79,035.20**
A	**Total Landed Cost (A=A1 + A2)**	**11,73,675.20**
B	Stock, Storage & Insurance @ 3 % of A	35,210.26
C	**Sub Total (A+B)**	**12,08,885.46**
D	Contingency @ 3 % of C	36,266.56
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	90,666.41
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**13,35,818.43**
I1	Sub Total (Erection Portion + Civil Portion)	60,000.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**10,800.00**
I	**Total landed Cost (I=I1+ I2)**	**70,800.00**
J	**Total Cost (H+I)**	**14,06,618.43**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**14,06,618.43**
M	CESS 1% of L	14,066.18
N	**Grand Total (L+M)**	**14,20,684.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	-
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**14,21,127.11**

ANNEXURE -14.1

PART- C :-

Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	2	2,03,304.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
18	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**5,05,799.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**91,043.97**
A				**Total landed Cost (A=A1 + A2)**	**5,96,843.83**
B				Stock, Storage & Insurance i.e 3% of A	17,905.31
C				**Sub Total (A+B)**	**6,14,749.14**
D				Contigency @ 3% of C	18,442.47
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,586.55
F				Transportation @ 7.5% of C	46,106.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	41,417.90
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,40,559.67**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**

L	**Total (J+K)**	8,04,251.28
M	Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N	**Sub-Total Material +Services (L+M)**	**8,04,251.28**
O	CESS 1% of N	8,042.51
P	**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**8,12,293.79**

ANNEXURE -14.1

PART- D :-

Construction of 5 no. of 11 kV DP with Isolator and Earth Switch at PSS.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	5

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	1610.125	1,25,589.75
3	DMC Insulator for LA (70/10)	EA	113.50	40	4,540.00
4	Danger Plate	EA	180.00	10	1,800.00
5	H.T. Stay clamp	EA	260.00	20	5,200.00
6	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
7	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
8	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
10	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	15	29,400.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	5	3,35,485.00
13	11 KV pin insulator polymer	EA	140.00	15	2,100.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	55.18	4,083.32
A1				**Total Cost of materials**	**8,87,233.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,59,701.95**
A				**Total landed Cost (A=A1 + A2)**	**10,46,935.02**
B				Stock, Storage & Insurance i.e 3% of A	31,408.05
C				**Sub Total (A+B)**	**10,78,343.07**
D				Contigency @ 3% of C	32,350.29
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	19,823.49
F				Transportation @ 7.5% of C	80,875.73
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	64,071.40
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**12,92,987.02**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10.00	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1				**Total Civil & Services**	**1,28,290.98**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,092.38**
K				**Total landed Cost (K=K1+ K2)**	**1,51,383.36**
L				**Total (J+K)**	**14,44,370.37**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**14,44,370.37**
O				CESS 1% of N	14,443.70
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**14,58,814.08**

ANNEXURE -14.1					
PART E: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	5000	8.10	40,506.84
2	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer below 100KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1	3,262.64	3,262.64
3	Dismantling of 12.5/8MVA 33/11kV PTR	EA	2	1,10,000.00	2,20,000.00
4	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	11	18,003.04	1,98,033.44
5	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
6	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	5	1,200.00	6,000.00
7	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
8	Dismantling of Lightening Arrester(LA)	EA	12	162.12	1,945.44
A1	**Sub Total (Civil Portion) (in Rs.)**				**5,61,006.39**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,00,981.15**
A	**Total landed Cost (A=A1+ A2)**				**6,61,987.53**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				6,61,987.53
D	**CESS @ 1% of C**				6,619.88
E	**Grand Total (C+D)**				6,68,607.41

ANNEXURE -14.1

PART- F :-
1. Supply and Laying of 3.5 KM 33kV 3C, 400sqmm U/G Cable for Gadakana PSS.
2. Supply and Installation of 1 No. of 33 kV 4 Way RMU (LLVV+Aux. PT)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***1500***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***1000***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	2500	3,165.00	79,12,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	6	25,930.00	1,55,580.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
1.5	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	2	71,915.00	1,43,830.00
1.6	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	1500.00	812.00	12,18,000.00
2	**Supply of 33kV RMU**				
a	***No. of 33kV 4Way RMU LLVV(2ISO+2BKR)+ AUX.PT***	***EA***	***1***		
2.1	Supply of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	30,18,066.00	30,18,066.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***EA***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	EA	1	1,56,247.00	1,56,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	1	95,000.00	95,000.00
4.3	Networking Accessories	SET	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	32	275.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	16	275.00	4,400.00
4.6	Battery Charger	EA	1	17,500.00	17,500.00
4.7	Battery	EA	1	12,500.00	12,500.00
4.8	4G Modem cum Router	EA	1	24,400.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	40	309.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	40	299.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	40	382.00	15,280.00
4.12	4 C X 4 mm2 Copper cable for extension of CT & PT	M	20	185.59	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	10	210.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	20.0	229.00	4,580.00
4.15	Armored CAT6 SFTP Cable	M	20	107.00	2,140.00
4.16	Un-Armored CAT6 SFTP Cable	M	20	55.00	1,100.00

4.17	Multi Function Meter	EA	2	14,000.00	28,000.00
	Sub Total (Supply Portion) (in Rs.)				**1,28,75,556.40**
	Erection Portion				
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	2500	115.00	2,87,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	10	2,000.00	20,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2000	2,970.00	59,40,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1500.00	195.00	2,92,500.00
2	**Erection, Commissioning, Wiring and Testing of 33kV RMU**				
2.1	Erection of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	14,000.00	14,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	6,755.00	6,755.00
	Sub Total (Erection Portion) (in Rs.)				**65,60,755.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1484		
1.1.a	Earth work excavation of **soil**	M3	1246.56	716.03	8,92,574.36
1.1.b	Earth work excavation of **hard rock**	M3	534.24	1,759.39	9,39,936.51
1.2	Back filling with excavated soil outside and above the trench	M3	1780.8	220.00	3,91,776.00
1.3	Road Repair and restoration charges	KM	0.584	92,94,727.82	54,28,121.05
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	83	1,035.17	85,919.11
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.5	10,470.00	26,175.00
	Sub Total (Civil Portion) (in Rs.)				**80,19,143.79**
A1	**Sub Total (Supply Portion)**				**1,28,75,556.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**23,17,600.15**
A	**Total Landed Cost (A=A1 + A2)**				**1,51,93,156.55**
B	Stock, Storage & Insurance @ 3 % of A				4,55,794.70

C	**Sub Total (A+B)**	**1,56,48,951.25**
D	Contingency @ 3 % of C	4,69,468.54
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	25.03
F	Transportation @ 7.5% of C	11,73,671.34
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	125.14
H	**Total (C+D+E+F+G)**	**1,72,92,241.29**
I1	Sub Total (Erection Portion + Civil Portion)	1,45,79,898.79
I2	**Applicable Taxes to make it Landed Cost @18%**	**26,24,381.78**
I	**Total landed Cost (I=I1+ I2)**	**1,72,04,280.57**
J	**Total Cost (H+I)**	**3,44,96,521.86**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**3,44,96,521.86**
M	CESS 1% of L	3,44,965.22
N	**Grand Total (L+M)**	**3,48,41,487.08**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	1,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**6,750.00**
T	GST @ 18% on Total Inspection Fees (S)	1,215.00
U	Total Inspection Fees including GST (S+T)	7,965.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**3,48,49,452.08**

ANNEXURE-14.1

Part-A:-

1. laying of 11kV UG cable of length 0.5 CKM from Gadakan PSS to linking with 11kV Kelucharan Park feeder.

2. Installation of 1no. of RMU in Kelucharan park feeder.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***500***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	500	2,375.00	11,87,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA		15,950.00	-
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	500.00	812.00	4,06,000.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**28,98,616.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	500	110.00	55,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	500.00	195.00	97,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,79,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	400		
1.1.a	Earth work excavation of **soil**	M3	336	716.03	2,40,586.08

1.1.b	Earth work excavation of **hard rock**	M3	144	1,759.39	2,53,352.16
1.2	Back filling with excavated soil outside and above the trench	M3	480	220.00	1,05,600.00
1.3	Road Repair and restoration charges	KM		92,94,727.82	-
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	17	1,035.17	17,597.89
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.5	10,470.00	5,235.00
	Sub Total (Civil Portion) (in Rs.)				**8,77,012.89**
A1	**Sub Total (Supply Portion)**				**28,98,616.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**5,21,750.99**
A	**Total Landed Cost (A=A1 + A2)**				**34,20,367.59**
B	Stock, Storage & Insurance @ 3 % of A				1,02,611.03
C	**Sub Total (A+B)**				**35,22,978.62**
D	Contingency @ 3 % of C				1,05,689.36
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				2,64,223.40
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**38,93,041.54**
I1	Sub Total (Erection Portion + Civil Portion)				10,56,512.89
I2	**Applicable Taxes to make it Landed Cost @18%**				**1,90,172.32**
I	**Total landed Cost (I=I1+ I2)**				**12,46,685.21**
J	**Total Cost (H+I)**				**51,39,726.75**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**51,39,726.75**
M	CESS 1% of L				51,397.27
N	**Grand Total (L+M)**				**51,91,124.01**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,625.00**
T	GST @ 18% on Total Inspection Fees (S)				472.50
U	Total Inspection Fees including GST (S+T)				3,097.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**51,94,221.51**

ANNEXURE-14.1

Part-A:-

1. laying of 11kV UG cable of length0.85 CKM from Gadakan PSS to Kelucharan Park.

2. Laying of 0.1 KM UG cable for road crossing in 11kV pokharan feeder.

3. Installation of 1no. of RMU near Kelucharan park.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***910***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***100***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1010	2,375.00	23,98,750.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	15,950.00	47,850.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	2,900.00	14,500.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80-PN8 for laying of 11kV UG cable	M	910.00	812.00	7,38,920.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**45,07,596.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1010	110.00	1,11,100.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	13	2,000.00	26,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	100	2,970.00	2,97,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	910.00	195.00	1,77,450.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**6,26,550.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	850		
1.1.a	Earth work excavation of **soil**	M3	714	716.03	5,11,245.42
1.1.b	Earth work excavation of **hard rock**	M3	306	1,759.39	5,38,373.34

1.2	Back filling with excavated soil outside and above the trench	M3	1020	220.00	2,24,400.00
1.3	Road Repair and restoration charges	KM		92,94,727.82	-
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	34	1,035.17	35,195.78
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.01	10,470.00	10,574.70
	Sub Total (Civil Portion) (in Rs.)				**15,74,431.00**
A1	**Sub Total (Supply Portion)**				**45,07,596.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,11,367.39**
A	**Total Landed Cost (A=A1 + A2)**				**53,18,963.99**
B	Stock, Storage & Insurance @ 3 % of A				1,59,568.92
C	**Sub Total (A+B)**				**54,78,532.91**
D	Contingency @ 3 % of C				1,64,355.99
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				4,10,889.97
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**60,53,929.03**
I1	Sub Total (Erection Portion + Civil Portion)				22,00,981.00
I2	**Applicable Taxes to make it Landed Cost @18%**				**3,96,176.58**
I	**Total landed Cost (I=I1+ I2)**				**25,97,157.58**
J	**Total Cost (H+I)**				**86,51,086.61**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**86,51,086.61**
M	CESS 1% of L				86,510.87
N	**Grand Total (L+M)**				**87,37,597.47**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,625.00**
T	GST @ 18% on Total Inspection Fees (S)				472.50
U	Total Inspection Fees including GST (S+T)				3,097.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**87,40,694.97**

ANNEXURE-14.1

Part-B:-Augmentation of 11kV Pokharan feeder Branch Line of length 2 CKM(Branch Line)(Refer Proposed SLD)

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**2,25,040.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**40,507.23**
A				**Total landed Cost (A=A1 + A2)**	**2,65,547.39**
B				Stock, Storage & Insurance i.e 3% of A	7,966.42
C				**Sub Total (A+B)**	**2,73,513.81**
D				Contigency @ 3% of C	8,205.41
E				Tools & Plants @ 2% of C	5,184.80
F				Transportation @ 7.5% of C	20,513.54
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,905.59
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,26,332.37**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**28,643.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,155.81**
K				**Total landed Cost (K=K1+ K2)**	**33,799.18**
L				**Total (J+K)**	**3,60,131.55**

M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N	**Sub-Total (L+M)**	**3,60,131.55**
O	CESS 1% of N	3,601.32
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**3,63,732.86**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1	**Total Cost of materials**				**3,09,527.68**
A2	**Applicable Taxes to make it Landed Cost @18%**				**55,714.98**
A	**Total landed Cost (A=A1 + A2)**				**3,65,242.66**
B	Stock, Storage & Insurance i.e 3% of A				10,957.28
C	**Sub Total (A+B)**				**3,76,199.94**
D	Contigency @ 3% of C				11,286.00
E	Tools & Plants @ 2% of C (Except HT Stay Set)				6,810.32
F	Transportation @ 7.5% of C				28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1	**Total Civil & Services**				**47,311.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**8,516.13**
K	**Total landed Cost (K=K1+ K2)**				**55,827.97**
L	**Total (J+K)**				**5,03,629.29**

M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**5,03,629.29**
O	CESS 1% of N				5,036.29
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**5,08,665.58**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2			
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	30	8,65,050.00
2	11 KV V cross Arm(GI)	EA	851.00	30	25,530.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	30	2,430.00
4	Danger Plate	EA	180.00	30	5,400.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	46.20	3,603.60
6	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
7	11 KV pin insulator polymer	EA	140.00	90	12,600.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	90	9,900.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	60	13,200.00
10	Earthing of Support (Coil Type)	EA	164.00	30	4,920.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	41.16	3,045.84
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6180.00	8,09,580.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1	**Total Cost of materials**				**17,64,619.44**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,17,631.50**
A	**Total landed Cost (A=A1 + A2)**				**20,82,250.94**
B	Stock, Storage & Insurance i.e 3% of A				62,467.53
C	**Sub Total (A+B)**				**21,44,718.47**
D	Contigency @ 3% of C				64,341.55
E	Tools & Plants @ 2% of C				42,894.37
F	Transportation @ 7.5% of C				1,60,853.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				52,569.09
H	Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,09,333.67
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**25,74,711.03**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.50	89,759.48
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.38	22,439.87
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1	**Total Civil & Services**				**1,66,719.54**
K2	**Applicable Taxes to make it Landed Cost @18%**				**30,009.52**
K	**Total landed Cost (K=K1+ K2)**				**1,96,729.06**
L	**Total Material+Services (J+K)**				27,71,440.10
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**27,71,440.10**
O	CESS 1% of N				27,714.40
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**27,99,154.50**
	Gross Total Summary				

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	3,63,732.86
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	27,99,154.50
Q	**Gross Total Material +Services**	**36,71,552.94**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	225.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,350.00**
V	GST @ 18% on Total Inspection Fees (U)	243.00
W	Total Inspection Fees including GST (U+V)	1,593.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**36,73,145.94**

ANNEXURE-14.1					
Part-C Dismantling.					
Standard BoQ and Estimate for Dismantling of Materials					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole- 150X150 mm/ 160X160 mm	EA	40	1,300.00	52,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7725	7.00	54,075.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**1,06,075.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**19,093.50**
A	**Total landed Cost (A=A1+ A2)**				**1,25,168.50**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				1,25,168.50
D	**CESS @ 1% of C**				1,251.69
E	**Grand Total (C+D)**				1,26,420.19

ANNEXURE-14.1

Part-A:-

1. Laying of 11kV UG cable of length-0.7 CKM using 3Cx400mm2 XLPE UG cable for road crossing of 11kV Sri Vihar feeder.

2. Laying of 11kV 1.5 CKM UG cable from Proposed Gadakan PSS to Damana Square.

3. Installation of 4 Nos. of RMU near CS Pur-1 PSS, RMRC Chowk, near Metro Homes & Damana Square.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1100***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***1100***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2200	2,375.00	52,25,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	7	15,950.00	1,11,650.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	16	8,260.00	1,32,160.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	16	2,900.00	46,400.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1100.00	812.00	8,93,200.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***4***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	4	12,62,647.00	50,50,588.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	52.80	78.00	4,118.40
3.2	Pipe Earthing 40mm. GI Pipe	EA	8	1,300.00	10,400.00
	Sub Total (Supply Portion) (in Rs.)				**1,14,73,516.40**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2200	110.00	2,42,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	39	2,000.00	78,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1100	2,970.00	32,67,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1100.00	195.00	2,14,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	4	15,000.00	60,000.00
	Sub Total (Erection Portion) (in Rs.)				**38,61,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	972		
1.1.a	Earth work excavation of **soil**	M3	816.48	716.03	5,84,624.17

1.1.b	Earth work excavation of **hard rock**	M3	349.92	1,759.39	6,15,645.75
1.2	Back filling with excavated soil outside and above the trench	M3	1166.4	220.00	2,56,608.00
1.3	Road Repair and restoration charges	KM		92,94,727.82	-
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	4	1,71,056.00	6,84,224.00
4	**Fencing**				
a	**GI Chain link**	EA	**4**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	72	4,167.57	3,00,065.20
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	8	3,784.73	30,277.84
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	73	1,035.17	75,567.41
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	4	1,000.00	4,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.2	10,470.00	23,034.00
	Sub Total (Civil Portion) (in Rs.)				**25,74,046.37**
A1	**Sub Total (Supply Portion)**				**1,14,73,516.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**20,65,232.95**
A	**Total Landed Cost (A=A1 + A2)**				**1,35,38,749.35**
B	Stock, Storage & Insurance @ 3 % of A				4,06,162.48
C	**Sub Total (A+B)**				**1,39,44,911.83**
D	Contingency @ 3 % of C				4,18,347.35
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				100.11
F	Transportation @ 7.5% of C				10,45,868.39
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				500.55
H	**Total (C+D+E+F+G)**				**1,54,09,728.24**
I1	Sub Total (Erection Portion + Civil Portion)				64,35,546.37
I2	**Applicable Taxes to make it Landed Cost @18%**				**11,58,398.35**
I	**Total landed Cost (I=I1+ I2)**				**75,93,944.72**
J	**Total Cost (H+I)**				**2,30,03,672.95**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,30,03,672.95**
M	CESS 1% of L				2,30,036.73
N	**Grand Total (L+M)**				**2,32,33,709.68**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				6,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**7,125.00**
T	GST @ 18% on Total Inspection Fees (S)				1,282.50
U	Total Inspection Fees including GST (S+T)				8,407.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,32,42,117.18**

ANNEXURE-14.1

Part-B:-

1- Augmentation of 11kV Srivihar feeder Branch Line of length 4 CKM(1.6 CKM for Sri Vihar & 2.4 CKM for RMRC Branch Line)(Refer Proposed SLD)

2- Augmentation of backfeeding 11kV Info Srivihar feeder of length 1.5 CKM(Sri Vihar Branch,Nature Crest Breanch, GDS Residency Branch, Binodini Residency Branch)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	7

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	14	4,03,690.00
2	GI Channel, angle & flat of different size	KG	78.00	2254.175	1,75,825.65
3	DMC Insulator for LA (70/10)	EA	113.50	56	6,356.00
4	Danger Plate	EA	180.00	14	2,520.00
5	H.T. Stay clamp	EA	260.00	28	7,280.00
6	H.T. Stay set (Complete)	SET	1,434.00	28	40,152.00
7	H.T. Stay Insulator Type-C	EA	87.00	28	2,436.00
8	7/10 SWG Stay Wire	KG	77.00	420	32,340.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	14	18,200.00
10	GI barbed wire anticlimbing device	KG	74.00	42	3,108.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	21	41,160.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	7	76,804.00
13	11 KV pin insulator polymer	EA	140.00	21	2,940.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	21	2,310.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	42	23,100.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	28	6,160.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	42	1,05,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	42	6,300.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	77.252	5,716.65
A1				**Total Cost of materials**	**9,61,398.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,73,051.69**
A				**Total landed Cost (A=A1 + A2)**	**11,34,449.99**
B				Stock, Storage & Insurance i.e 3% of A	34,033.50
C				**Sub Total (A+B)**	**11,68,483.49**
D				Contigency @ 3% of C	35,054.50
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	20,928.95
F				Transportation @ 7.5% of C	87,636.26
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,532.24
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	55,580.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**13,92,215.73**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	28	64,442.70
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.30	41,887.76
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.58	10,471.94
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	14.00	52,986.22
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	7.00	5,852.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	14.00	3,966.76
K1				**Total Civil & Services**	**1,79,607.37**

K2	**Applicable Taxes to make it Landed Cost @18%**	**32,329.33**
K	**Total landed Cost (K=K1+ K2)**	**2,11,936.70**
L	**Total (J+K)**	**16,04,152.43**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N	**Sub-Total (L+M)**	**16,04,152.43**
O	CESS 1% of N	16,041.52
P	**Gross Total Material +Services (N+O) for DP With AB Switch**	**16,20,193.95**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	5

<u>MATERIALS FOR 11 KV Cut Point with 180 Degree Angle</u>

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1	**Total Cost of materials**				**2,81,300.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**50,634.04**
A	**Total landed Cost (A=A1 + A2)**				**3,31,934.24**
B	Stock, Storage & Insurance i.e 3% of A				9,958.03
C	**Sub Total (A+B)**				**3,41,892.26**
D	Contigency @ 3% of C				10,256.77
E	Tools & Plants @ 2% of C				6,481.00
F	Transportation @ 7.5% of C				25,641.92
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,881.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,07,915.46**

<u>Civil & Services</u>

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00

5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**35,804.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,444.76**
K				**Total landed Cost (K=K1+ K2)**	**42,248.97**
L				**Total (J+K)**	**4,50,164.43**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**4,50,164.43**
O				CESS 1% of N	4,501.64
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**4,54,666.08**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	10

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	673.44	52,528.32
3	Danger Plate	EA	180.00	10	1,800.00
4	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
5	11 KV pin insulator polymer	EA	140.00	40	5,600.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	40	4,400.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	60	33,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	20	4,400.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	60	9,000.00
11	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
12	H.T. Stay clamp	EA	260.00	20	5,200.00
13	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
14	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
15	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	99.96	7,397.04
A1				**Total Cost of materials**	**6,19,055.36**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,11,429.96**
A				**Total landed Cost (A=A1 + A2)**	**7,30,485.32**
B				Stock, Storage & Insurance i.e 3% of A	21,914.56
C				**Sub Total (A+B)**	**7,52,399.88**
D				Contigency @ 3% of C	22,572.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	13,620.63
F				Transportation @ 7.5% of C	56,429.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				17,523.03
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				33,057.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**8,95,602.63**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83

3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,479.96
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	10.00	8,360.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1				**Total Civil & Services**	**94,623.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**17,032.26**
K				**Total landed Cost (K=K1+ K2)**	**1,11,655.94**
L				**Total (J+K)**	**10,07,258.58**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**10,07,258.58**
O				CESS 1% of N	10,072.59
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**10,17,331.16**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	5.5			
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	45	12,97,575.00
2	11 KV V cross Arm(GI)	EA	851.00	45	38,295.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	45	3,645.00
4	Danger Plate	EA	180.00	45	8,100.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	69.30	5,405.40
6	GI barbed wire anticlimbing device	KG	74.00	135.00	9,990.00
7	11 KV pin insulator polymer	EA	140.00	135	18,900.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	135	14,850.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	90	19,800.00
10	Earthing of Support (Coil Type)	EA	164.00	45	7,380.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	61.74	4,568.76
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	16995.00	22,26,345.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	15	6,750.00
A1				**Total Cost of materials**	**36,61,604.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**6,59,088.75**
A				**Total landed Cost (A=A1 + A2)**	**43,20,692.91**
B				Stock, Storage & Insurance i.e 3% of A	1,29,620.79
C				**Sub Total (A+B)**	**44,50,313.70**
D				Contigency @ 3% of C	1,33,509.41
E				Tools & Plants @ 2% of C	89,006.27
F				Transportation @ 7.5% of C	3,33,773.53
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				78,853.63
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,87,324.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**53,72,780.64**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	20.25	1,34,639.21
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.06	33,659.80
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	45	37,620.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	45	12,750.30

5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	5.5	57,585.00
K1				**Total Civil & Services**	**2,76,254.32**
K2				**Applicable Taxes to make it Landed Cost @18%**	**49,725.78**
K				**Total landed Cost (K=K1+ K2)**	**3,25,980.09**
L				**Total Material+Services (J+K)**	56,98,760.74
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**56,98,760.74**
O				CESS 1% of N	56,987.61
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**57,55,748.34**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	16,20,193.95
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	4,54,666.08
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	10,17,331.16
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	57,55,748.34
Q	**Gross Total Material +Services**	**88,47,939.54**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	1,012.50
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**1,387.50**
V	GST @ 18% on Total Inspection Fees (U)	249.75
W	Total Inspection Fees including GST (U+V)	1,637.25
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**88,49,576.79**

ANNEXURE-14.1					
Part-C Dismantling.					
Standard BoQ and Estimate for Dismantling of Materials					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole- 150X150 mm/ 160X160 mm	EA	50	1,300.00	65,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	16995	7.00	1,18,965.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**1,83,965.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**33,113.70**
A	**Total landed Cost (A=A1+ A2)**				**2,17,078.70**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				2,17,078.70
D	**CESS @ 1% of C**				2,170.79
E	**Grand Total (C+D)**				2,19,249.49

ANNEXURE -14.2	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-2
Name of the Sub-Division : -	Periphery
Name of the Section : -	CS Pur-2 & Baranga
Name of the Work :-	1- Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS (Existing PTR of Samanga -8 MVA and Balugaon- 8 MVA will be shifted to Patharagadia PSS) along with laying of 0.6km 33kV 3C, 400sqmm U/G Cable. 2- Laying of 4 KM UG cable from Proposed Pathargadia PSS to linking with 11kV Rajvatika, 11kV Polymer Complex & 11kV Pathargadia feeder for load diversion along with installation of 4 nos. of LVVV RMU & 2nos. Of 3 Way LVV RMU in different location of Pathargadia, Polymer Complex & Rajvatika Feeder. Augmentation of 11kV Rajvatika & Polymer Complex feeder of length 4.5Ckm
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A:- Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS. PART B:- Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders. PART- C :- Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS. PART- D :- Construction of 5 no. of 11 kV DP with Isolator and Earth Switch at PSS. PART E: Dismantling portion PART- F :- Supply and Laying of 0.6 KM 33kV 3C, 400sqmm U/G Cable for Patharagadia PSS.	4,49,38,804.67
1. Laying of 4 KM UG cable from Proposed Pathargadia PSS to linking with 11kV Rajvatika, 11kV Polymer Complex & 11kV Pathargadia Feeder for load diversion. 2. Installation of 4 nos. of LVVV RMU & 2nos. Of 3 Way LVV RMU in different location of Pathargadia, Polymer Complex & Rajvatika Feeder. 3. Augmentation of 11kV Rajvatika & Polymer Complex feeder of length 4.5Ckm	4,52,20,287.62
Total Amount	**₹ 9,01,59,092.30**
Total Amount (in Cr.)	**₹ 9.02**
Total estimated cost is Rs. 9.02 Crore. (On TPCODL CAPEX Scheme)	

ANNEXURE-14.2

PART A:
Installation of E-House along with Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Patharagadia PSS

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**33 kV Indoor Switch Panel Board**				
1.1	33 kV 1250 A Indoor AIS Panle Board with 10 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA		1,10,43,128.00	-
2	**Lightning Arrester**				-
2.1	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter) For Transformers - Outdoor type	EA	9.00	13,781.00	1,24,029.00
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter For Transformers - Outdoor type	EA	6.00	1,960.16	11,760.96
3	**11 kV Indoor Switch Panel Board**				-
3.1	11kv 2000A VCB with 15 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA		1,16,19,630.00	-
4	**SCADA**		1.00		-
4.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
4.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
4.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
4.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
4.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
4.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
4.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
4.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
4.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
4.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
4.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
4.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
4.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
4.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
4.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
4.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
4.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
5	**Transformer and Accessories**				-
6	12.5/16 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA		1,92,15,911.00	-
7	100 KVA 33/0.433kV Energy efficient Station Transformer with HV & LV BOX	EA	1.00	5,00,997.00	5,00,997.00
6	**Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	20615.00	71.94	14,83,043.10
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	3600.00	71.94	2,58,984.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	1,300.00	52,000.00
7	**33, 11 and Station Trf Structure**				-

7.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	77.62	41,293.84
7.2	(100 x 50 x5) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	77.62	17,809.13
7.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	90.00	45,000.00
7.4	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	613.86	6,138.60
7.5	LTDB for 100KVA, 33/0.433kV Station Transformer	EA	1.00	32,714.34	32,714.34
8	**33 and 11 kv Power and Control, XLPE cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	1,278.81	7,67,286.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	7,280.00	65,520.00
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	7,521.00	67,689.00
8.4	Supply of 33kV, 3Core, 95sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA) For Station Trf	M	50.00	1,757.00	87,850.00
8.5	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf	EA	2.00	2,060.00	4,120.00
8.6	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf (Touchproof)	EA	2.00	1,830.00	3,660.00
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	1,438.00	8,62,800.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,260.00	74,340.00
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,518.00	76,662.00
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	200.00	126.69	25,338.00
9.2	7 Core x 2.5 mm^2	M	200.00	203.16	40,632.00
9.3	10 Core x 2.5 mm^2	M	200.00	273.73	54,746.00
9.4	12 Core x 2.5 mm^2	M	200.00	344.91	68,982.00
9.5	16 Core x 2.5 mm2	M	200.00	400.00	80,000.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	200.00	147.00	29,400.00
10	**1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	805.08	40,254.00
10.2	XLPE 4 Core x 95 mm2	M	50.00	499.41	24,970.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	268.02	13,401.00
10.4	XLPE 4 Core 16 mm2	M	50.00	125.29	6,264.50
10.5	XLPE 2 Core 16 mm2	M	50.00	62.53	3,126.50
11	**Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**70,12,749.56**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of 33kV Equipment for (INDOOR Sub-Station)**				-
1.1	33 kV 1250 A Indoor AIS Panle Board with 10 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA		9,60,000.00	-

2	**Lightning Arrester**				-
2.1	30kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester (for 33kV Incoming Line, HT side of 2nos. Power Transformers and 33/0.433kV Station Transformer) - Outdoor Type with Surge Counter	EA	9.00	1,847.36	16,626.24
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter(For Transformers & Out Going Feeders) - Outdoor type	EA	6.00	1,350.00	8,100.00
3	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
3.1	11kv 2000A VCB with 15 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA		11,55,000.00	-
4	**Erection, Commissioning, Testing of SCADA**				-
4.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
5	**Erection, Commissioning, Testing of Transformer and RMU**				-
5.1	12.5/16 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories	EA	2.00	3,40,000.00	6,80,000.00
5.2	100 KVA 11/0.433kV Energy efficient Station Transformer along with HT & LT cable connection	EA	1.00	10,229.00	10,229.00
5.3	ITC RTCC UNIT DC 24-48V	EA	1.00	10,000.00	10,000.00
5.4	Services of FRTU Panel, Communication and Other Supplied System	EA	1.00	6,755.00	6,755.00
6	**Erection, Laying of Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	3.50	43,660.00	1,52,810.00
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	1.50	43,660.00	65,490.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	3,784.73	1,51,389.20
7	**Erection of System GI 33, 11 and Station Trf Structure**				-
7.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	13.50	7,182.00
7.2	(100 x 50 x6) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	27.62	6,337.13
7.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	135.00	67,500.00
7.4	Supply & Erection of GI Pipe of dia. 150mm, Class-B	M	200.00	1,496.91	2,99,382.00
7.5	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	306.87	3,068.70
7.6	LTDB for 100KVA, 33/0.433kV Station Transformer along with all cable connection & fixing	EA	1.00	748.76	748.76
8	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	96.66	57,996.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	2,129.37	19,164.33
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	2,129.37	19,164.33
8.4	Laying, Commissioning & Testing of 33kV, 3Core, 1Run, 95sqmm, XLPE insulation (extruted type) UG cable with spare by open trench method.	M	50.00	100.17	5,008.50
8.5	Erection of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.6	Erection of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	96.66	57,996.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34

8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.2	7 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.3	10 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.4	12 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.5	16 Core x 2.5 mm2	M	200.00	16.57	3,314.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	200.00	47.87	9,574.00
10	**Laying of 1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	73.65	3,682.50
10.2	XLPE 4 Core x 95 mm2	M	50.00	47.87	2,393.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	47.87	2,393.50
10.4	XLPE 4 Core 16 mm2	M	50.00	47.87	2,393.50
10.5	XLPE 2 Core 16 mm2	M	50.00	47.87	2,393.50
11	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
12	**Erection, Commissioning , Wiring & Testing of Sub-station Lighting And Fire Fighting System**				-
12.1	SITC of 8way LDB with accessories	EA	1.00	9,898.28	9,898.28
12.2	SITC of Sub-Station Switchyard Lighting , Control Room Lighting (it includes supply of fixtures & Lamps (LED) with switch gear, GI Conduit etc.(Tentative qty. as 120Wx 4 sets and 100Wx6 sets out side the control room, 20 Watt CFL tube-10 sets inside control room. Control Room wiring to be done with Copper wires as per the requirement (Lighting fixtures are to be fixed rigidly on the Column at a suitable height with GI tubular pole so that the required lux as per the technical specification is maintained). Qty. of Lights shall be provided as per lux level calculations for both indoor & outdoor lighting	Lot	1.00	14,01,922.49	14,01,922.49
12.3	SITC of 1.5 Ton capacity Split Air Conditioning units with Remote control facility: Including supply of split Air conditioner 5 Star rated, voltage stabiliser, control boxes etc. for completing the A.C scheme. (As per specification) for control room.	No	1.00	89,707.51	89,707.51
12.4	SITC of 1400 mm sweep 250Volt A/C Celling Fan	No	3.00	3,128.69	9,386.07
12.5	SITC of 300 mm sweep 70W A/C Exhaust Fan (for Battery room and Toilet)	No	3.00	3,128.69	9,386.07
13	**Fire Detection Alarm System**				-
13.1	SITC of Main Fire ALARM Control Panel (Ul /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
13.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96

13.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
13.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
13.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
13.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
13.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
13.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
13.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50
13.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
13.11	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
14	**Fire Fighting System (portable and wheel mounted sets for control room)**				-
14.1	SITC of Foam type- 5 Ltrs	No	3.00	9,406.83	28,220.49
14.2	SITC of CO_2 - 4.5 Kgs	No	3.00	9,335.53	28,006.59
14.3	SITC of Dry powder 4.5 Kg	No	3.00	9,406.83	28,220.49
14.4	SITC of Fire Bucket with GI Stand with GI Canopy arrangement (4nos. in one Stand=1 Set)	Set	3.00	4,202.27	12,606.81
15	**AC & DC System for Auxiliary supply**				-
15.1	**AC System**				-
15.2	SITC of ACDB as per specification	Lot		5,04,000.00	-
15.3	SITC of Main Lighting Distribution Board (as per specification)	Lot		7,86,076.16	-
15.4	SITC of Indoor Lighting Distribution Board as per specification	Lot		1,26,921.17	-
15.5	SITC of Receptable Panel near Power Transformer	No		1,37,772.32	-
16	**DC System**				-
16.1	SITC of 48 V DC Distribution Board as per specification .	No		85,200.00	-
16.2	SITC of Water Cooler with water purifier system as per Technical Specification	No		17,803.06	-
16.3	SITC of Maintenance Testing Equipment as per Technical Specification	Lot		3,59,498.62	-
16.4	SITC of Tools and Plants (T&P's) Requirement as per Technical Specification	Lot		25,825.66	-
16.5	SITC of Office Furniture as per Technical Specification	Lot		2,63,500.00	-
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**38,52,366.33**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	Construction of 100kVA 11/0.4 kV station Trf. Plinth	EA	1.00	2,15,000.00	2,15,000.00
2	E-house Foundation and Installation	LS	1.00	30,00,000.00	30,00,000.00
3	PTR Foundation suitable for 20 MVA Power Transformer	EA	2.00	8,00,000.00	16,00,000.00
4	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
5	RCC CABLE TRENCH	RM	100.00	26,500.00	26,50,000.00
6	ROAD WORK	RM	30.00	11,500.00	3,45,000.00
7	Chainlink Fencing of Switchyard	RM	100.00	4,570.00	4,57,000.00
8	Compound Wall	RM	180.00	17,520.00	31,53,600.00
9	BOT AND NIFPS FOUNDATION	EA	1.00	3,91,000.00	3,91,000.00
10	Area Development work with Filling for (50X40X2mtr)	Sqm	2000.00	1,389.00	27,78,000.00
	Sub-Total for CIVIL WORKS (In Rs.)				**1,50,39,600.00**

A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**	**70,12,749.56**
A2	**Applicable Taxes to make it Landed Cost @18%**	**12,62,294.92**
A	**Total landed Cost (A=A1 + A2)**	**82,75,044.48**
B	Stock , Storage & Insurance @ 3 % of A	**2,48,251.33**
C	Sub - Total (A+B)	**85,23,295.82**
D	Contingency @ 3 % of C	**2,55,698.87**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)	
F	Transportation @ 7.5% of C	**6,39,247.19**
G	**Sub - Total (C+D+E+F)**	**94,18,241.88**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS	38,52,366.33
H2	Total Cost for CIVIL WORKS	1,50,39,600.00
H3	**Total Cost for Erection & Civil works (H1+H2)**	**1,88,91,966.33**
H4	**Applicable Taxes to make it Landed Cost @18%**	**34,00,553.94**
H	**Total landed Cost (H=H3 + H4)**	2,22,92,520.27
I	**Total Cost (G+H)**	3,17,10,762.15
J	Other Overhead /(including Supervision Charges) @ 6 % of I	
K	Total Estimated Capital Cost i.e. I+J	**3,17,10,762.15**
L	CESS @ 1% of K	3,17,107.62
M	**Total Cost (K+L)**	3,20,27,869.77
N	Inspection Charges (As per Gov. Notification)	85,000.00
O	GST @ 18% of N	15,300.00
P	Total Inspection Charges with GST (N+O)	1,00,300.00
Q	**Total Estimate to be deposit (M+P)**	**3,21,28,169.77**

ANNEXURE-14.2					
PART B: Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***400***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	400	2,375.00	9,50,000.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**9,94,640.00**
	Erection Portion				
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	400	110.00	44,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**60,000.00**
A1	**Sub Total (Supply Portion)**				**9,94,640.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,79,035.20**
A	**Total Landed Cost (A=A1 + A2)**				**11,73,675.20**
B	Stock, Storage & Insurance @ 3 % of A				35,210.26
C	**Sub Total (A+B)**				**12,08,885.46**
D	Contingency @ 3 % of C				36,266.56
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				90,666.41
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**13,35,818.43**
I1	Sub Total (Erection Portion + Civil Portion)				60,000.00
I2	**Applicable Taxes to make it Landed Cost @18%**				**10,800.00**
I	**Total landed Cost (I=I1+ I2)**				**70,800.00**
J	**Total Cost (H+I)**				**14,06,618.43**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**14,06,618.43**
M	CESS 1% of L				14,066.18
N	**Grand Total (L+M)**				**14,20,684.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				-
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**375.00**
T	GST @ 18% on Total Inspection Fees (S)				67.50
U	Total Inspection Fees including GST (S+T)				442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**14,21,127.11**

ANNEXURE-14.2

PART- C :-
Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	2	2,03,304.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
18	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**5,05,799.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**91,043.97**
A				**Total landed Cost (A=A1 + A2)**	**5,96,843.83**
B				Stock, Storage & Insurance i.e 3% of A	17,905.31
C				**Sub Total (A+B)**	**6,14,749.14**
D				Contigency @ 3% of C	18,442.47
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,586.55
F				Transportation @ 7.5% of C	46,106.19
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				41,417.90
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**7,40,559.67**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20

2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	8,04,251.28
M	Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)				
N				**Sub-Total Material +Services (L+M)**	**8,04,251.28**
O				CESS 1% of N	8,042.51
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**8,12,293.79**

ANNEXURE-14.2

PART- D :-
Construction of 5 no. of 11 kV DP with Isolator and Earth Switch at PSS.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	5

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	1610.125	1,25,589.75
3	DMC Insulator for LA (70/10)	EA	113.50	40	4,540.00
4	Danger Plate	EA	180.00	10	1,800.00
5	H.T. Stay clamp	EA	260.00	20	5,200.00
6	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
7	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
8	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
10	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	15	29,400.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	5	3,35,485.00
13	11 KV pin insulator polymer	EA	140.00	15	2,100.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	55.18	4,083.32
A1				**Total Cost of materials**	**8,87,233.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,59,701.95**
A				**Total landed Cost (A=A1 + A2)**	**10,46,935.02**
B				Stock, Storage & Insurance i.e 3% of A	31,408.05
C				**Sub Total (A+B)**	**10,78,343.07**
D				Contigency @ 3% of C	32,350.29
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	19,823.49
F				Transportation @ 7.5% of C	80,875.73
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				t Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	64,071.40
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**12,92,987.02**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10.00	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1				**Total Civil & Services**	**1,28,290.98**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,092.38**
K				**Total landed Cost (K=K1+ K2)**	**1,51,383.36**
L				**Total (J+K)**	**14,44,370.37**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**14,44,370.37**
O				CESS 1% of N	14,443.70
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**14,58,814.08**

ANNEXURE-14.2					
PART E: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	5000	8.10	40,506.84
2	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer below 100KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1	3,262.64	3,262.64
3	Dismantling of 12.5/8MVA 33/11kV PTR	EA	2	1,10,000.00	2,20,000.00
4	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	11	18,003.04	1,98,033.44
5	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
6	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	5	1,200.00	6,000.00
7	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
8	Dismantling of Lightening Arrester(LA	EA	12	162.12	1,945.44
A1	**Sub Total (Civil Portion) (in Rs.)**				**5,61,006.39**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,00,981.15**
A	**Total landed Cost (A=A1+ A2)**				**6,61,987.53**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				6,61,987.53
D	**CESS @ 1% of C**				6,619.88
E	**Grand Total (C+D)**				6,68,607.41

ANNEXURE-14.2

PART- F :-
Supply and Laying of 0.6 KM 33kV 3C, 400sqmm U/G Cable for Patharagadia PSS.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***300***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***300***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	600	3,165.00	18,99,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	6	25,930.00	1,55,580.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
1.4	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA		11,340.00	-
1.5	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	2	71,915.00	1,43,830.00
1.6	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	300.00	812.00	2,43,600.00
	Sub Total (Supply Portion) (in Rs.)				**24,65,810.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	600	115.00	69,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	10	2,000.00	20,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	600	2,970.00	17,82,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	300.00	195.00	58,500.00
	Sub Total (Erection Portion) (in Rs.)				**19,29,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	284		
1.1.a	Earth work excavation of **soil**	M3	238.56	716.03	1,70,816.12
1.1.b	Earth work excavation of **hard rock**	M3	102.24	1,759.39	1,79,880.03
1.2	Back filling with excavated soil outside and above the trench	M3	340.8	220.00	74,976.00
1.3	Road Repair and restoration charges	KM	0.204	92,94,727.82	18,96,124.48

2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	20	1,035.17	20,703.40
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.6	10,470.00	6,282.00
	Sub Total (Civil Portion) (in Rs.)				**23,48,782.03**
A1	**Sub Total (Supply Portion)**				**24,65,810.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**4,43,845.80**
A	**Total Landed Cost (A=A1 + A2)**				**29,09,655.80**
B	Stock, Storage & Insurance @ 3 % of A				87,289.67
C	**Sub Total (A+B)**				**29,96,945.47**
D	Contingency @ 3 % of C				89,908.36
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				2,24,770.91
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**33,11,624.75**
I1	Sub Total (Erection Portion + Civil Portion)				42,78,282.03
I2	**Applicable Taxes to make it Landed Cost @18%**				**7,70,090.76**
I	**Total landed Cost (I=I1+ I2)**				**50,48,372.79**
J	**Total Cost (H+I)**				**83,59,997.54**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**83,59,997.54**
M	CESS 1% of L				83,599.98
N	**Grand Total (L+M)**				**84,43,597.51**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)				945.00
U	Total Inspection Fees including GST (S+T)				6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**84,49,792.51**

ANNEXURE-14.2

Part-A:-

1. laying of 4 KM UG cable from Proposed Pathargadia PSS to linking with 11kV Rajvatika, 11kV Polymer Complex & 11kV Pathargadia Feeder for load diversion.

2. Installation of 4 nos. of LVVV RMU & 2nos. Of 3 Way LVV RMU in different location of Pathargadia, Polymer Complex & Rajvatika Feeder.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***2000***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***2000***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	4000	2,375.00	95,00,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	9	15,950.00	1,43,550.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	25	8,260.00	2,06,500.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	18	2,900.00	52,200.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	2000.00	812.00	16,24,000.00
2	**Supply of 11kV RMU**				
o	***No. of 11KV 3WAY RMU 630A LVV(1I+2B)+AUXPT+FRTU***	***EA***	***2***		
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***4***		
2.15	Supply of 11KV 3WAY RMU 630A LVV(1I+2B)+AUXPT+FRTU	EA	2	9,53,220.00	19,06,440.00
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	4	12,62,647.00	50,50,588.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	79.20	78.00	6,177.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	12	1,300.00	15,600.00
	Sub Total (Supply Portion) (in Rs.)				**1,85,05,055.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	4000	110.00	4,40,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	52	2,000.00	1,04,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2000	2,970.00	59,40,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2000.00	195.00	3,90,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.15	Erection of 11KV 3WAY RMU 630A LVV(1I+2B)+AUXPT+FRTU	EA	2	12,000.00	24,000.00
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	4	15,000.00	60,000.00
	Sub Total (Erection Portion) (in Rs.)				**69,58,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1856		
1.1.a	Earth work excavation of **soil**	M3	1559.04	716.03	11,16,319.41
1.1.b	Earth work excavation of **hard rock**	M3	668.16	1,759.39	11,75,554.02
1.2	Back filling with excavated soil outside and above the trench	M3	2227.2	220.00	4,89,984.00
1.3	Road Repair and restoration charges	KM		92,94,727.82	-
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	6	1,71,056.00	10,26,336.00
4	**Fencing**				
a	**GI Chain link**	EA	**6**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	108	4,167.57	4,50,097.80
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	12	3,784.73	45,416.76
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	133	1,035.17	1,37,677.61
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	6	1,000.00	6,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	4	10,470.00	41,880.00
	Sub Total (Civil Portion) (in Rs.)				**44,89,265.60**
A1	**Sub Total (Supply Portion)**				**1,85,05,055.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**33,30,910.01**
A	**Total Landed Cost (A=A1 + A2)**				**2,18,35,965.61**
B	Stock, Storage & Insurance @ 3 % of A				6,55,078.97
C	**Sub Total (A+B)**				**2,24,91,044.58**
D	Contingency @ 3 % of C				6,74,731.34
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				150.17
F	Transportation @ 7.5% of C				16,86,828.34
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				750.83
H	**Total (C+D+E+F+G)**				**2,48,53,505.25**
I1	Sub Total (Erection Portion + Civil Portion)				1,14,47,265.60
I2	**Applicable Taxes to make it Landed Cost @18%**				**20,60,507.81**
I	**Total landed Cost (I=I1+ I2)**				**1,35,07,773.41**
J	**Total Cost (H+I)**				**3,83,61,278.66**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**3,83,61,278.66**
M	CESS 1% of L				3,83,612.79
N	**Grand Total (L+M)**				**3,87,44,891.44**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				9,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**10,350.00**
T	GST @ 18% on Total Inspection Fees (S)				1,863.00
U	Total Inspection Fees including GST (S+T)				12,213.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**3,87,57,104.44**

ANNEXURE-14.2

Part-B:-Augmentation of 11kV Rajvatika & Polymer Complex feeder of length 4.5 CKM(Branch Line)(Refer Proposed SLD)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**5,49,370.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**98,886.68**
A				**Total landed Cost (A=A1 + A2)**	**6,48,257.14**
B				Stock, Storage & Insurance i.e 3% of A	19,447.71
C				**Sub Total (A+B)**	**6,67,704.85**
D				Contigency @ 3% of C	20,031.15
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,959.40
F				Transportation @ 7.5% of C	50,077.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,760.16
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,95,551.85**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84

5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**9,16,658.53**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**9,16,658.53**
O				CESS 1% of N	9,166.59
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**9,25,825.12**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	10

<u>MATERIALS FOR 11 KV Cut Point with 90 Degree Angle</u>

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	673.44	52,528.32
3	Danger Plate	EA	180.00	10	1,800.00
4	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
5	11 KV pin insulator polymer	EA	140.00	40	5,600.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	40	4,400.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	60	33,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	20	4,400.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	60	9,000.00
11	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
12	H.T. Stay clamp	EA	260.00	20	5,200.00
13	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
14	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
15	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	99.96	7,397.04
A1				**Total Cost of materials**	**6,19,055.36**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,11,429.96**
A				**Total landed Cost (A=A1 + A2)**	**7,30,485.32**
B				Stock, Storage & Insurance i.e 3% of A	21,914.56
C				**Sub Total (A+B)**	**7,52,399.88**
D				Contigency @ 3% of C	22,572.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	13,620.63
F				Transportation @ 7.5% of C	56,429.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				17,523.03
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				33,057.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**8,95,602.63**

<u>Civil & Services</u>

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,479.96

4	GIS Mapping, indexing/numbering of Poles	EA	836.00	10.00	8,360.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1				**Total Civil & Services**	**94,623.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**17,032.26**
K				**Total landed Cost (K=K1+ K2)**	**1,11,655.94**
L				**Total (J+K)**	**10,07,258.58**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**10,07,258.58**
O				CESS 1% of N	10,072.59
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**10,17,331.16**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	4.5			
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	30	8,65,050.00
2	11 KV V cross Arm(GI)	EA	851.00	30	25,530.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	30	2,430.00
4	Danger Plate	EA	180.00	30	5,400.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	46.20	3,603.60
6	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
7	11 KV pin insulator polymer	EA	140.00	90	12,600.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	90	9,900.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	60	13,200.00
10	Earthing of Support (Coil Type)	EA	164.00	30	4,920.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	41.16	3,045.84
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	13905.00	18,21,555.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	12	5,400.00
A1				**Total Cost of materials**	**27,79,294.44**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,00,273.00**
A				**Total landed Cost (A=A1 + A2)**	**32,79,567.44**
B				Stock, Storage & Insurance i.e 3% of A	98,387.02
C				**Sub Total (A+B)**	**33,77,954.46**
D				Contigency @ 3% of C	1,01,338.63
E				Tools & Plants @ 2% of C	67,559.09
F				Transportation @ 7.5% of C	2,53,346.58
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				52,569.09
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,32,657.27
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**40,85,425.13**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.50	89,759.48
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.38	22,439.87
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.5	47,115.00
K1				**Total Civil & Services**	**1,92,894.54**

K2	**Applicable Taxes to make it Landed Cost @18%**	**34,721.02**
K	**Total landed Cost (K=K1+ K2)**	**2,27,615.56**
L	**Total Material+Services (J+K)**	43,13,040.69
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**43,13,040.69**
O	CESS 1% of N	43,130.41
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**43,56,171.10**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	9,25,825.12
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	10,17,331.16
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	43,56,171.10
Q	**Gross Total Material +Services**	**62,99,327.38**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	787.50
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**1,162.50**
V	GST @ 18% on Total Inspection Fees (U)	209.25
W	Total Inspection Fees including GST (U+V)	1,371.75
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**63,00,699.13**

ANNEXURE-14.2					
Part-C Dismantling.					
Standard BoQ and Estimate for Dismantling of Materials					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole- 150X150 mm/ 160X160 mm	EA	30	1,300.00	39,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	13905	7.00	97,335.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**1,36,335.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**24,540.30**
A	**Total landed Cost (A=A1+ A2)**				**1,60,875.30**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				1,60,875.30
D	**CESS @ 1% of C**				1,608.75
E	**Grand Total (C+D)**				1,62,484.05

ANNEXURE-16

PSS REFURBISHMENT

PSS Refurbishment					
Sl. No.	***Description***	***Unit***	***Per Unit Cost (In Cr.)***	***Total Qty.***	***Total Cost (In Cr.)***
1	PSS refurbishment	EA		***5***	***10.00***
2	Battery Charger with DCDB	EA	***0.039***	***32***	***1.25***
				TOTAL	***11.25***

Location of PSS Refurbishment

Sl. No.	Name of Circle	Division	Name of PSS	Cost in Cr.	Annexures
1	BBSR-II	PED	Atharnala PSS	4.67	Annexure-16.1
2	BBSR-II	PED	Sunamuhi PSS	2.50	Annexure-16.2
3	BBSR-II	NYED	Itamati PSS	1.29	Annexure-16.3
4	CUTTACK	CED	Balikuda PSS	0.50	Annexure-16.4
5	DHENKENAL	TED	Parjang PSS	1.05	Annexure-16.5
	Total			**10.00**	

Location of Replacement of Battery Charger

Description	Qty.	Total Cost in Cr. considered in Capex 27-28	Annexure
Battery Charger with DCDB	32	1.25	Annexure-16.6

Sl. No.	Circle	Division	Name of PSS	Voltage Rating	Remark
1	BBSR-2	BYED	Solari	48 V, 70A	EXISTING CHARGER IS 48V ,20A
2	BBSR-2	NYED	Barkoli	48 V, 70A	EXISTING CHARGER IS 48V ,20A
3	BBSR-2	NYED	Kurala	48 V, 70A	EXISTING CHARGER IS 48V ,20A
4	BBSR-2	NYED	Lathipada	48 V, 70A	EXISTING CHARGER IS 48V ,20A
5	BBSR-2	PED	Panaspada	48 V, 70A	EXISTING CHARGER IS 48V ,20A
6	BBSR-2	NYED	Kantillo	24V, 70A	EXISTING CHARGER IS 24V ,20A
7	BBSR-2	PED	Kanasa	24V, 70A	EXISTING CHARGER IS 24V ,20A
8	BBSR-2	PED	Satasankha	24V, 70A	EXISTING CHARGER IS 24V ,20A
9	BBSR-2	PED	Delanga	24V, 70A	EXISTING CHARGER IS 24V ,20A
10	BBSR-2	PED	Chandanpur	24V, 70A	EXISTING CHARGER IS 24V ,20A
11	Dhenkanal	TED	Parabil	24V, 70A	EXISTING CHARGER IS 24V ,20A
12	PDP	PDP	Balikuda	24V, 70A	EXISTING CHARGER IS 24V ,20A
13	PDP	PDP	Indupur	24V, 70A	EXISTING CHARGER IS 24V ,20A
14	BBSR-2	NYED	Banigocha	48 V, 70A	EXISTING CHARGER IS 48V ,20A
15	BBSR-2	NYED	Chhamundia	48 V, 70A	EXISTING CHARGER IS 48V ,20A
16	BBSR-2	KHD	Gediapalli	48 V, 70A	EXISTING CHARGER IS 48V ,20A
17	BBSR-2	KHD	Sea Food Park	48 V, 70A	EXISTING CHARGER IS 48V ,20A
18	BBSR-2	NYED	Haripur	48 V, 70A	EXISTING CHARGER IS 48V ,20A
19	BBSR-2	NYED	Godipada	48 V, 70A	EXISTING CHARGER IS 48V ,20A
20	Dhenkanal	DED	Jiral	48 V, 70A	EXISTING CHARGER IS 48V ,20A
21	Dhenkanal	DED	Ghatipiri	48 V, 70A	EXISTING CHARGER IS 48V ,20A
22	Dhenkanal	DED	Pada	48 V, 70A	EXISTING CHARGER IS 48V ,20A
23	Dhenkanal	DED	SARANGI	48 V, 70A	EXISTING CHARGER IS 48V ,20A
24	Dhenkanal	DED	Birasal	48 V, 70A	EXISTING CHARGER IS 48V ,20A
25	Dhenkanal	TED	Sanda	48 V, 70A	EXISTING CHARGER IS 48V ,20A
26	Dhenkanal	TED	Kantala	48 V, 70A	EXISTING CHARGER IS 48V ,20A
27	PDP	KED-I	MADHUBANA	48 V, 70A	EXISTING CHARGER IS 48V ,20A
28	PDP	KED-I	CHAUDAKULAT	48 V, 70A	EXISTING CHARGER IS 48V ,20A
29	PDP	KED-II	GAUDAGAON	48 V, 70A	EXISTING CHARGER IS 48V ,20A
30	PDP	JED	MARKANDPUR	48 V, 70A	EXISTING CHARGER IS 48V ,20A (Liveline
31	PDP	JED	CHIKINIA	48 V, 70A	EXISTING CHARGER IS 48V ,20A (Liveline
32	PDP	KED-II	BEDARI	48 V, 70A	EXISTING CHARGER IS 48V ,20A (Liveline

Annexure-16.1	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-II
Name of the Division : -	PED
Name of the Work :-	Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Atharnala PSS
Names of Schemes: -	Capex 27-28
Abstract of Estimate	
Description	**Total**
PART A: Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Atharnala PSS (Existing Power Transformer will be re-used and same is not considered in the estimate)	4,54,60,960.56
PART B: Supply & laying of 0.15 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders.	5,82,962.11
PART C: Dismantling portion	6,68,607.41
Total Estimated cost	**4,67,12,530.08**
Total Estimated Cost is Rs. 4.67 Cr.	

PART A:
Construction of Control Room Building with all Equipment Supply, Erection, Commissioning, Testing, Civil Works with supply of all materials, Labour, T&P etc. as per technical specification and scope of work for Atharnala PSS (Existing Power Transformer will be re-used and same is not considered in the estimate)

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**33 kV Indoor Switch Panel Board**				
1.1	33 kV 1250 A Indoor AIS Panle Board with 10 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA	1.00	1,10,43,128.00	1,10,43,128.00
2	**Lightning Arrester**				-
2.1	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter) For Transformers - Outdoor type	EA	9.00	13,781.00	1,24,029.00
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter For Transformers - Outdoor type	EA	6.00	1,960.16	11,760.96
3	**11 kV Indoor Switch Panel Board**				-
3.1	11kv 2000A VCB with 11 panel board Switchgear (2 incoming, 6 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA	1.00	86,04,870.00	86,04,870.00
4	**SCADA**		1.00		-
4.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
4.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
4.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
4.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
4.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
4.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
4.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
4.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
4.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
4.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
4.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
4.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
4.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
4.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
4.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
4.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
4.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
5	**Transformer and Accessories**				-
6	12.5/16 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA		1,92,15,911.00	-
7	100 KVA 33/0.433kV Energy efficient Station Transformer with HV & LV BOX	EA		5,00,997.00	-
6	**Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	20615.00	71.94	14,83,043.10
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	3600.00	71.94	2,58,984.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	1,300.00	52,000.00
8	**33 and 11 kv Power and Control, XLPE cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	150.00	1,278.81	1,91,821.50
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	7,280.00	65,520.00
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	7,521.00	67,689.00
8.4	Supply of 33kV, 3Core, 95sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA) For Station Trf	M	50.00	1,757.00	87,850.00
8.5	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf	EA	2.00	2,060.00	4,120.00
8.6	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf (Touchproof)	EA	2.00	1,830.00	3,660.00
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	150.00	1,438.00	2,15,700.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,260.00	74,340.00
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,518.00	76,662.00
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	100.00	126.69	12,669.00
9.2	7 Core x 2.5 mm^2	M	100.00	203.16	20,316.00
9.3	10 Core x 2.5 mm^2	M	100.00	273.73	27,373.00
9.4	12 Core x 2.5 mm^2	M	100.00	344.91	34,491.00
9.5	16 Core x 2.5 mm2	M	100.00	400.00	40,000.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	147.00	14,700.00
10	**1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	805.08	40,254.00
10.2	XLPE 4 Core x 95 mm2	M	50.00	499.41	24,970.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	268.02	13,401.00
10.4	XLPE 4 Core 16 mm2	M	50.00	125.29	6,264.50
10.5	XLPE 2 Core 16 mm2	M	50.00	62.53	3,126.50
11	**Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,46,44,681.15**

ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of 33kV Equipment for (INDOOR Sub-Station)**				-
1.1	33 kV 1250 A Indoor AIS Panle Board with 10 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA	1.00	9,60,000.00	9,60,000.00
2	**Lightning Arrester**				-
2.1	30kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester (for 33kV Incoming Line, HT side of 2nos. Power Transformers and 33/0.433kV Station Transformer) - Outdoor Type with Surge Counter	EA	9.00	1,847.36	16,626.24
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter(For Transformers & Out Going Feeders) - Outdoor type	EA	6.00	1,350.00	8,100.00
3	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
3.1	11kv 2000A VCB with 11 panel board Switchgear (2 incoming, 6 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA	1.00	8,47,000.00	8,47,000.00
4	**Erection, Commissioning, Testing of SCADA**				-
4.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
6	**Erection, Laying of Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	3.50	43,660.00	1,52,810.00
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	1.50	43,660.00	65,490.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	3,784.73	1,51,389.20
8	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	150.00	96.66	14,499.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	2,129.37	19,164.33
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	2,129.37	19,164.33
8.4	Laying, Commissioning & Testing of 33kV, 3Core, 1Run, 95sqmm, XLPE insulation (extruted type) UG cable with spare by open trench method.	M	50.00	100.17	5,008.50
8.5	Erection of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.6	Erection of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	150.00	96.66	14,499.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.2	7 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.3	10 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.4	12 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.5	16 Core x 2.5 mm2	M	100.00	16.57	1,657.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	47.87	4,787.00
10	**Laying of 1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	73.65	3,682.50
10.2	XLPE 4 Core x 95 mm2	M	50.00	47.87	2,393.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	47.87	2,393.50
10.4	XLPE 4 Core 16 mm2	M	50.00	47.87	2,393.50
10.5	XLPE 2 Core 16 mm2	M	50.00	47.87	2,393.50
11	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
12	**Erection, Commissioning , Wiring & Testing of Sub-station Lighting And Fire Fighting System**				-
12.1	SITC of 8way LDB with accessories	EA	1.00	9,898.28	9,898.28
12.3	SITC of 1.5 Ton capacity Split Air Conditioning units with Remote control facility: Including supply of split Air conditioner 5 Star rated, voltage stabiliser, control boxes etc. for completing the A.C scheme. (As per specification) for control room.	No	3.00	89,707.51	2,69,122.53
12.4	SITC of 1400 mm sweep 250Volt A/C Celling Fan	No	3.00	3,128.69	9,386.07
12.5	SITC of 300 mm sweep 70W A/C Exhaust Fan (for Battery room and Toilet)	No	3.00	3,128.69	9,386.07
13	**Fire Detection Alarm System**				-
13.1	SITC of Main Fire ALARM Control Panel (UI /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
13.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96
13.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
13.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
13.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
13.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
13.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
13.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
13.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50
13.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
13.11	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
14	**Fire Fighting System (portable and wheel mounted sets for control room)**				-
14.1	SITC of Foam type- 5 Ltrs	No	3.00	9,406.83	28,220.49
14.2	SITC of CO_2 - 4.5 Kgs	No	3.00	9,335.53	28,006.59
14.3	SITC of Dry powder 4.5 Kg	No	3.00	9,406.83	28,220.49
14.4	SITC of Fire Bucket with GI Stand with GI Canopy arrangement (4nos. in one Stand=1 Set)	Set	3.00	4,202.27	12,606.81
15	**AC & DC System for Auxiliary supply**				-
15.1	**AC System**				-

15.2	SITC of ACDB as per specification	Lot	1.00	5,04,000.00	5,04,000.00
15.3	SITC of Main Lighting Distribution Board (as per specification)	Lot	1.00	7,86,076.16	7,86,076.16
15.4	SITC of Indoor Lighting Distribution Board as per specification	Lot	1.00	1,26,921.17	1,26,921.17
15.5	SITC of Receptable Panel near Power Transformer	No		1,37,772.32	-
16	**DC System**				-
16.1	SITC of 48 V DC Distribution Board as per specification .	No	1.00	85,200.00	85,200.00
16.5	SITC of Office Furniture as per Technical Specification	Lot	1.00	2,63,500.00	2,63,500.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**50,11,287.60**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	New Control Room (15 Mtr. x 12 Mtr.)	LS	1.00	50,00,000.00	50,00,000.00
	Sub-Total for CIVIL WORKS (In Rs.)				**50,00,000.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,46,44,681.15**
A2	**Applicable Taxes to make it Landed Cost @18%**				**44,36,042.61**
A	**Total landed Cost (A=A1 + A2)**				**2,90,80,723.76**
B	Stock , Storage & Insurance @ 3 % of A				**8,72,421.71**
C	Sub - Total (A+B)				**2,99,53,145.47**
D	Contingency @ 3 % of C				**8,98,594.36**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**22,46,485.91**
G	**Sub - Total (C+D+E+F)**				**3,30,98,225.74**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				50,11,287.60
H2	Total Cost for CIVIL WORKS				50,00,000.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**1,00,11,287.60**
H4	**Applicable Taxes to make it Landed Cost @18%**				**18,02,031.77**
H	**Total landed Cost (H=H3 + H4)**				1,18,13,319.36
I	**Total Cost (G+H)**				4,49,11,545.11
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**4,49,11,545.11**
L	CESS @ 1% of K				4,49,115.45
M	**Total Cost (K+L)**				4,53,60,660.56
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**4,54,60,960.56**

PART B: Supply & laying of 0.15 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***150***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	150	2,375.00	3,56,250.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**4,00,890.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	150	110.00	16,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**32,500.00**
	Sub Total (Civil Portion) (in Rs.)				**-**

A1	**Sub Total (Supply Portion)**	**4,00,890.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**72,160.20**
A	**Total Landed Cost (A=A1 + A2)**	**4,73,050.20**
B	Stock, Storage & Insurance @ 3 % of A	14,191.51
C	**Sub Total (A+B)**	**4,87,241.71**
D	Contingency @ 3 % of C	14,617.25
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	36,543.13
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**5,38,402.09**
I1	Sub Total (Erection Portion + Civil Portion)	32,500.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**5,850.00**
I	**Total landed Cost (I=I1+ I2)**	**38,350.00**
J	**Total Cost (H+I)**	**5,76,752.09**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**5,76,752.09**
M	CESS 1% of L	5,767.52
N	**Grand Total (L+M)**	**5,82,519.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	-
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50

V	**Gross Total Material, Services and Inspection Fees (N+U)**	**5,82,962.11**

PART C: Dismantling portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	5000	8.10	40,506.84
2	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer below 100KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1	3,262.64	3,262.64
3	Dismantling of 12.5/8MVA 33/11kV PTR	EA	2	1,10,000.00	2,20,000.00
4	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	11	18,003.04	1,98,033.44
5	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
6	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	5	1,200.00	6,000.00
7	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
8	Dismantling of Lightening Arrester(LA	EA	12	162.12	1,945.44
A1				**Sub Total (Civil Portion) (in Rs.)**	**5,61,006.39**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,00,981.15**
A				**Total landed Cost (A=A1+ A2)**	**6,61,987.53**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	6,61,987.53
D				**CESS @ 1% of C**	6,619.88
E				**Grand Total (C+D)**	6,68,607.41

Annexure-16.2	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Division :-	BBSR-II
Name of the Sub-Division : -	PED
Name of the Work :-	Construction of Control Room Building and Installation of 33 kV and 11 kV Panel Board at Sunamuhi PSS.
Names of Schemes: -	Capex 27-28
Abstract of Estimate	
Description	**Total**
PART A: Construction of Control Room Building and Installation of 33 kV and 11 kV Panel Board at Sunamuhi PSS. (Rate of 33 kV Board is not considered in the estimate. Removed 33 kV Indoor GIS Panel Board from Lingipur PSS and 11 kV AIS Panel Board from Nayapalli PSS will be used at Sunamuhi PSS)	2,09,88,090.43
PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.	10,86,285.91
PART- C Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS.	8,12,293.79
PART- D Construction of 4 no. of 11 kV DP with Isolator and Earth Switch at PSS.	11,67,051.26
PART E: Dismantling portion	9,04,949.85
Total Estimated cost	**2,49,58,671.24**
Total Estimated Cost is Rs. 2.50 Cr.	

PART A:
Construction of Control Room Building and Installation of 33 kV and 11 kV Panel Board at Sunamuhi PSS.
(Rate of 33 kV Board is not considered in the estimate. Removed 33 kV Indoor GIS Panel Board from Lingipur PSS and 11 kV AIS Panel Board from Nayapalli PSS will be used at Sunamuhi PSS)

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Lightning Arrester**				-
1.1	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter) For Transformers - Outdoor type	EA	9.00	13,781.00	1,24,029.00
1.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter For Transformers - Outdoor type	EA	9.00	1,960.16	17,641.44
2	**SCADA**		1.00		-
2.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
2.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
2.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
2.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
2.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
2.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
2.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
2.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
2.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
2.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
2.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
2.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
2.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
2.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
2.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
2.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
2.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
3	**Transformer and Accessories**				-
3.1	RTCC UNIT DC 24-48V	EA	3.00	3,00,000.00	9,00,000.00
5	**Substation Earthing System GI**				-
5.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	20615.00	71.94	14,83,043.10
5.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	3600.00	71.94	2,58,984.00
5.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	1,300.00	52,000.00
8	**33 and 11 kv Power and Control, XLPE cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	1,278.81	3,83,643.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	7,280.00	65,520.00
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	7,521.00	67,689.00
8.4	Supply of 33kV, 3Core, 95sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA) For Station Trf	M	50.00	1,757.00	87,850.00
8.5	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf	EA	2.00	2,060.00	4,120.00
8.6	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf (Touchproof)	EA	2.00	1,830.00	3,660.00
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	450.00	1,438.00	6,47,100.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,260.00	74,340.00
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,518.00	76,662.00
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	100.00	126.69	12,669.00
9.2	7 Core x 2.5 mm^2	M	100.00	203.16	20,316.00
9.3	10 Core x 2.5 mm^2	M	100.00	273.73	27,373.00
9.4	12 Core x 2.5 mm^2	M	100.00	344.91	34,491.00
9.5	16 Core x 2.5 mm2	M	100.00	400.00	40,000.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	147.00	14,700.00
10	**1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	100.00	805.08	80,508.00
10.2	XLPE 4 Core x 95 mm2	M	100.00	499.41	49,941.00
10.3	XLPE 4 Core x 35 mm2	M	100.00	268.02	26,802.00
10.4	XLPE 4 Core 16 mm2	M	100.00	125.29	12,529.00
10.5	XLPE 2 Core 16 mm2	M	100.00	62.53	6,253.00
11	**Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**60,13,801.63**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of 33kV Equipment for (INDOOR Sub-Station)**				-
1.1	33 kV 1250 A Indoor AIS Panle Board	EA	1.00	11,60,000.00	11,60,000.00
2	**Lightning Arrester**				-
2.1	30kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester (for 33kV Incoming Line, HT side of 2nos. Power Transformers and 33/0.433kV Station Transformer) - Outdoor Type with Surge Counter	EA	9.00	1,847.36	16,626.24
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter(For Transformers & Out Going Feeders) - Outdoor type	EA	9.00	1,350.00	12,150.00
3	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-

3.1	11 kV Indoor Switch Panel Biard	EA	1.00	19,25,000.00	19,25,000.00
4	**Erection, Commissioning, Testing of SCADA**				-
4.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
5	**Erection, Commissioning, Testing of Transformer and RMU**				-
5.1	7.5/ 8 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories	EA		3,00,000.00	-
5.2	12.5/16 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories	EA		3,40,000.00	-
5.3	100 KVA 11/0.433kV Energy efficient Station Transformer along with HT & LT cable connection	EA		10,229.00	-
5.4	ITC RTCC UNIT DC 24-48V	EA		10,000.00	-
5.5	Services of FRTU Panel, Communication and Other Supplied System	EA		6,755.00	-
6	**Erection, Laying of Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	3.50	43,660.00	1,52,810.00
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	1.50	43,660.00	65,490.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	3,784.73	1,51,389.20
8	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	96.66	28,998.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	2,129.37	19,164.33
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	2,129.37	19,164.33
8.4	Laying, Commissioning & Testing of 33kV, 3Core, 1Run, 95sqmm, XLPE insulation (extruted type) UG cable with spare by open trench method.	M	50.00	100.17	5,008.50
8.5	Erection of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.6	Erection of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	450.00	96.66	43,497.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.2	7 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.3	10 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.4	12 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.5	16 Core x 2.5 mm2	M	100.00	16.57	1,657.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	47.87	4,787.00
10	**Laying of 1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	100.00	73.65	7,365.00
10.2	XLPE 4 Core x 95 mm2	M	100.00	47.87	4,787.00
10.3	XLPE 4 Core x 35 mm2	M	100.00	47.87	4,787.00
10.4	XLPE 4 Core 16 mm2	M	100.00	47.87	4,787.00
10.5	XLPE 2 Core 16 mm2	M	100.00	47.87	4,787.00
11	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
13	**Fire Detection Alarm System**				-
13.1	SITC of Main Fire ALARM Control Panel (Ul /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
13.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96
13.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
13.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
13.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
13.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
13.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
13.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
13.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50
13.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
13.11	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**41,89,546.44**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	Construction of 100kVA 11/0.4 kV station Trf. Plinth	EA	1.00	2,15,000.00	2,15,000.00
2	CONTROL ROOM BUILDING ALONG WITH ALL INTERNAL SERVICE (Area 15mtrX12mtr)	EA	1.00	50,00,000.00	50,00,000.00
3	RCC CABLE TRENCH	RM	30.00	26,500.00	7,95,000.00
4	ROAD WORK	RM	30.00	11,500.00	3,45,000.00
5	Chainlink Fencing of Switchyard	RM	30.00	4,570.00	1,37,100.00
	Sub-Total for CIVIL WORKS (In Rs.)				**64,92,100.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**60,13,801.63**
A2	**Applicable Taxes to make it Landed Cost @18%**				**10,82,484.29**
A	**Total landed Cost (A=A1 + A2)**				**70,96,285.92**
B	Stock , Storage & Insurance @ 3 % of A				**2,12,888.58**
C	Sub - Total (A+B)				**73,09,174.50**
D	Contingency @ 3 % of C				**2,19,275.24**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**5,48,188.09**
G	**Sub - Total (C+D+E+F)**				**80,76,637.82**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				41,89,546.44

H2	Total Cost for CIVIL WORKS	64,92,100.00
H3	**Total Cost for Erection & Civil works (H1+H2)**	**1,06,81,646.44**
H4	**Applicable Taxes to make it Landed Cost @18%**	**19,22,696.36**
H	**Total landed Cost (H=H3 + H4)**	1,26,04,342.79
I	**Total Cost (G+H)**	2,06,80,980.62
J	Other Overhead /(including Supervision Charges) @ 6 % of I	
K	Total Estimated Capital Cost i.e. I+J	**2,06,80,980.62**
L	CESS @ 1% of K	2,06,809.81
M	**Total Cost (K+L)**	2,08,87,790.43
N	Inspection Charges (As per Gov. Notification)	85,000.00
O	GST @ 18% of N	15,300.00
P	Total Inspection Charges with GST (N+O)	1,00,300.00
Q	**Total Estimate to be deposit (M+P)**	**2,09,88,090.43**

PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	300	2,375.00	7,12,500.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**7,57,140.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	300	110.00	33,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**49,000.00**

A1	**Sub Total (Supply Portion)**	**7,57,140.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,36,285.20**
A	**Total Landed Cost (A=A1 + A2)**	**8,93,425.20**
B	Stock, Storage & Insurance @ 3 % of A	26,802.76
C	**Sub Total (A+B)**	**9,20,227.96**
D	Contingency @ 3 % of C	27,606.84
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	69,017.10
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**10,16,851.89**
I1	Sub Total (Erection Portion + Civil Portion)	49,000.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**8,820.00**
I	**Total landed Cost (I=I1+ I2)**	**57,820.00**
J	**Total Cost (H+I)**	**10,74,671.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**10,74,671.89**
M	CESS 1% of L	10,746.72
N	**Grand Total (L+M)**	**10,85,418.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	360.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**735.00**
T	GST @ 18% on Total Inspection Fees (S)	132.30
U	Total Inspection Fees including GST (S+T)	867.30
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**10,86,285.91**

PART- C

Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	2	2,03,304.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
18	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**5,05,799.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**91,043.97**
A				**Total landed Cost (A=A1 + A2)**	**5,96,843.83**
B				Stock, Storage & Insurance i.e 3% of A	17,905.31
C				**Sub Total (A+B)**	**6,14,749.14**
D				Contigency @ 3% of C	18,442.47
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,586.55
F				Transportation @ 7.5% of C	46,106.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	41,417.90
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,40,559.67**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	8,04,251.28
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**8,04,251.28**
O				CESS 1% of N	8,042.51
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**8,12,293.79**

PART- D

Construction of 4 no. of 11 kV DP with Isolator and Earth Switch at PSS.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	4	2,68,388.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**7,09,786.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,27,761.56**
A				**Total landed Cost (A=A1 + A2)**	**8,37,548.02**
B				Stock, Storage & Insurance i.e 3% of A	25,126.44
C				**Sub Total (A+B)**	**8,62,674.46**
D				Contigency @ 3% of C	25,880.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	15,858.79
F				Transportation @ 7.5% of C	64,700.58
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	51,257.12
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**10,34,389.61**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**11,55,496.30**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**11,55,496.30**
O				CESS 1% of N	11,554.96
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**11,67,051.26**

PART E: Dismantling portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	12000	8.10	97,216.42
2	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer below 100KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1	3,262.64	3,262.64
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	170	9.21	1,565.04
4	Dismantling of 3.15/5MVA 33/11kV PTR	EA	2	75,000.00	1,50,000.00
5	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	20	18,003.04	3,60,060.80
6	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
7	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	17	1,200.00	20,400.00
8	Dismantling / Removal of 11KV/33KV CRP Pannel	EA	6	5,114.50	30,687.00
9	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
10	Dismantling of Lightening Arrester(LA	EA	30	162.12	4,863.60
A1	**Sub Total (Civil Portion) (in Rs.)**				**7,59,313.52**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,36,676.43**
A	**Total landed Cost (A=A1+ A2)**				**8,95,989.95**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				8,95,989.95
D	**CESS @ 1% of C**				8,959.90
E	**Grand Total (C+D)**				9,04,949.85

Annexure-16.3	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-II
Name of the Division : -	NYED
Name of the Work :-	Construction of Control Room Building and re-installation of 11 kV Panel Board at Itamati PSS.
Names of Schemes: -	Capex 27-28
Abstract of Estimate	
Description	**Total**
PART A: Construction of Control Room Building and Installation of 11 kV Panel Board at Itamati PSS. (Rate of 11 kV Board is not considered in the estimate, since existing Board will be re-used)	1,13,71,382.49
PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.	10,86,285.91
PART C: Dismantling portion	3,92,442.00
Total Estimated cost	**1,28,50,110.39**
Total Estimated Cost is Rs. 1.29 Cr.	

PART A:
Construction of Control Room Building and Installation of 11 kV Panel Board at Itamati PSS.
(Rate of 11 kV Board is not considered in the estimate, since existing Board will be re-used)

Sl. No.	DESCRIPTION OF ITEMS	UNIT	Quantity	Basic Unit price (In Rs.)	Total (In Rs.)
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	**Substation Earthing System GI**				-
1.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	500.00	71.94	35,970.00
1.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	300.00	71.94	21,582.00
1.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	10.00	1,300.00	13,000.00
2	**Control Cables (Copper Armoured)**				-
2.1	4 Core x 2.5 mm^2	M	100.00	126.69	12,669.00
2.2	7 Core x 2.5 mm^2	M	100.00	203.16	20,316.00
2.3	10 Core x 2.5 mm^2	M	100.00	273.73	27,373.00
2.4	12 Core x 2.5 mm^2	M	100.00	344.91	34,491.00
2.5	16 Core x 2.5 mm2	M	100.00	400.00	40,000.00
2.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	147.00	14,700.00
3	**1.1 kV XLPE Power Cables**				-
3.1	XLPE 4 Core x 150 mm2	M	100.00	805.08	80,508.00
3.2	XLPE 4 Core x 95 mm2	M	100.00	499.41	49,941.00
3.3	XLPE 4 Core x 35 mm2	M	100.00	268.02	26,802.00
3.4	XLPE 4 Core 16 mm2	M	100.00	125.29	12,529.00
3.5	XLPE 2 Core 16 mm2	M	100.00	62.53	6,253.00
4	**Battery & Battery Charger**				-
4.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
4.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**10,09,131.50**
	ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)				-
1	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
1.1	11 kV Indoor Switch Panel Board removal and re-installation	LS	1.00	15,00,000.00	15,00,000.00
2	**Erection, Laying of Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.09	43,660.00	3,763.79
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.13	43,660.00	5,457.50
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	10.00	3,784.73	37,847.30
3	**Control Cables (Copper Armoured)**				-
3.1	4 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.2	7 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.3	10 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.4	12 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.5	16 Core x 2.5 mm2	M	100.00	16.57	1,657.00
3.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	47.87	4,787.00
4	**Laying of 1.1 kV XLPE Power Cables**				-
4.1	XLPE 4 Core x 150 mm2	M	100.00	73.65	7,365.00
4.2	XLPE 4 Core x 95 mm2	M	100.00	47.87	4,787.00
4.3	XLPE 4 Core x 35 mm2	M	100.00	47.87	4,787.00
4.4	XLPE 4 Core 16 mm2	M	100.00	47.87	4,787.00
4.5	XLPE 2 Core 16 mm2	M	100.00	47.87	4,787.00
5	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
5.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
5.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
6	**Fire Detection Alarm System**				-
6.1	SITC of Main Fire ALARM Control Panel (UI /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
6.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96
6.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
6.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
6.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
6.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
6.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
6.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
6.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50
6.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
6.11	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**20,31,549.87**
					-

Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	CONTROL ROOM BUILDING ALONG WITH ALL INTERNAL SERVICE (Area 15mtrX12mtr)	EA	1.00	50,00,000.00	50,00,000.00
2	RCC CABLE TRENCH	RM	30.00	26,500.00	7,95,000.00
3	ROAD WORK	RM	30.00	11,500.00	3,45,000.00
7	Chainlink Fencing of Switchyard	RM	30.00	4,570.00	1,37,100.00
	Sub-Total for CIVIL WORKS (In Rs.)				**62,77,100.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**10,09,131.50**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,81,643.67**
A	**Total landed Cost (A=A1 + A2)**				**11,90,775.17**
B	Stock , Storage & Insurance @ 3 % of A				**35,723.26**
C	Sub - Total (A+B)				**12,26,498.43**
D	Contingency @ 3 % of C				**36,794.95**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**91,987.38**
G	**Sub - Total (C+D+E+F)**				**13,55,280.76**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				20,31,549.87
H2	Total Cost for CIVIL WORKS				62,77,100.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**83,08,649.87**
H4	**Applicable Taxes to make it Landed Cost @18%**				**14,95,556.98**
H	**Total landed Cost (H=H3 + H4)**				98,04,206.85
I	**Total Cost (G+H)**				1,11,59,487.61
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**1,11,59,487.61**
L	CESS @ 1% of K				1,11,594.88
M	**Total Cost (K+L)**				1,12,71,082.49
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**1,13,71,382.49**

PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	300	2,375.00	7,12,500.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**7,57,140.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	300	110.00	33,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**49,000.00**

A1	**Sub Total (Supply Portion)**	**7,57,140.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,36,285.20**
A	**Total Landed Cost (A=A1 + A2)**	**8,93,425.20**
B	Stock, Storage & Insurance @ 3 % of A	26,802.76
C	**Sub Total (A+B)**	**9,20,227.96**
D	Contingency @ 3 % of C	27,606.84
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	69,017.10
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**10,16,851.89**
I1	Sub Total (Erection Portion + Civil Portion)	49,000.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**8,820.00**
I	**Total landed Cost (I=I1+ I2)**	**57,820.00**
J	**Total Cost (H+I)**	**10,74,671.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**10,74,671.89**
M	CESS 1% of L	10,746.72
N	**Grand Total (L+M)**	**10,85,418.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	360.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**735.00**
T	GST @ 18% on Total Inspection Fees (S)	132.30
U	Total Inspection Fees including GST (S+T)	867.30
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**10,86,285.91**

PART C: Dismantling portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	12000	8.10	97,216.42
2	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	100	1,794.47	1,79,447.35
3	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	17	1,200.00	20,400.00
4	Dismantling / Removal of 11KV/33KV CRP Pannel	EA	6	5,114.50	30,687.00
5	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
A1				**Sub Total (Civil Portion) (in Rs.)**	**3,29,285.11**
A2				**Applicable Taxes to make it Landed Cost @18%**	**59,271.32**
A				**Total landed Cost (A=A1+ A2)**	**3,88,556.43**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	3,88,556.43
D				**CESS @ 1% of C**	3,885.56
E				**Grand Total (C+D)**	3,92,442.00

Annexure-16.4	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	Cuttack
Name of the Division : -	CED
Name of the Work :-	Refurbishment of 33 kV and 11 kV Bays and Bus-bar at Balikuda PSS.
Names of Schemes: -	Capex 27-28
Abstract of Estimate	
Description	**Total**
PART A: Refurbishment of 33 kV and 11 kV Bays and Bus-bar at Balikuda PSS.	42,26,634.06
PART B: Supply & laying of 0.15 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.	5,83,386.91
PART C: Dismantling portion	2,17,922.85
Total Estimated cost	**50,27,943.81**
Total Estimated Cost is Rs. 0.50 Cr.	

PART A:
Refurbishment of 33 kV and 11 kV Bays and Bus-bar at Balikuda PSS.

No. of BAY requirement	2
No. of VCB Requirement	2

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	1,15,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	18	23,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	637	49,701.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	1	86,858.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	2,43,306.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	1,44,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**14,66,189.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,63,914.17**
A				**Total landed Cost (A=A1 + A2)**	**17,30,103.99**
B				Stock, Storage & Insurance i.e 3% of A	51,903.12
C				**Sub Total (A+B)**	**17,82,007.11**
D				Contigency @ 3% of C	53,460.21
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	35,071.33
F				Transportation @ 7.5% of C	1,33,650.53
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,75,356.67
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,79,545.86**

Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	18	68,125.14
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82

3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	1,88,494.90
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	1,63,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				

6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	103.5	24,012.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	6.9	10,212.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	6.9	34,707.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	13.8	1,03,500.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	12.6	94,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	168	45,360.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	2974.2	3,03,368.40
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	3.6	28,620.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1590.6	1,65,422.40
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**16,96,385.92**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,05,349.46**
K				**Total landed Cost (K=K1+ K2)**	**20,01,735.38**
L				**Total Material +services (J+K)**	**41,81,281.24**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**41,81,281.24**
O				CESS 1% of (N)	41,812.81
P				**Total (N+O)**	42,23,094.06
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**42,26,634.06**

PART B: Supply & laying of 0.15 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***150***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	150	2,375.00	3,56,250.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**4,00,890.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	150	110.00	16,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**32,500.00**

A1	**Sub Total (Supply Portion)**	**4,00,890.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**72,160.20**
A	**Total Landed Cost (A=A1 + A2)**	**4,73,050.20**
B	Stock, Storage & Insurance @ 3 % of A	14,191.51
C	**Sub Total (A+B)**	**4,87,241.71**
D	Contingency @ 3 % of C	14,617.25
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	36,543.13
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**5,38,402.09**
I1	Sub Total (Erection Portion + Civil Portion)	32,500.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**5,850.00**
I	**Total landed Cost (I=I1+ I2)**	**38,350.00**
J	**Total Cost (H+I)**	**5,76,752.09**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**5,76,752.09**
M	CESS 1% of L	5,767.52
N	**Grand Total (L+M)**	**5,82,519.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	360.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**735.00**
T	GST @ 18% on Total Inspection Fees (S)	132.30
U	Total Inspection Fees including GST (S+T)	867.30
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**5,83,386.91**

PART C: Dismantling portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	5000	8.10	40,506.84
2	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
3	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	17	1,200.00	20,400.00
4	Dismantling / Removal of 11KV/33KV CRP Pannel	EA	6	5,114.50	30,687.00
5	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,82,851.86**
A2				**Applicable Taxes to make it Landed Cost @18%**	**32,913.34**
A				**Total landed Cost (A=A1+ A2)**	**2,15,765.20**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	2,15,765.20
D				**CESS @ 1% of C**	2,157.65
E				**Grand Total (C+D)**	2,17,922.85

Annexure-16.5	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	Dhenkenal
Name of the Division : -	TED
Name of the Work :-	Construction of Control Room Building and associated Civil works at Parjang PSS.
Names of Schemes: -	Capex 27-28
Abstract of Estimate	
Description	**Total**
PART A: Construction of Control Room Building and associated civil works at Parjang PSS.	97,35,478.90
PART B: Supply & laying of 0.15 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.	5,83,386.91
PART C: Dismantling portion	2,17,922.85
Total Estimated cost	**1,05,36,788.65**
Total Estimated Cost is Rs. 1.05 Cr.	

PART A:
Construction of Control Room Building and associated civil works at Parjang PSS.

Sl. No.	DESCRIPTION OF ITEMS	UNIT	Quantity	Basic Unit price (In Rs.)	Total (In Rs.)
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	**Substation Earthing System GI**				-
1.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	1000.00	71.94	71,940.00
1.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	600.00	71.94	43,164.00
1.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	20.00	1,300.00	26,000.00
2	**Control Cables (Copper Armoured)**				-
2.1	4 Core x 2.5 mm^2	M	100.00	126.69	12,669.00
2.2	7 Core x 2.5 mm^2	M	100.00	203.16	20,316.00
2.3	10 Core x 2.5 mm^2	M	100.00	273.73	27,373.00
2.4	12 Core x 2.5 mm^2	M	100.00	344.91	34,491.00
2.5	16 Core x 2.5 mm2	M	100.00	400.00	40,000.00
2.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	147.00	14,700.00
3	**1.1 kV XLPE Power Cables**				-
3.1	XLPE 4 Core x 150 mm2	M	100.00	805.08	80,508.00
3.2	XLPE 4 Core x 95 mm2	M	100.00	499.41	49,941.00
3.3	XLPE 4 Core x 35 mm2	M	100.00	268.02	26,802.00
3.4	XLPE 4 Core 16 mm2	M	100.00	125.29	12,529.00
3.5	XLPE 2 Core 16 mm2	M	100.00	62.53	6,253.00
4	**Battery & Battery Charger**				-
4.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
4.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**10,79,683.50**
	ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)				-
2	**Erection, Laying of Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.17	43,660.00	7,527.59
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.25	43,660.00	10,915.00
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	20.00	3,784.73	75,694.60
3	**Control Cables (Copper Armoured)**				-
3.1	4 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.2	7 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.3	10 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.4	12 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
3.5	16 Core x 2.5 mm2	M	100.00	16.57	1,657.00
3.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	47.87	4,787.00
4	**Laying of 1.1 kV XLPE Power Cables**				-
4.1	XLPE 4 Core x 150 mm2	M	100.00	73.65	7,365.00
4.2	XLPE 4 Core x 95 mm2	M	100.00	47.87	4,787.00
4.3	XLPE 4 Core x 35 mm2	M	100.00	47.87	4,787.00
4.4	XLPE 4 Core 16 mm2	M	100.00	47.87	4,787.00
4.5	XLPE 2 Core 16 mm2	M	100.00	47.87	4,787.00
5	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
5.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
5.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
6	**Fire Detection Alarm System**				-
6.1	SITC of Main Fire ALARM Control Panel (UI /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
6.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96
6.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
6.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
6.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
6.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
6.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
6.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
6.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50
6.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
6.11	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**5,78,618.47**
					-
	Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.				-
1	CONTROL ROOM BUILDING ALONG WITH ALL INTERNAL SERVICE (Area 15mtrX12mtr)	EA	1.00	50,00,000.00	50,00,000.00
2	RCC CABLE TRENCH	RM	30.00	26,500.00	7,95,000.00

3	ROAD WORK	RM	30.00	11,500.00	3,45,000.00
7	Chainlink Fencing of Switchyard	RM	30.00	4,570.00	1,37,100.00
	Sub-Total for CIVIL WORKS (In Rs.)				**62,77,100.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**10,79,683.50**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,94,343.03**
A	**Total landed Cost (A=A1 + A2)**				**12,74,026.53**
B	Stock , Storage & Insurance @ 3 % of A				**38,220.80**
C	Sub - Total (A+B)				**13,12,247.33**
D	Contingency @ 3 % of C				**39,367.42**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**98,418.55**
G	**Sub - Total (C+D+E+F)**				**14,50,033.30**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				5,78,618.47
H2	Total Cost for CIVIL WORKS				62,77,100.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**68,55,718.47**
H4	**Applicable Taxes to make it Landed Cost @18%**				**12,34,029.32**
H	**Total landed Cost (H=H3 + H4)**				80,89,747.79
I	**Total Cost (G+H)**				95,39,781.08
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**95,39,781.08**
L	CESS @ 1% of K				95,397.81
M	**Total Cost (K+L)**				96,35,178.90
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**97,35,478.90**

PART B: Supply & laying of 0.15 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***150***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	150	2,375.00	3,56,250.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**4,00,890.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	150	110.00	16,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**32,500.00**

A1	**Sub Total (Supply Portion)**	**4,00,890.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**72,160.20**
A	**Total Landed Cost (A=A1 + A2)**	**4,73,050.20**
B	Stock, Storage & Insurance @ 3 % of A	14,191.51
C	**Sub Total (A+B)**	**4,87,241.71**
D	Contingency @ 3 % of C	14,617.25
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	36,543.13
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**5,38,402.09**
I1	Sub Total (Erection Portion + Civil Portion)	32,500.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**5,850.00**
I	**Total landed Cost (I=I1+ I2)**	**38,350.00**
J	**Total Cost (H+I)**	**5,76,752.09**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**5,76,752.09**
M	CESS 1% of L	5,767.52
N	**Grand Total (L+M)**	**5,82,519.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	360.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**735.00**
T	GST @ 18% on Total Inspection Fees (S)	132.30
U	Total Inspection Fees including GST (S+T)	867.30
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**5,83,386.91**

PART C: Dismantling portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	5000	8.10	40,506.84
2	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
3	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	17	1,200.00	20,400.00
4	Dismantling / Removal of 11KV/33KV CRP Pannel	EA	6	5,114.50	30,687.00
5	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,82,851.86**
A2				**Applicable Taxes to make it Landed Cost @18%**	**32,913.34**
A				**Total landed Cost (A=A1+ A2)**	**2,15,765.20**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	2,15,765.20
D				**CESS @ 1% of C**	2,157.65
E				**Grand Total (C+D)**	2,17,922.85

Annexure-16.6

BOQ for Installation of Battery Charger with DCDB					
No. of Battery Charger Cum DCDB			1		
MATERIALS					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	1	1,300.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	35	2,761.20
3	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	20	2,940.00
4	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	2,49,965.00	1	2,49,965.00
A1				**Total Cost of materials**	**2,56,966.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,253.92**
A				**Total landed Cost (A=A1 + A2)**	**3,03,220.12**
B				Stock, Storage & Insurance i.e 3% of A	9,096.60
C				**Sub Total (A+B)**	**3,12,316.72**
D				Contigency @ 3% of C	9,369.50
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,214.73
F				Transportation @ 7.5% of C	23,423.75
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,073.67
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,82,398.38**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	1	3,784.73
K1				**Total Civil & Services**	**3,784.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**681.25**
K				**Total landed Cost (K=K1+ K2)**	**4,465.98**
L				**Total Material +services (J+K)**	**3,86,864.36**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**3,86,864.36**
O				CESS 1% of (N)	3,868.64
P				**Total (N+O)**	**3,90,733.00**

ANNEXURE-17

MITIGATE VCB GROUP CONTROL FOR 33 kV and 11 kV NETWORK BREAKERS

Summary- Mitigate VCB Group Control for 33 kV and 11 kV network Breakers					
Sl. No.	***Description***	***Unit***	***Per Unit Cost (In Cr.)***	***Total Qty.***	***Total Cost (In Cr.)***
1	33 kV Fdr. group control	EA	**0.37**	***44***	***16.37***
2	11 kV Group control	EA	**0.27**	***2***	***0.54***
3	Control Room to accommodate CRP Panels to eliminate Group Control	EA	**0.45**	***8***	***3.60***
4	CR panel for 3 Feeder Protection (33 kV or 11 kV) for elimination Group Control	EA	***0.10***	***3***	***0.30***
				TOTAL	***20.81***

BOQ for Construction of One No of 33 KV Outdoor Bay (Line Bay O/D- Group Control)

No. of BAY requirement	1
No. of VCB Requirement	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam-one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	16	20,800.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	566	44,179.20
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	1	2,63,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	0	-
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	1,21,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
26	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	0	-
27	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
28	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	2,49,965.00	0	-
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**14,40,161.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,59,229.13**
A				**Total landed Cost (A=A1 + A2)**	**16,99,390.94**
B				Stock, Storage & Insurance i.e 3% of A	50,981.73

C	**Sub Total (A+B)**	**17,50,372.66**
D	Contigency @ 3% of C	52,511.18
E	Tools & Plants @ 2% of C (Except GI Pipe earthing)	34,501.85
F	Transportation @ 7.5% of C	1,31,277.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,40,467.77
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**21,25,152.14**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	16	60,555.68
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	103.5	24,012.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	6.9	10,212.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	6.9	34,707.00

6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	13.8	1,03,500.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	12.6	94,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	168	45,360.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	2974.2	3,03,368.40
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	3.6	28,620.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1590.6	1,65,422.40
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**13,20,994.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,37,778.97**
K				**Total landed Cost (K=K1+ K2)**	**15,58,773.26**
L				**Total Material +services (J+K)**	**36,83,925.40**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**36,83,925.40**
O				CESS 1% of (N)	36,839.25
P				**Total (N+O)**	**37,20,764.65**

BOQ for Construction of One No of 11 KV Line Bay (Outdoor- Group Control)

No. of BAY requirement	1
No. of VCB Requirement	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	1041.027	81,200.11
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate, 2 no's.	EA	180.00	2	360.00
5	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	13	16,900.00
6	GI barbed wire anticlimbing device	KG	74.00	12	888.00
7	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
8	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	1	67,097.00
9	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	1	29,328.00
10	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	1	1,95,397.00
11	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
12	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	3	99,660.00
13	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	3	48,594.00
14	Control Cable 12Core x 2.5 mm2	Mtr	329.00	50	16,450.00
15	Control Cable 16Core x 2.5 mm2	Mtr	426.00	50	21,300.00
16	Control Cable 4Core x 2.5 mm2	Mtr	124.00	50	6,200.00
17	Control Cable 7Core x 2.5 mm2	Mtr	196.00	50	9,800.00
18	11 KV pin insulator polymer	EA	140.00	6	840.00
19	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
20	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
21	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	18	2,484.00
22	100 sq.mm AAA conductor	M	78.41	30.00	2,352.30
23	GI Nut , Bolt & Washer of different sizes	KG	74.00	50	3,700.00
24	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	0	-
25	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
26	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	2,49,965.00	0	-
27	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**10,12,683.52**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,82,283.03**
A				**Total landed Cost (A=A1 + A2)**	**11,94,966.55**
B				Stock, Storage & Insurance i.e 3% of A	35,849.00
C				**Sub Total (A+B)**	**12,30,815.55**
D				Contigency @ 3% of C	36,924.47
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	24,205.51
F				Transportation @ 7.5% of C	92,311.17
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	18,883.49
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/T stay set/GI Pipe/P SC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	83,260.55
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**14,86,400.72**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	13	49,201.49
4	**VCB Foundation**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
4.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60
4.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00

4.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
4.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
5	**CT & PT Foundation**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
5.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
5.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
5.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
5.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
6	**RCC Cable Trench :**	Qty			
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	103.5	24,012.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	6.9	10,212.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	6.9	34,707.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	13.8	1,03,500.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	12.6	94,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	168	45,360.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	2974.2	3,03,368.40
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	3.6	28,620.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1590.6	1,65,422.40
8	**Land Leveling & Compaction/ Gravels sprading :**				
8.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00

8.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**9,96,335.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,79,340.40**
K				**Total landed Cost (K=K1+ K2)**	**11,75,675.93**
L				**Total (J+K)**	**26,62,076.65**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**26,62,076.65**
O				CESS 1% of (N)	26,620.77
P				**Gross Total Material +Services (N+O)**	**26,88,697.42**

BoQ for Control Room Building					
Sl. No.	***Description***	***Unit***	***Unit Price***	***Qty.***	***Total Price***
1	***Control Room Building***	No.	38,00,000.00	1	38,00,000.00
A				**Total Cost**	**38,00,000.00**
B				**Applicable Taxes to make it Landed Cost @18%**	6,84,000.00
C				**Total landed Cost (C=A+B)**	44,84,000.00
D				**CESS @ 1%C**	44,840.00
E				**Gross Total (C+D)**	**45,28,840.00**

BOQ for Installation of CR panel for 3 Feeder Protection (33 kV or 11 kV)

No. of Fdr. Protection Panel Requirement	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	1	1,300.00
2	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	35	2,761.20
3	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	6,57,000.00	1	6,57,000.00
A1				**Total Cost of materials**	**6,61,061.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,18,991.02**
A				**Total landed Cost (A=A1 + A2)**	**7,80,052.22**
B				Stock, Storage & Insurance i.e 3% of A	23,401.57
C				**Sub Total (A+B)**	**8,03,453.78**
D				Contigency @ 3% of C	24,103.61
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	16,037.48
F				Transportation @ 7.5% of C	60,259.03
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	80,187.38
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**9,84,041.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	1	3,784.73
K1				**Total Civil & Services**	**3,784.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**681.25**
K				**Total landed Cost (K=K1+ K2)**	**4,465.98**
L				**Total Material +services (J+K)**	**9,88,507.26**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**9,88,507.26**
O				CESS 1% of (N)	9,885.07
P				**Total (N+O)**	**9,98,392.34**

Location of 33 kV and 11 kV Group Control-

Sl. No.	Circle	Division	Name of the PSS	LOACTION NAME	EQUIPMENT	VOLT (KV)	DC VOLT	Type of Bay O/D or I/D	Requirement VCB/RMU
1	BBSR1	NED	Astaranga	Patalda FDR	33KV O/G FDR	33	24	O/D	VCB
2	BBSR1	NED	Astaranga	3.15 MVA	33KV TRNF	33	24	O/D	VCB
3	BBSR1	NED	Astaranga	3.15 MVA	33KV TRNF	33	24	O/D	VCB
4	BBSR1	NED	Charichhak	Dighalo-Kakatpur FDR	33KV O/G FDR	33	48	O/D	VCB
5	BBSR1	NED	Chhaitana	5 MVA	33KV TRNF	33	24	O/D	VCB
6	BBSR2	BaED	Naval	INS Chillika	33KV INCOMER	33	24	O/D	VCB
7	BBSR2	BaED	Naval	1.6 MVA	33KV TRNF	33	24	O/D	VCB
8	BBSR2	BaED	Naval	3.15 MVA	33KV TRNF	33	24	O/D	VCB
9	BBSR2	KHD	Baghamari	3.15 MVA	33KV TRNF	33	24	O/D	VCB
10	BBSR2	KHD	Gurujanga	5 MVA PTR-1	TRANSFORMER	33	24	O/D	VCB
11	BBSR2	KHD	Jatamundia	3.15 MVA, PTR-3	33KV TRNF	33	24	O/D	VCB
12	BBSR2	KHD	Kalapathar	3.15 MVA	33KV TRNF	33	24	O/D	VCB
13	BBSR2	KHD	Kalapathar	3.15 MVA	33KV TRNF	33	24	O/D	VCB
14	BBSR2	KHD	Seafood Park	B1 Industries O/G	33KV O/G FDR	33	48	O/D	VCB
15	BBSR2	KHD	Sunadeimundia	8 MVA	33KV TRNF	33	24	O/D	VCB
16	BBSR2	NyED	Bolagarh	5 MVA	33KV TRNF	33	24	O/D	VCB
17	BBSR2	NyED	Bologarh	5 MVA	33KV TRNF	33	24	O/D	VCB
18	BBSR2	NyED	Gediapalli	Kalapathar o/g	33KV O/G FDR	33	48	O/D	VCB
19	BBSR2	NyED	Kantilo	3.15 MVA	33KV TRNF	33	24	O/D	VCB
20	BBSR2	NyED	Kantilo	5 MVA	33KV TRNF	33	24	O/D	VCB
21	BBSR2	NyED	Mahipur	1.6 MVA	33KV TRNF	33	24	O/D	VCB
22	BBSR2	NyED	Mahipur	3.15 MVA	33KV TRNF	33	24	O/D	VCB
23	Cuttack	AED	Badamba	33kv TRF-2	33KV TRNF	33	24	O/D	VCB
24	Cuttack	AED	Kanpur	33kv TRF-1	33KV TRNF	33	24	O/D	VCB
25	Cuttack	AED	Kanpur	33kv TRF-2	33KV TRNF	33	24	O/D	VCB
26	Cuttack	AED	Khuntuni	11kv IC-2	11KV INCOMER	11	24	O/D	VCB
27	Cuttack	AED	Narangabasta	33kv TRF-2	33KV TRNF	33	24	O/D	VCB
28	Cuttack	AED	Narsinghpur	33kv TRF-1	33KV TRNF	33	24	O/D	VCB
29	Cuttack	AED	Narsinghpur	33kv TRF-2	33KV TRNF	33	24	O/D	VCB
30	Cuttack	AED	Tigiria	33kv TRF-1	33KV TRNF	33	24	O/D	VCB
31	Cuttack	CDD-II	Jagatpur	33kv Bahugram I/C	33kv Incomer	33	24	O/D	VCB
32	Cuttack	CDD-II	Kandarpur	33kv Kandarpur and	33kv Incomer	33	24	O/D	VCB
33	Cuttack	CDD-II	Kisan Nagar	33kv TRF-1	33KV TRNF	33	24	O/D	VCB
34	Cuttack	CDD-II	Kisan Nagar	33kv TRF-2	33KV TRNF	33	24	O/D	VCB
35	Cuttack	CED	Balichandrapur	33kv TRF-1	33KV TRNF	33	24	O/D	VCB
36	Cuttack	CED	Balichandrapur	33kv Mahanga Linkir	33kv Incomer	33	24	O/D	VCB
37	Cuttack	CED	Chhatia	33kv Tangi linking	33kv Incomer	33	24	O/D	VCB
38	Cuttack	SED	Bahugram-1	33kv TRF-1	33KV TRNF	33	24	O/D	VCB
39	Cuttack	SED	Bahugram-1	33kv TRF-2	33KV TRNF	33	24	O/D	VCB
40	Cuttack	SED	Bahugram-2	33kv Bahugram-1 Lir	33KV INCOMER	33	24	O/D	VCB
41	DKL	ANED	BAMUR	5MVA TRF-1	33KV TRNF	33	24	O/D	VCB
42	DKL	DED	College Square	8 MVA, PTR-2	11KV INCOMER	11	24	O/D	VCB
43	DKL	DED	Mathakargola	33kV Main IC	33KV INCOMER	33	24	O/D	VCB
44	DKL	TED	NEW SARANG	OLD IGIT SARANGA	33KV O/G FDR	33	48	O/D	VCB
45	Paradeep	KED-1	Olaver	Olaver	33KV INCOMER	33	24	O/D	VCB
46	Paradeep	KED-2	Bedari	O/G Gardapur	33KV O/G FDR	33	48	O/D	VCB

ANNEXURE-18

LV PROTECTION
(63 kVA AND ABOVE DTs)

Sl. No.	*Description*	*Unit*	*Cost per Unit (In Cr.)*	*Qty.*	*Cost in Cr.*
1	Installation of LTDB for 63 kVA DTR along with DSS refurbishment	EA	**0.023**	11	0.26
2	Installation of LTDB for 100 kVA DTR along with DSS refurbishment	EA	**0.027**	108	2.93
3	Installation of LTDB for 250 kVA DTR along with DSS refurbishment	EA	**0.041**	419	17.33
4	Installation of LTDB for 500 kVA DTR along with DSS refurbishment	EA	**0.053**	171	9.08
5	Installation of LT ACB for 1000 kVA DTR along with DSS refurbishment	EA	**0.077**	2	0.15
6	Additional New DP for DSS	EA	**0.0176**	25	0.44
	TOTAL				**30.19**

BoQ for Installation of LTDB for 63 kVA DTR along with DSS refurbishment					
	No. of LTDB		1		
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	GI Channel, angle & flat of different size	KG	78.00	60	4,680.00
2	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
3	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
4	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
5	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
6	LT Stay set Complete	SET	736.00	1	736.00
7	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
8	LT stay Clamp	EA	350.00	1	350.00
9	LT Stay insulator	EA	19.00	1	19.00
10	LT Distribution Box for 63 KVA S/S	EA	26,990.00	1	26,990.00
11	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	30	3,030.00
12	4 Cx 95 mm2 LT XLPE Cable(Armoured) - FOR 63 KVA Trf.	M	533.00	15	7,995.00
13	1.1kV, 4Core, 95sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	533.00	40	21,320.00
14	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
15	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
16	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
17	10 AMP Fuse Link	EA	40.00	3	120.00
18	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
19	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
20	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
21	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
22	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,06,213.11**
A2				**Applicable Taxes to make it Landed Cost @18%**	**19,118.36**
A				**Total landed Cost (A=A1 + A2)**	**1,25,331.47**
B				Stock, Storage & Insurance i.e 3% of A	3,759.94
C				**Sub Total (A+B)**	**1,29,091.41**
D				Contigency @ 3% of C	3,872.74
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	1,629.25
F				Transportation @ 7.5% of C	9,681.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,705.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**1,52,862.68**
	Civil and Services Works				
1	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	1.745	9,156.85
2	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	1.745	5,235.00
3	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	LTDB Plinth	EA	11,354.57	1	11,354.57
6	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
7	Laying of 4 Cx 95 mm2 LT XLPE Cable	M	47.87	55	2,632.94
8	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
9	SITC of Aluminium Lugs suitable for 95 sq mm cable/conductor	EA	92.06	24.000	2,209.44
10	SITC of termination kit of 1.1kV 3.5C/4C 35-120 sqmm	EA	3,840.00	2.000	7,680.00
11	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 50-95sqmm	EA	1,380.00	3.000	4,140.00
12	**Earth work excavation of soil -Route Length**	M			
12.i	Earth work excavation of **soil**	M3	716.03	2.100	1,503.66
12.ii	Earth work excavation of **hard rock**	M3	1,759.39	0.900	1,583.45
12.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
13	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
14	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
15	Dismantling of AB Switch	SET	1,200.00	1.000	1,200.00
16	Dismantling HG Fuse	EA	668.75	1.000	668.75
K1				**Total Civil & Services**	**65,855.64**
K2				Applicable Taxes to make it Landed Cost @18%	11,854.02
K				**Total landed Cost (K=K1+ K2)**	**77,709.66**
L				**Total (J+K)**	2,30,572.34
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**2,30,572.34**
O				CESS 1% of N	2,305.72
P				**Gross Total Material +Services (N+O)**	**2,32,878.06**

BoQ for Installation of LTDB for 100 kVA DTR along with DSS refurbishment

	No. of LTDB	1

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	GI Channel, angle & flat of different size	KG	78.00	60	4,680.00
2	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
3	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
4	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
5	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
6	LT Stay set Complete	SET	736.00	1	736.00
7	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
8	LT stay Clamp	EA	350.00	1	350.00
9	LT Stay insulator	EA	19.00	1	19.00
10	LT Distribution Box for 100 KVA S/S	EA	31,086.00	1	31,086.00
11	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	30	3,030.00
12	4 Cx 150 mm2 LT XLPE Cable(Armoured) - FOR 100 KVA Trf.	M	850.00	15	12,750.00
13	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	40	34,000.00
14	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
15	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
16	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
17	10 AMP Fuse Link	EA	40.00	3	120.00
18	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
19	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
20	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
21	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
22	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,27,744.11**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,993.94**
A				**Total landed Cost (A=A1 + A2)**	**1,50,738.05**
B				Stock, Storage & Insurance i.e 3% of A	4,522.14
C				**Sub Total (A+B)**	**1,55,260.19**
D				Contigency @ 3% of C	4,657.81
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	1,728.81
F				Transportation @ 7.5% of C	11,644.51
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,202.87
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**1,82,376.57**
	Civil and Services Works				
1	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	1.745	9,156.85
2	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	1.745	5,235.00
3	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	LTDB Plinth	EA	11,354.57	1	11,354.57
6	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
7	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	55	3,300.00
8	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
9	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
10	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	2.000	9,840.00
11	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
12	**Earth work excavation of soil -Route Length**	M			
12.i	Earth work excavation of **soil**	M3	716.03	2.100	1,503.66
12.ii	Earth work excavation of **hard rock**	M3	1,759.39	0.900	1,583.45
12.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
13	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
14	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
15	Dismantling of AB Switch	SET	1,200.00	1.000	1,200.00
16	Dismantling HG Fuse	EA	668.75	1.000	668.75
K1				**Total Civil & Services**	**72,779.26**
K2				Applicable Taxes to make it Landed Cost @18%	13,100.27
K				**Total landed Cost (K=K1+ K2)**	**85,879.53**
L				**Total (J+K)**	2,68,256.10
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**2,68,256.10**
O				CESS 1% of N	2,682.56
P				**Gross Total Material +Services (N+O)**	**2,70,938.66**

BoQ for Installation of LTDB for 250 kVA DTR along with DSS refurbishment

	No. of LTDB			1	
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	GI Channel, angle & flat of different size	KG	78.00	60	4,680.00
2	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
3	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	3	720.00
4	EYE hook for XLPE Aerial bunched Cable	EA	75.00	3	225.00
5	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	3	651.00
6	LT Stay set Complete	SET	736.00	1	736.00
7	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
8	LT stay Clamp	EA	350.00	1	350.00
9	LT Stay insulator	EA	19.00	1	19.00
10	LT Distribution Box for 250 KVA S/S	EA	55,267.00	1	55,267.00
11	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	30	3,030.00
12	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60	38,520.00
13	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable	M	850.00	60	51,000.00
14	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	30	7,830.00
15	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
16	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
17	20 AMP Fuse Link	EA	40.00	3	120.00
18	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
19	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
20	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
21	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
22	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,97,837.11**
A2				**Applicable Taxes to make it Landed Cost @18%**	**35,610.68**
A				**Total landed Cost (A=A1 + A2)**	**2,33,447.79**
B				Stock, Storage & Insurance i.e 3% of A	7,003.43
C				**Sub Total (A+B)**	**2,40,451.22**
D				Contigency @ 3% of C	7,213.54
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	2,329.54
F				Transportation @ 7.5% of C	18,033.84
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,206.49
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**2,80,117.01**
	Civil and Services Works				
1	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3.1985	16,784.06
2	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
3	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	LTDB Plinth	EA	11,354.57	1	11,354.57
6	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	30	5,850.00
7	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	60	3,600.00
8	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
9	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
10	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8.000	3,682.48
11	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
12	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8.000	9,819.84
13	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	3.000	14,760.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
15	**Earth work excavation of soil-Route Length**	M			
15.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
18	Dismantling of AB Switch	SET	1,200.00	1.000	1,200.00
19	Dismantling HG Fuse	EA	668.75	1.000	668.75
K1				**Total Civil & Services**	**1,09,639.29**
K2				Applicable Taxes to make it Landed Cost @18%	19,735.07
K				**Total landed Cost (K=K1+ K2)**	**1,29,374.36**
L				**Total (J+K)**	4,09,491.36
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**4,09,491.36**
O				CESS 1% of N	4,094.91
P				**Gross Total Material +Services (N+O)**	**4,13,586.28**

BoQ for Installation of LTDB for 500 kVA DTR along with DSS refurbishment

	No. of LTDB			1	
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	GI Channel, angle & flat of different size	KG	78.00	60	4,680.00
2	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
3	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	3	720.00
4	EYE hook for XLPE Aerial bunched Cable	EA	75.00	3	225.00
5	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	3	651.00
6	LT Stay set Complete	SET	736.00	1	736.00
7	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
8	LT stay Clamp	EA	350.00	1	350.00
9	LT Stay insulator	EA	19.00	1	19.00
10	LT Distribution Box for 500 KVA S/S	EA	82,666.00	1	82,666.00
11	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	30	3,030.00
12	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	80	51,360.00
13	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable	M	850.00	80	68,000.00
14	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
15	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
16	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
17	30 AMP Fuse Link	EA	215.24	3	645.72
18	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
19	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
20	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
21	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
22	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**2,58,211.83**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,478.13**
A				**Total landed Cost (A=A1 + A2)**	**3,04,689.96**
B				Stock, Storage & Insurance i.e 3% of A	9,140.70
C				**Sub Total (A+B)**	**3,13,830.66**
D				Contigency @ 3% of C	9,414.92
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	3,008.33
F				Transportation @ 7.5% of C	23,537.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,600.46
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**3,65,274.05**
	Civil and Services Works				
1	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3.1985	16,784.06
2	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
3	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	LTDB Plinth	EA	11,354.57	1	11,354.57
6	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
7	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	80	4,800.00
8	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	80	5,600.00
9	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
10	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	16.000	7,364.96
11	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
12	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	16.000	19,639.68
13	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
15	**Earth work excavation of soil-Route Length**	M			
15.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
18	Dismantling of AB Switch	SET	1,200.00	1.000	1,200.00
19	Dismantling HG Fuse	EA	668.75	1.000	668.75
K1				**Total Civil & Services**	**1,36,093.61**
K2				Applicable Taxes to make it Landed Cost @18%	24,496.85
K				**Total landed Cost (K=K1+ K2)**	**1,60,590.46**
L				**Total (J+K)**	5,25,864.50
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**5,25,864.50**
O				CESS 1% of N	5,258.65
P				**Gross Total Material +Services (N+O)**	**5,31,123.15**

BoQ for Installation of LT ACB for 1000 kVA DTR along with DSS refurbishment

	No. of LT ACB			1	
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	GI Channel, angle & flat of different size	KG	78.00	60	4,680.00
2	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
3	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	3	720.00
4	EYE hook for XLPE Aerial bunched Cable	EA	75.00	3	225.00
5	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	3	651.00
6	LT Stay set Complete	SET	736.00	1	736.00
7	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
8	LT stay Clamp	EA	350.00	1	350.00
9	LT Stay insulator	EA	19.00	1	19.00
10	LT ACB O/D 400A FIXED TYPE WTH ENCLOSURE	EA	53,200.00	4	2,12,800.00
11	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	30	3,030.00
12	1 Cx 400 mm2 LT XLPE Cable(Un-Armoured)	M	363.08	120	43,569.60
13	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable	M	850.00	120	1,02,000.00
14	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
15	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
16	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
17	30 AMP Fuse Link	EA	215.24	3	645.72
18	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
19	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
20	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
21	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
22	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**4,14,555.43**
A2				**Applicable Taxes to make it Landed Cost @18%**	**74,619.98**
A				**Total landed Cost (A=A1 + A2)**	**4,89,175.41**
B				Stock, Storage & Insurance i.e 3% of A	14,675.26
C				**Sub Total (A+B)**	**5,03,850.67**
D				Contigency @ 3% of C	15,115.52
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	6,171.63
F				Transportation @ 7.5% of C	37,788.80
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	30,416.94
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**5,94,225.94**
	Civil and Services Works				
1	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3.1985	16,784.06
2	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
3	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	LTDB Plinth	EA	11,354.57	1	11,354.57
6	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
7	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	120	7,200.00
8	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	120	8,400.00
9	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
10	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	16.000	7,364.96
11	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
12	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	16.000	19,639.68
13	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
14	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
15	**Earth work excavation of soil-Route Length**	M			
15.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
15.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
15.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
16	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
17	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
18	Dismantling of AB Switch	SET	1,200.00	1.000	1,200.00
19	Dismantling HG Fuse	EA	668.75	1.000	668.75
K1				**Total Civil & Services**	**1,41,293.61**
K2				Applicable Taxes to make it Landed Cost @18%	25,432.85
K				**Total landed Cost (K=K1+ K2)**	**1,66,726.46**
L				**Total (J+K)**	7,60,952.40
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**7,60,952.40**
O				CESS 1% of N	7,609.52
P				**Gross Total Material +Services (N+O)**	**7,68,561.92**

BoQ for Installation of DP for DSS					
	No. of DP with AB Switch (Ref. Drawing No.- TPCODL/RMR/SECTION DTR/29)	1			
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	533.146	41,585.39
3	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
4	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
5	Disc insulator (B&S)70 KN polymer	EA	150.00	3	450.00
6	H W fitting (B&S)70KN(3bolted)	EA	412.00	3	1,236.00
7	HT stay set complete	SET	1,434.00	2	2,868.00
8	HT stay Clamp	EA	260.00	2	520.00
9	HT stay insulator TYPE-C	EA	87.00	2	174.00
10	7/10 SWG GI stay wire, Grade -2	KG	77.00	30	2,310.00
11	GI Nuts & Bolts of Assorted size	KG	74.00	15	1,110.00
12	GI Barbed wire/Anticlimbing device	KG	74.00	6	444.00
13	Danger plate 11kv	EA	180.00	2	360.00
A1				**Total Cost of materials**	**1,14,077.39**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,533.93**
A				**Total landed Cost (A=A1 + A2)**	**1,34,611.32**
B				Stock, Storage & Insurance i.e 3% of A	4,038.34
C				**Sub Total (A+B)**	**1,38,649.66**
D				Contigency @ 3% of C	4,159.49
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	2,630.26
F				Transportation @ 7.5% of C	10,398.72
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,142.07
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,65,484.80**
	Civil and Services Works (As per Technical Specification)				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.226	1,502.64
K1				**Total Civil & Services**	**7,486.61**
K2				Applicable Taxes to make it Landed Cost @18%	1,347.59
K				**Total landed Cost (K=K1+ K2)**	**8,834.19**
L				**Total (J+K)**	1,74,319.00
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**1,74,319.00**
O				CESS 1% of N	1,743.19
P				**Gross Total Material +Services (N+O)**	**1,76,062.19**

Location of LV Protection (63kVA and Above DTs)

LT Protection with DSS Refurbishment					TOTAL QTY.	11	108	419	171	2	25	
Circle	**Division**	**Section**	**11 kV Feeder Name**	**DSS Name**	**DTC code**	**LTDB for 63 kVA DSS**	**LTDB for 100 kVA DSS**	**LTDB for 250 kVA DSS**	**LTDB for 500 kVA DSS**	**LTACB for 500/1000 kVA DSS**	**Additional New DP with ABS**	**Remarks**
BBSR-1	NED	NIMAPADA-1	CHARICHHAK MARKET	CHARICHHAKA BAZAR	1423DT302				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	OMFED	JAYASHREE CHHAKA	1423DT482				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	PATAPUR	BLOCK CHHAKA1	1423DT445				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	OMFED	GANESHTAKIES	1423DT472				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	OMFED	DOLABEDI CHHAKA	1423DT533				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	GOP	GOP	GOP BAZAR	1421DT148				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	SUNDARA	MARKET	1411DT390				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	PIPILI -1	BAZAR	PIPILI SASAN SIDI	1434DT310				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	PIPILI-2	MANGALPUR-1	MEDICAL CHHAK	1435DT045				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	KAKATPUR-2	NAYAHAT	HIGH SCHOOL	1413DT513				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	KAKATPUR-2	NAYAHAT	DHUMAL	1413DT504				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	KAKATPUR-2	BINISPUR	JOGESWARPUR-2	1413DT502				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	PATALDA	ANISINIA	1411DT438				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	SUNDARA	MARKET	1411DT390				1			LV Protection at DSS for DTR Protection
BBSR-1	NED	PIPILI-1	BAZAR	DARJI SAHI-1	1434DT300			1			1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-1	NED	GOP	NAGAPUR	GANESWARPUR	1421DT410			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	GOP	NAGAPUR	SUBRANPUR	1421DT419			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	GOP	CHARISHREE	CHHAITANA BAZAR	1421DT573			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	PATALDA	PATALADA	1411DT409			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	PATALDA	PAPIRA	1411DT437			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	SUNDARA	SBI	1411DT388			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	NUAGADA	MADHUPUR VILLAGE	1411DT176			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	ASTARANGA	DAKHINA PANTALA	1411DT105			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	ASTARANGA	ASTARANGA	MAHAVEER TEMPLE ASTARANGA	1411DT136			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	KAKATPUR-1	KAKATPUR-1	MANGALA COLLEGE PRACHIVIHAR	1412DT009			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	KAKATPUR-1	KAKATPUR-1	BLOCK CHHAKA-I,BALARA	1412DT010			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	KAKATPUR-1	KAKATPUR-1	COLLAGE CHHAKA,SBI	1412DT008			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	KAKATPUR-1	KAKATPUR-1	KACHERIBARI-I	1412DT202			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	BHARATIPUR	KAKUDIA	GUNTHAL	1433DT046			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	BHARATIPUR	KAKUDIA	KANTI BAZAR	1433DT015			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	BHARATIPUR	KAKUDIA	DAKHINANUAGAON	1433DT028			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	BALIPATNA	NEW BANAMALIPUR	NUAPATNA	1432DT517			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	BALIPATNA	NEW BANAMALIPUR	BALIKUDAPATNA	1432DT523			1				LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	CHHENUA	EISWANESWARA	1423DT086		1					LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	CHHENUA	PADMAPUR	1423DT106		1					LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	CHHENUA	MUDULISAHI	1423DT102		1					LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	BASANTAMALA	CHANRAPADA	1423DT023		1					LV Protection at DSS for DTR Protection
BBSR-1	NED	NIMAPADA-1	BASANTAMALA	HANSAPADA SASAN	1423DT023		1					LV Protection at DSS for DTR Protection
BBSR-1	NED	KONARK	KONARK (UG)	KALASHREEMUKHA 2	1422DT201		1					LV Protection at DSS for DTR Protection
BBSR-1	NED	KONARK	ANASARA	NALAKANA KELASHHI	1422DT221	1					1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	PED	SUNAMUHIN	BRAHMAGIRI FEEDER	GADA RADANA	2425DT183			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	SATAPADA FEEDER	ARKODA	2425DT094			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	PANASAPADA FEEDER	PANASPADA VILLAGE	2425DT002			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	SATAPADA(PANASAPADA) FEEDER	SIPAKUDA	2425DT334			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	SATAPADA(PANASAPADA) FEEDER	ALUPATANA 1	2425DT390			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	TANGI	TANGI CHANDAPUR	SUBSTATION DT	2324DT375			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	BHUSANDPUR	CHANDAPUR	MANGLA JODI	2321DT030			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	BANAPUR-2	Town	Court Front	2314DT039		1					LV Protection at DSS for DTR Protection
BBSR-2	BAED	CHANDPUR	11 kV CHANDAPUR	PUJA MANDAP	2325DT136			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	CHANDPUR	11 kV CHANDAPUR	BARA PATRA	2325DT127			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	CHANDPUR	11 kV CHANDAPUR	MASANI SAHI2	2325DT145			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	CHANDPUR	11 kV CHANDAPUR	BHOI SAHI	2325DT203			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	CHANDPUR	11 kV CHANDAPUR	BATA SAHI	2325DT215			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	KHANDAPADA	KHANDAPADA	TARENI CHHAKA-2	2234DT082			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	NAYAGARH	NAYAGARH	NARAYANI MANDIRA	2241DT381		1					LV Protection at DSS for DTR Protection
BBSR-2	NYED	NAYAGARH	NAYAGARH	TRAFFIC CHHAK	2241DT103				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	NAYAGARH	NAYAGARH	MILLAN-1	2241DT108				1			LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
BBSR-2	NYED	NAYAGARH	NAYAGARH	JAJHANGI SAHI	2241DT110			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	NAYAGARH	BARABATI	MISHRA COLONY	2241DT182				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	NAYAGARH	BARABATI	HOLY FAMILY SCHOOL	2241DT197				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	ITAMATI-1	ITAMATI	KHATIASAHI	2222DT030		1					LV Protection at DSS for DTR Protection
BBSR-2	NYED	ITAMATI-1	ITAMATI	PANCHAYAT SAHI	2222DT028				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	ITAMATI-1	ITAMATI	BADATANGI PATNA	2222DT005				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	ITAMATI-1	ITAMATI	SANATANGIPATNA	2222DT007			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	ITAMATI-1	ITAMATI	MEDICAL ROAD	2222DT053			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	DASPALLA	DASPALLA	OLD OFFICE	2211DT017				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	DASPALLA	DASPALLA	MEDICAL	2211DT141			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	DASPALLA	DASPALLA	MADHYAKHANDA	2211DT307			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	DASPALLA	DASPALLA	BARA	2211DT330			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	DASPALLA	DASPALLA	PATAPURPATNA	2211DT349			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	BELAPADA	2212DT517			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	RASANGA	2212DT540			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	OSTIA	2212DT551			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	KARADAPADA	2212DT633			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	KOSKA	2212DT724			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	DHHUAMADA	2212DT063			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	SIDHAMULA-4	2212DT873			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	BALARAMPRASDA	2212DT845			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	KISHOREPRASDA-1	2212DT814			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	GANIA	GANIA	KUMVARAPADA TEMPLE	2212DT665			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	ODAGAON-I	ODAGAON-2	DALAKA GOUDIA SAHI1	2242DT037				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	ODAGAON-I	ODAGAON-2	BIYAYAMANDAP SAHI 1	2242DT033				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	ODAGAON-I	KURAL	PAIKARAYASAHI 2	2242DT203			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	ODAGAON-I	ODAGAON-2	ODAGAON CLUB 2	2242DT029				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	ODAGAON-I	ODAGAON-2	NITYANANDASAHI	2242DT034				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	ODAGAON-I	ODAGAON-2	HEMAMALINI SAHI	2242DT032			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	ODAGAON-I	KOMOND	KOMANDA VILLAGE 1	2242DT119			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	KANTILO	KHALISAHI	KHALISAHI	2233DT247				1			LV Protection at DSS for DTR Protection
BBSR-2	NYED	KANTILO	BENAGADIA	BENAGADIA	2233DT210			1				LV Protection at DSS for DTR Protection
BBSR-2	NYED	KANTILO	KANTILO	PS PATANA	2233DT034			1				LV Protection at DSS for DTR Protection
BBSR-2	KHD	JATANI 1	RAJA BAJAR	Station	2143DT081		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	JATANI 1	RAJA BAJAR	Postal colony	2143DT082		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	JATANI 1	RAJA BAJAR	Bina hall	2143DT090		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	KHORDHA 1	TOWN-2(PALLA)	GUPTA DISTRIBUTER	2151DT233		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	KHORDHA 1	TOWN-2(PALLA)	BLOCK OFFICE	2151DT231	1						LV Protection at DSS for DTR Protection
BBSR-2	KHD	KHORDHA 1	TOWN-2(PALLA)	AMA HANDI SALA	2151DT221		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	KHORDHA 1	TOWN-2(PALLA)	MAITRY GAS	2151DT203		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	KHORDHA 1	TOWN-2(PALLA)	SANSKRUTI VABAN	2151DT209		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	KHORDHA 1	TOWN-2(PALLA)	FANDI	2151DT076		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	Baliapanda	11 kV 11kV Lokanath	BASALI SAHI 250 KVA	2411DT042			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	kacheri	sea beach ug	HOTEL MOHA BAHU 100 KVA	2412DT022		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	kacheri	11 kV 11kV Swargadwar-1	BHOLAGIRI 250 KVA	2412DT010			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	kacheri	dolamanndap	TULASI APPRTEMENT 100 KVA	2412DT072		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	kacheri	11 kV 11kV Duttatota	BRAHMUNA SAMITE250 KVA	2412DT084			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SWARGDWAR	11 kV BALIAPANDA KACHERI	HARIDASH 500 KVA	2414DT042				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	GHODABAZAR	11 kV Kacheri	SANSKRUTI BHABAN 250 KVA	2432DT068			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	PASCHIMDWAR	11 kV Baliapanda - Sri Mandira UG	GOSALA 500 KVA	2413DT063				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	PASCHIMDWAR	11 kV Kacheri- Sri Mandira UG	BASALI THANA 100 KVA	2413DT007		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	PASCHIMDWAR	11 kV Talabania- Sri Mandira UG	BANAMBER 250 KVA	2413DT042			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	POWERHOUSE	11 kV 11kV Sri Mandira OH	panchamukhi 500 KVA	2433DT027				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	POWERHOUSE	11 kV MADHUBANA	Rajumishra 500 KVA,	2433DT014				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	POWERHOUSE	11 kV Talabania- Sri Mandira UG	Bania 250 KVA	2433DT066			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	POWERHOUSE	11 kV MADHUBANA	SWA MEAL 500 KVA	2433DT010				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	POWERHOUSE	11 kV 11kV Sri Gundicha	NURSINGH MANIDIR 500 KVA	2433DT040				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	SADAR	11 kV HAREKRUSHNAPUR	TALAGANGHA DIHA SAHI 100 KVA	2424DT127		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	SADAR	11 kV 11kV Toshali	MERINEE THANA 63 KVA	2424DT244	1						LV Protection at DSS for DTR Protection
BBSR-2	PED	SADAR	11 kV 11kV Baliguali	SAMAGARA NUA SAHI 63 KVA	2424DT185	1						LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
BBSR-2	PED	BRAHMAGIRI	11 kV ALARNATH	NIMAPARA BANK 250 KVA	2421DT100			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	BRAHMAGIRI	11 kV REBANA	REBENA 200 KVA	2421DT182			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	CHANDANPUR	11 kV BALABHADRAPUR	BALABHADRAPUR 250 KVA	2441DT195			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	TANGI	KALUPADA	PANCHWATIA	2324DT124		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	TANGI	KALUPADA	MATIPADA 1	2324DT140		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	TANGI	KALUPADA	HANDIOLA	NA		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Betuli	2314DT046		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Badasiripur	2314DT086			1			1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	Balugaon-2	Ankulachati	Kaluri	2312DT068		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	KHD	BANKI-3	JATAMUNDIA	BHAGIPUR SABAR SAHI	2113DT170			1				LV Protection at DSS for DTR Protection
BBSR-2	KHD	BANKI-3	JATAMUNDIA	BHAGIPUR	2113DT412			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	Banapur-2	11 kV TOWN	BANAMBAR SCHOOL	2314DT179			1			1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Shyamsundarpur	2314DT042			1			1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	PED	SUNAMUHIN	11KV BRAHMAGIRI FEEDER	GADA RADANA	2425DT183			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	11KV SATAPADA FEEDER	ARKODA	2425DT094			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	11KV SATAPADA(PANASAPADA)	MAMTA DALAI	2425DT347			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	11KV SATAPADA(PANASAPADA)	ALUPATANA 1	2425DT390			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	11KV SATAPADA(PANASAPADA)	GANGADHARPUR R K JENA	2425DT324			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SAKHIGOPAL-1	SARANGAJODI	BISWONATHAPUR	2442DT270			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	11KV PANASAPADA FEEDER	PANASPADA VILLAGE	2425DT002			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SUNAMUHIN	11KV SATAPADA(PANASAPADA)	SIPAKUDA	2425DT334			1				LV Protection at DSS for DTR Protection
BBSR-2	KHD	BANKI-3	JATAMUNDIA	NISTIPUR COLD STORAGE	2113DT163		1					LV Protection at DSS for DTR Protection
BBSR-2	KHD	BANKI-3	JATAMUNDIA	NUASAHI	2113DT167		1					LV Protection at DSS for DTR Protection
BBSR-2	BAED	TANGI	33 kV TANGI-CHANDPUR	BADAPARI	2324DT901		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	TANGI	KALUPADA	WASPADAR	2324DT060		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BHUSANDAPUR	BHUSANDAPUR	JAGANNATHPUR 2	2321DT239		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	CHANDPUR	CHANDPUR	KHARUDASAHI	2325DT206		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	CHANDPUR	KAMAGURU	KAMAGURU	2325DT050		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Bhimpur Sasan	2314DT172		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Matiapokhari Vill	2314DT043		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Banalei Puruna Sahi	2314DT199		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Sanahantuala	2314DT033		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	BAED	BANAPUR-2	Town	Park Bazar	2314DT189		1				1	DP structure in dilapiladated Condition & ABS Damaged
BBSR-2	PED	SWARGADWAR	11 kV SWARGADWAR-2	HARIJANABASTI 250KVA	2414DT025			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	SATASANKHA	BALANGA	BALANGA	2444DT188				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	CHARINALA	NARENDRAPOKHARI	DEVI GHATA	2431DT040			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	CHARINALA	HAREKRUSHNAPUR	MANGARAJPUR	2431DT025			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	DUTTATOTTA	BRAMHANA SAMITI	2412DT084			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	DUTTATOTTA	CHANDAN APPT	2412DT060		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	DUTTATOTTA	SRIGURU APPT	2412DT103		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	DUTTATOTTA	HDFC BANK	2412DT104		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	DUTTATOTTA	TULSHI APPT	2412DT072		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	SWARGDWAR1	BHOLAGIRI	2412DT010			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	SWARGDWAR1	MAHABAHU HOTEL	2412DT022		1					LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	DOLAMANDAP	BHOGAJAGA	2412DT055				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	DOLAMANDAP	HABELI GALI	2412DT051				1			LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	SWARGDWAR2	MAHODADHI APPT 1	2412DT035			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	SWARGDWAR2	MAHODADHI APPT 2	2412DT036			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	SWARGDWAR2	NIHAR NIBASH	2412DT038			1				LV Protection at DSS for DTR Protection
BBSR-2	PED	KACHERI	SWARGDWAR2 OVER HEAD	HARIJANA BASTI	2412DT128			1				LV Protection at DSS for DTR Protection
BBSR-2	BAED	BANAPUR-2	Town	Kurunjipur	2314DT052	1					1	DP structure in dilapiladated Condition & ABS Damaged
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	HATI GADA	3143DT092			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur-1	MAHATAB NAGAR	3143DT050			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	CAPEX 200	3143DT073			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	DOBANDHA-2	3143DT123			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur-1	CHAHATA LANE-5	3143DT058			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur-1	CHAHATA LANE-6	3143DT049			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur-1	CHAHATA LANE-4	3143DT047			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur-1	CHAHATA LANE-2	3141DT064			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	CITY	HATIPOKHARI	KADAM RASUL -250	3121DT031			1				LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
CUTTACK	CDD-1	CITY	CITY	CHUNAVATI GALI-250	3121DT047			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	GANESH GHAT	HIGH COURT	DEO OFFICE	3122DT077			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	GANESH GHAT	JUDGE COURT	SBI	3122Dt003			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	GANESH GHAT	HIGH COURT	RDC	3122DT076			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	BIDANASI-1	MUNDA SAHI	3141DT098			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	BIDANASI-1	JAGANNATH TEMPLE	3141DT144			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	BIDANASI-1	JAGANNATH TEMPLE	3141DT146			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	BIDANASI-1	BASUNDHARA	3141DT132			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	BIDANASI-1	BASUNDHARA	NA			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	UP COLONY RAPDRP	3143DT116			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	KHALA KHUNTA	3143DT119			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	SIRIDI NAGAR	3143DT089			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	HIGH COURT	KANHU VANDARI	3143DT034			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	HIGH COURT	MARWADI BAICHA 1	3132DT032			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	HIGH COURT	MARWADI BAICHA2	3132DT033			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	HIGH COURT	IG WOMENS COLLEGE	3143DT026			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	DD OH	CT GST	3143DT126			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	EYE HOSPITAL	SATABDI VIHAR 1	3143DT023			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	EYE HOSPITAL	SATABDI VIHAR 2	3141DT020			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	KALI MANDIRA	3143DT087		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	RIVER SIDE PHD	3143DT085		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	EYE HOSPITAL	PHD	3143DT080	1						LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	Tulasipur -2	SP SIGNAL FRONT PHD	3143DT079	1						LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TULASIPUR	DD OH	REVENUE PHD	3143DT006		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	TULASIPUR-1	BASELI GADA	3141DT			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	NARAJ	BALIBANDHA	3141DT010			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	NARAJ	BALIBANDHA	3141DT009			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	NARAJ	DHABALESWAR GADA	3141DT004			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	SECTOR-13	MUNDA SAHI	3141DT239			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	SECTOR-11	AIRTEL	3141DT182			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	BIDANASI	BIDANASI-2	MEDICAL	3141DT149			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JAGATPUR	khaira	nuasahi	3222DT198		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JAGATPUR	khaira	madhubabuchhak	3222DT303			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JAGATPUR	khaira	devi dal mill	3222DT212			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	BARRAGE	Ultra lane canal bandha	3222DT299			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	I B Road	3223DT113			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Delta -2	3223DT091		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Bhubanpur3	3223DT084			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	BAIKUNTH Bihar	3223DT088			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	RHC Saibihar	3223DT110			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Cinema hall	3223DT150			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Blessing	3223DT164			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Coal Dipo	3223DT157		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Torola Shiva mandir	3223DT048		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	TOROL SHIV MANDIR 2	3223DT169		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Apex	3223DT137				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Radhadamodar	3223DT135					1		LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	SS foundary 1	3223DT146			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Ssfoundary 2	3223DT187				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Market complex	3223DT035			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Office compund	3223DT033			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Laxmi Bihar	3223DT119				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Laxmanpur-1	3223DT093			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Laxmanpur-2	3223DT094		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	RHC Laxmanpur	3223DT092			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	ANDHARI	3223DT098			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Nazarpur	3223DT189				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Cold store	3223DT057			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Shantinagar	3223DT089			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Truck terminal	3223DT037		1					LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Fakirpur	3223DT120				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	RHC Trivenigada	3223DT121				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	RHC Batta chowk	3223DT130				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Station bazar	3223DT038			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Gandhi Nagar	3223DT055			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	JOBRA	OLD INDUSTRY	Nazarpur Behera sahi	3223DT074		1					LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	JAPAKUDA	JAPAKUDA BAZAR	3534DT130				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	JAPAKUDA	BASUDEVPUR-1	3534DT207		1					LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	JAPAKUDA	BASUDEVPUR-2	3534DT209		1					LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	JAPAKUDA	BASUDEVPUR-3	3534DT208		1					LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	RAMESWAR-SOURI	RAMESWAR-1	3534DT083		1					LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	RAMESWAR-SOURI	RAMESWAR-2	3534DT085		1					LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	RAMESWAR-SOURI	PATANA 2	3531DT344			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	RAMESWAR-SOURI	SARADA-1	3534DT124			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	CHHANIPUR	PASULUNDA	3533DT227			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	MACHHUATI	3533DT106			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	NAIGUAN ROAD	3533DT105			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	KENDUPATNA	KENDUPATNA BAZAR	3533DT193			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	KENDUPATNA	KENDUPATNA VILLAGE	3533DT205			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	MEDICAL	SIDHESWAR	3533DT026			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	KENDUPATNA	KOLANPUR-2	3533DT170			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	CHHANIPUR	BODAMUNDAI BAZAR	3533DT075			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	MENDHA POLA	3533DT114			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	BALISAHI	3533DT119			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	LAXMINARAYANPUR	GOKAN	3511DT159			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	LAXMINARAYANPUR	GORTANGA	3511DT162			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	KURUJANGA	DIHIGOP	3511DT228			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	KURUJANGA	GOPALPUR	3511DT096			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	JAYPUR	KOTHAPADA MARKET	3512DT059			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	JAYPUR	JAGANNATHPUR	3511DT285			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	MULABASANTA	MULABASANTA	3512DT152			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	BASUDEVPUR	BARATHA	3512DT251			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	MULABASANTA	SIPURA	3512DT169			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	BASUDEVPUR	KOLIATHA	3512DT240			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Adaspur	Gangeswar	Kurangapradhan	3331DT325			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Adaspur	Gangeswar	Nadiagurudi	3331DT303			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Adaspur	Adaspur	Adaspur Bazar	3331DT030				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Baranga	Agijolapadia	3332DT129			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Baranga	Mastercolony	3332DT003			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Uttampur	Badheisahi	3332DT309			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Baranga	Gopalpur up school	3332DT004			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Pratapnagari	Paikasahi	3332DT160			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	11 kV 42 MOUZA	Mahadevsahi	3332DT067			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Phulnakhara	Routsahi	3332DT160			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Phulnakhara	Dahaliabag-1	3332DT152			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	Uttampur	Dahaliabag-2	3332DT156			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	42-MOUZA	Tentunali	3332DT358			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	42-MOUZA	Dharuangapadia	3332DT015			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	42-MOUZA	Usuma	3332DT097				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	Balikuda	42-MOUZA	Nagabali	3332DT073			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	CHHATIA	CHHATIA	Company Bazar	3313DT222				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	CHHATIA	CHHATIA	Stucture	3313DT229				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	CHHATIA	CHHATIA	Bandalo-2	3313DT082			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	CHHATIA	11 kV KADHEI	Solar-1	3313DT343			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Choudwar No-II	Nuntikiri	Dagarasahi	3323DT049			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	NIALI-1	TOWN	BHAGATAPADA	3341DT299			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	NIALI-1	TOWN	ALOKNAGAR	3341DT175			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	NIALI-1	TOWN	MAJHIKHANDA	3341DT169				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV BARANGA	MAA JAGULAI	3332DT127			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV BARANGA	AGIJALA PADIA 1	3332DT129			1				LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
CUTTACK	CED	BALIKUDA	11 kV BARANGA	Sawmill	3332DT133				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	BADHAI SAHI 2	3332DT309			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	SHUBHADRAPUR 2	3332DT312			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	BALIKUDA NUA BAZAR 2	3332DT337			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	SUBHADRAPUR 1	3332DT339			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	UTAMPUR TOTA SAHI	3332DT347				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	KAJIPATANA 3	3332DT353			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	TALA KAJIPATANA	3332DT355			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	KAJIPATANA	3332DT364			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	RAJANAGAR PATRA SAHI 1	3332DT366			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV UTTAMPUR	SYAMPUR	3332DT367			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	SADAR PSS SIDE	3332DT152			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	DAHALIABAG NEAR PLAY GROUND	3332DT153			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	NEAR STRUCTURE SIDE	3332DT156			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	PAIKASAHI ROUTSAHI	3332DT160				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	RAGHUPATI PVT.	3332DT166			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	KUMBHARAJ PUR	3332DT202			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	CHANDAN PALEC	3332DT203			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	TELENGAPETHA BAZZAR	3332DT204				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	GANDHI PADIA	3332DT267				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	RAMNAGAR	3332DT268			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PHULNAKHARA	PAIKSAHI	3332DT441				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PIRABAZAR-III	3332DT175			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PAIKASAHI	3332DT188				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	BHATASAHI II	3332DT212			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PRATAP NAGARIRAM MANDIRA 1	3332DT213			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PRATAP NAGARI MAHAJANA SAHI 1	3332DT215			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	RAJENDRA MODI	3332DT217			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PRATAP NAGARI	3332DT227			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	NUAGADA 1	3332DT234			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	NUAGADA SAI MANDIR	3332DT237			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PURUNA NUAGADA 3	3332DT244			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PURUNA NUAGADA 4	3332DT245			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	PURUNA NUAGADA 5	3332DT246			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	DHANWAT CLEARING & CARRIERS P LTD .	3332DT263			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	KACHARAMALA II	3332DT301			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	WALLME	3332DT377			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	DHAKULEI MADIR 1	3332DT389			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	11 kV PRATAP NAGARI	BAMPHAKUDA MAHABIR NAGAR	3332DT391			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	ATHAGARH-1	ATHAGARH TOWN	GOPABANDHU CHHACK	3421DT019				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	ATHAGARH-1	ATHAGARH TOWN	HOUSING BORD COLONY	3421DT112				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	ATHAGARH-1	ATHAGARH TOWN	OLD TAHASIL1	3421DT074				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	ATHAGARH-1	ATHAGARH TOWN	STADIUM	NA				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	BADAMBA	11 kV BADAMBA TOWN	BADAMBA GUNDICHIBADI	3411DT097				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	BADAMBA	11 kV BADABARISINGH	BANGERISINGHA -13	3411DT680				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	BADAMBA	11 kV RATTAPATA	RATAPATA PALEA SAHI. -I	3411DT556				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	KANPUR	11 kV KANPUR	KANPUR TOWN	3412DT042				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	11 kV NARANGABASTA MEGHA	GHANTI KALA -1	3423DT502				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	11 kV KUMARPUR	GOBARA	3423DT609				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	NARSINGHPUR	11 kV NARSINGHPUR TOWN	Narsinghpur Club Chhak	3413DT024				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	NARSINGHPUR	11 kV KAMALADIHA OLD	SARADHAPUR	3413DT232				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	NARSINGHPUR	11 kV KAMALADIHA	ZILLINDA	3413DT405				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	NUAPATNA	11 kV NUAPATNA	BUDHAJAYANPIPUR	3424DT022				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	TIGIRIA	11 kV BINDHANIMA	BINDHANIMAA KANPANA CHHAK	3425DT182				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	TIGIRIA	11 kV BINDHANIMA	BINDHANIMAA ROAD SIDE	3425DT171				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KULEILO	KHUNTUNI	3423DT064			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KULEILO	TOTAPADA	3423DT175			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KULEILO	BHOGARA	3423DT197			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KULEILO	DALABHAGA	3423DT158		1					LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KULEILO	TALAGADA	3423DT163		1					LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
CUTTACK	SED	SALIPUR-II	JAPAKUDA	JAPAKUDA BAZAR	3534DT130				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	RAMESWAR-SOURI	PATANA 2	3531DT343			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-II	RAMESWAR-SOURI	SARADA-1	3534DT124			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	MACHHUATI	3533DT109			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	NAIGUAN ROAD	3533DT124			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	MEDICAL	SIDHESWAR	3533DT016			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	KENDUPATNA	KOLANPUR-2	3533DT170			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	MENDHA POLA	3533DT145			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	NAIGUAN	BALISAHI	3533DT130			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	LAXMINARAYANPUR	GOKAN	3511DT159			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	LAXMINARAYANPUR	GORTANGA	3511DT162			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	KURUJANGA	DIHIGOP	3511DT011			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ERAKANA	KURUJANGA	GOPALPUR	3511DT096			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	JAYPUR	KOTHAPADA MARKET	3512DT059			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	JAYPUR	JAGANNATHPUR	3512DT107			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	MULABASANTA	MULABASANTA	3512DT152			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	BASUDEVPUR	BARATHA	3512DT251			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	MULABASANTA	SIPURA	3512DT152			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	KOTHAPADA	BASUDEVPUR	KOLIATHA	3512DT240			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV NAIGUAN	BANADAPUR	3533DT101			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV NAIGUAN	TOSHALI STACKCHER	3533DT104				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV NAIGUAN	SISUA	3533DT127				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV MEDICAL	RADHAPUR-1	3533DT003				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV MEDICAL	RADHAPUR-2	3533DT008				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV CHHANIPUR	SALIPUR-10	3533DT042			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV CHHANIPUR	CHANDRADEIPUR+1	3533DT043				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV CHHANIPUR	WEEKLY MARKET	3533DT045				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV CHHANIPUR	BENGA SAHOO CALONY	3533DT047				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	SALIPUR-1	11 kV CHHANIPUR	KUANPAL ROAD DT	3533DT261			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV NANDOLA	NANDOLO BAZAR 500	3531DT103				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	PURBAKACHHA 2	3531DT137			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	KAZIBAZAR	3531DT159				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	PADAMPUR BAZAR 1	3531DT165				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	UPPAR BAZAR	3531DT169			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	CHAMPTI VILLAGE	3531DT182				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	CHAMPTI ANDEI SAHI 1	3531DT187				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	GUNJARPUR MAHADEV SAHI	3531DT217			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	PIRA BAZAR 1	3531DT221				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	BHAIRAPUR VILL 5	3531DT222			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM PADMAPUR	SATNATIA 7	3531DT309			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV PATAPUR	SIGMAPUR PRIMARY SCHOOL	3531DT240			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM-1 GOPINATHPUR	MAHAJAN PUR 2	3531DT008				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM-1 GOPINATHPUR	GOPINATHPUR	3531DT033				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM-1 GOPINATHPUR	33/11 kV BAHUGRAM-1 SS ST	3531DT350			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	BAHUGRAM	11 kV BAHUGRAM-1 ICHHAPUR	JAGULAI TEMPLE	3531DT062			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	RAISUNGUDA	11 kV RAISUNGUDA BAZAR	RAISUNGUDA-2	3532DT092			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	RAISUNGUDA	11 kV MANOHARPUR	NEAR MANOHARPUR VILLAGE 3	3532DT202				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV UMARA	UMAR CANARA BANK 1	3522DT205			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV UMARA	NAHANG 1	3522DT207			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV BUHALA	SUNILO BARAL SAHI	3522DT030			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV RAMAKRUSNAPUR	BAHABALPUR MUSLIM SAHI	3522DT079			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV RAMAKRUSNAPUR	R.K PUR-1	3522DT090				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV RAMAKRUSNAPUR	JIGNIPUR-2	3522DT115			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV NISCHINTAKOILI BAZAR	CUTTACK COOPERATIVE BANK	3522DT006			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	N.KOILI	11 kV NISCHINTAKOILI BAZAR	NEW MAA AGENCY	3522DT007				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV NARENDRAPUR	DHARSARPUR 1	3523DT463				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV NARENDRAPUR	BANANGADA	3523DT500				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV NARENDRAPUR	BILLPLA 1	3523DT516				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV GOPINATHPUR	DAMODAR PUR NERA PANI KI.TANKI	3523DT215			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV GOPINATHPUR	RATILO1	3523DT255			1				LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
CUTTACK	SED	ORIKANTA	11 kV BILAHATA	BABUJANJ 1	3523DT043				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV BILAHATA	UTTARKUL 2	3523DT052				1			LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV BILAHATA	BILAHAT 2	3523DT101			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV BILAHATA	CHARICHHAK	3523DT109			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ORIKANTA	11 kV BILAHATA	BILAHAT 1	3523DT115			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ASURESWAR	11 kV NARENDRAPUR	NARENDRAPUR 2	3521DT157			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ASURESWAR	11 kV ASURESWAR	ANASARPUR 2 DSS	3521DT006			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ASURESWAR	11 kV LUNA	MALLIPUR 1 DSS	3521DT127			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	ASURESWAR	11 kV LUNA	TARAT BAZAR DSS	3521DT202			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	MAHANGA	11 kV MAHANGA	JAHALA-2	3513DT164			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	MAHANGA	11 kV MAHANGA	CHATTRATOTA	3513DT174			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	MAHANGA	11 kV MAHANGA	GUDAPADA 2	3513DT213			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	MAHANGA	11 kV KUANPALA	NURTUNGA 4	3513DT092			1				LV Protection at DSS for DTR Protection
CUTTACK	SED	MAHANGA	11 kV KUANPALA	CHASAKHANDA	3513DT112			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KULAILO	KHUNTUNI	3423DT061				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	NARANGABASTA MEGHA	GHANTIKHAL	3423DT501				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	CHAULIAGANJ	OSAP	OMP MARKET COMPLEX	3231DT006		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	CHAULIAGANJ	JAICA	KANTILO PUMP HOUSE	3231DT176		1					LV Protection at DSS for DTR Protection
CUTTACK	AED	ATHAGARH I	TOWN	Gopabandhu Chhak	3421DT019				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	TIGIRIA	BINDHANIMAA	BINDHANIMAA NO1	3425DT182				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	TIGIRIA	BINDHANIMAA	BINDHANIMAA NO2	3425DT171				1			LV Protection at DSS for DTR Protection
Cuttack	CDD-1	College square	Railway	Bhima-500kva	3112DT036				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	DEULKUR	Deulkur	3311DT448				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	DEULKUR	Badachana	3311DT440				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	OLD BADACHANA	Khaira	3311DT010				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	CHANDIKHOL	Dhanmandal	3311DT368				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	CHANDIKHOL	Chandikhol	3311DT400				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	CHANDIKHOL	Nuasuguda	3311DT410				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	MANGARAJ PUR	MANGARAJPUR	3321DT143				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	SANKARPUR	BADASAMANTRA PUR	3321DT231				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	CHARBATIA KALINGA	HOUSING BOARD	3321DT085				1			LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	42 MOUZA	DHURANGA PADIA	3332DT015				1			LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	MAHALAXMIPUR	KHUNTUNI	3423DT064			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KULAILO	TOTAPADA	3423DT175			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	KUMARPUR	CHHAGAON	3423DT328			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	KHUNTUNI	GURUDIJHATIA LOCAL	ORANDA	3423DT301			1				LV Protection at DSS for DTR Protection
Cuttack	CDD-1	College square	Railway	MAP-	3112DT010			1				LV Protection at DSS for DTR Protection
Cuttack	CDD-1	College square	Barrage	Gangeshwar -	3112DT086			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	CHANDIKHOL	Dhanmandal	3311DT369			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	CHANDIKHOL	Dhanmandal	3311DT375			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	ARC	HANGER 5	3321DT267			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	SANKARPUR	BADAPADAGAON	3321DT229			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	CHARBATIA KALINGA	ANGARJODI UPARA SAHI	3321DT119			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	BERHAMPUR	berhampur	3321DT047			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	42 MOUZA	URALI RATHAGADA	3332DT023			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	42 MOUZA	MASTER COLONY	3332DT003			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	42 MOUZA	KAJIPUR	3332DT061			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	42 MOUZA	SAINDA	3332DT057			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	Baranga	Tareni 1	3332DT126			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	pratapnagari	walmi	3332DT377			1				LV Protection at DSS for DTR Protection
CUTTACK	CED	Adaspur	GANGESWAR	Kuranga	3331DT325			1				LV Protection at DSS for DTR Protection
CUTTACK	AED	ATHAGARH I	TOWN	GSC College	3421DT016	1						LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TOWNHALL	PURIGHAT	PURIGHAT-2	3124DT076				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TOWNHALL	TOWN HALL	DEVI DURGA-500	3124DT003				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TOWNHALL	PURIGHAT	SREEVIHAR-500	3124DT027				1			LV Protection at DSS for DTR Protection
CUTTACK	CDD-1	TOWNHALL	TOWN HALL	RAGHUNATHJEW-200	3124DT022			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	KISHORENAGAR	MALLIPUR	KHENTALA	3225DT112		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	KISHORENAGAR	MALLIPUR	MALLIPUR	3225DT102	1					1	DP structure in dilapiladated Condition & ABS Damaged
CUTTACK	CDD-2	KISHORENAGAR	BISWALPADA	TARADAPADA	3225DT045	1					1	DP structure in dilapiladated Condition & ABS Damaged
CUTTACK	CDD-2	KISHORENAGAR	BISWALPADA	BISWALPADA BUDHIANI	3225DT033		1					LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
CUTTACK	CDD-2	KISHORENAGAR	KISHAN NAGAR	KISHAN NAGAR MEDICAL	3225DT078		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	KISHORENAGAR	KANDARPUR	JSAPADA	3225DT069		1					LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	CHAULIAGANJ	OSAP	MACBOURN-II	3231DT053			1				LV Protection at DSS for DTR Protection
CUTTACK	CDD-2	CHAULIAGANJ	MATAGAJAPUR	KANTILO PHD	3231DT177		1					LV Protection at DSS for DTR Protection
CUTTACK	AED	TIGIRIA	BINDHANIMAA	SASAN NO3	3425DT046		1					LV Protection at DSS for DTR Protection
CUTTACK	AED	TIGIRIA	BINDHANIMAA	BISHNUPUR	3422DT578		1					LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	OLD BADACHANA	Khaira	3311DT012		1					LV Protection at DSS for DTR Protection
CUTTACK	CED	BADACHANA	OLD BADACHANA	Nuasasan	3311DT020		1					LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	ARC	DMTI	3321DT271		1					LV Protection at DSS for DTR Protection
CUTTACK	CED	CHARIBATIA	ARC	MCRS	3321DT264		1					LV Protection at DSS for DTR Protection
CUTTACK	CED	BALIKUDA	42 MOUZA	URALI PANCHAYATA OFFICE	3332DT024		1					LV Protection at DSS for DTR Protection
CUTTACK	CED	Adaspur	GANGESWAR	Uttampur-1	3331DT286		1					LV Protection at DSS for DTR Protection
CUTTACK	CED	Adaspur	GANGESWAR	Uttampur-3	3331DT287		1					LV Protection at DSS for DTR Protection
CUTTACK	AED	ATHAGARH I	KANTOL	Medical phd	3421DT085	1						LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder2	Hatiadanda	4324DT316				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder2	Market 500 KVA	4324DT317				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder2	Filter House	4324DT319				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder2	Mandira Tala	4324DT320				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder2	Satya sai	4324DT321				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder2	Mahulamula	4324DT322				1			LV Protection at DSS for DTR Protection
DHENKANAL	ANED	BAMUR	11 kV AMBAPAL	BAMUR SUBSTATION	4222DT100		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	BAMUR	11 kV KISHORENAGAR	BDO OFFICE	4222DT369		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	BAMUR	11 kV KISHORENAGAR	MEDICAL	4222DT370		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	BAMUR	11 kV RANIAKATA	ADARS SCHOOL	4222DT478		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	BAMUR	11 kV KISHORENAGAR	KISHORNAGAR	4222DT367			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	BAMUR	11 kV KISHORENAGAR	DAHURAPALLI 1	4222DT377			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	BAMUR	11 kV KISHORENAGAR	GHASARA 1	4222DT395			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	CHHENDIPADA	CHHENDIPADA	DEOGARH CHHAKA	4231DT017			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	CHHENDIPADA	CHHENDIPADA	MAHINISIBANDHA	4231DT011			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	CHHENDIPADA	BAGEDIA	RAJIV BHABAN	4231DT149		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	CHHENDIPADA	PIPALBAHAL	PATRAPADA	4231DT482			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	CHHENDIPADA	BAGEDIA	PIPALBAHAL	4231DT186			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	CHHENDIPADA	BAHALASAHI	NUAPADA	4231DT294			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV DKL TOWN-2	ALANA MOHARANA	4112DT065			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV DKL TOWN-2	BUDHI THAKURANI	4112DT061				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV DEULASAHI	EXCISE OFFICE	4112DT066				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV DEULASAHI	FIRE STATION	4112DT072				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV SASAN	GAYATREE NAGAR-2	4112DT129			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV DKL TOWN-1	JABAHAR CHHAK-1	4112DT212				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV SASAN	OIL MILL	4112DT093				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV SASAN	SURYA HOTEL_2	4112DT117				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV DEULASAHI	VASIA DOKAN 1	4112DT057				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV DKL TOWN-1	BACK SIDE OF STATE BANK	4112DT194		1					LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV SASAN	HOME GUARD	4212DT087			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV SASAN	POTA POKHARI	4112DT113			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO-I SEC OFFICE	11 kV SASAN	PURNA SASAN	4121DT052				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV GOVINDPUR(DKL)	ANAND NAGAR	4113DT180				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV DKL TOWN-2	ARABINDA NAGAR	4113DT125			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV CALTAX	KORIAN NEW	4113DT022				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV JORANDA	SHYMACHARANPUR SABAR SAHI	4113DT144				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV Similia	SIMILIA PANI PUMP	4113DT593				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV Tarva	TARAVA	4113DT640			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV SAPTASAJYA	VIGILANCE GALI	4113DT329				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV CALTAX	JAYGOPAL SAHI				1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV Similia	RAMESWAR	4113DT217			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 KV GUDIANALI	STRUCTURE				1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV CALTAX	HATA ROAD 4			1					LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV GOVINDPUR(DKL)	KANTEIKOLIA	4113DT202			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	DKL. NO II SEC OFFICE	11 kV Similia	SIMILIA SABAR SAHI	4113DT598			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV MAHULPAL	DHARMENDAR PARIDA	4142DT444			1				LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV BAUNSAPALA	INDIAN OIL PETROL PUMP_2	4142DT148			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV TOWN-1 (K.Ngr)	JHUMPAN POKHARI	4142DT018			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV MAHULPAL	MAHULPAL_2	4142DT439			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV BAUNSAPALA	REKULA	4142DT144			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV JIRIDAMALI	RENGALI 1	4142DT092			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV TOWN-1 (K.Ngr)	SCHOOL 1	4142DT025				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV TOWN-1 (K.Ngr)	SCHOOL 2	4142DT026			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV BAUNSAPALA	SHIVA MANDIRA	4142DT047			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	K NAGAR SEC OFFICE	11 kV TOWN-1 (K.Ngr)	SRIRAM NAGAR 2	4142DT004			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	HINDOL SEC OFFICE	11 kV HINDOL	BANAMALIPUR 1	4131DT136			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	HINDOL SEC OFFICE	11 kV HINDOL	DHUNDINALI 2	4131DT162			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	HINDOL SEC OFFICE	11 kV HINDOL	HINDOL KHELAPADIA	4131DT152				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	HINDOL SEC OFFICE	11 kV HINDOL	SRADHAPUR	4131DT140			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV Bhuban Town-1A	BANDAL_01	4141DT375				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV BARUAN	BARUAN MAIN VILLAGE	4141DT435			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV Bhuban Town-1A	KALI BAZAR	4141DT202			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV Bhuban Town-1A	BHUBAN (SASAN)_02	4141DT276			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV Bhuban Town-1A	PRUSTY POKHARI _01	4141DT284			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV Bhuban Town-1A	PRUSTY POKHARI _02	4141DT365			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV Bhuban Town-1A	PRUSTY POKHARI _03	4141DT366			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	BHUBAN SEC OFFICE	11 kV Bhuban Town-1A	ARASAHI	4141DT270			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	KANKADAHADA SEC OFFICE	33 kV KALIAPANI	G MOMC JAIPUR ROAD FOR CHIRUGUNIA	4144DT901				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	KANKADAHADA SEC OFFICE	33 kV KALIAPANI	G M O M C JAJAPUR ROAD/KATHAPAL	4144DT902				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	KALIAPANI SEC OFFICE	33 kV KALIAPANI	SUKINDA CHROMITE MINES	4143DT903				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	KALIAPANI SEC OFFICE	33 kV OMC	G M OMCJAIPUR ROAD/KALIA	4143DT908				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	KALIAPANI SEC OFFICE	33 kV KALIAPANI	G M C O B PLANTKALIAPANI	4143DT914				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	KALIAPANI SEC OFFICE	33 kV OMC	G M OMCJAJAPUR ROAD/FOR CHIRIGUNIA	4143DT919				1			LV Protection at DSS for DTR Protection
DHENKANAL	DED	KALIAPANI SEC OFFICE	33 kV KALIAPANI	OSTAPAL CHROMITE MINES	4143DT921					1		LV Protection at DSS for DTR Protection
DHENKANAL	DED	KALIAPANI SEC OFFICE	33 kV KALIAPANI	THE MANAGING DIRECTOR	4143DT923				1			LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	GANDHI CHHAK-1	4223DT491				1			LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	RAMESHWAR PATTNAIK	4223DT504				1			LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	BANGALA SAHI JAGANNATH TEMPLE	4223DT511				1			LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	ATHAMALLIK OLD ELECTRICAL OFFICE	4223DT745				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	PARABIL	PARABIL	BUURKUNA 250KVA	4323DT120			1				LV Protection at DSS for DTR Protection
DHENKANAL	TED	PARABIL	PARABIL	BIRU 250KVA	4323DT097			1				LV Protection at DSS for DTR Protection
DHENKANAL	TED	KHAMAR	ODASH	ODASH STADIUM	4321DT063			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV MADHAPUR	MADHAPUR SUB STATION	4223DT001			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	TANGIANISA VILLAGE	4223DT453			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	RUGUDI SAHI -2	4223DT496			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	ATHAMALLIK MEDICAL COLONY	4223DT502			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	ATHAMALLIK CIRCUIT HOUSE	4223DT503			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	GANGARAM CHHAK-2	4223DT508			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	NUASAHI	4223DT513			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	HUNUMAN BAZAR	4223DT518			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	LIPTINGA	4223DT646			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	MANKI PATHAR-1	4223DT647			1				LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	FOREST COLONY	4223DT650			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	R N PUR	ANALABERENI	KOTAGARA CHHAK	4146DT121			1				LV Protection at DSS for DTR Protection
DHENKANAL	DED	R N PUR	KOTAGARA	KANTIO KATENI SCHOOL SAHI	4146DT291			1				LV Protection at DSS for DTR Protection
DHENKANAL	TED	PARABIL	PARABIL	PARABIL PUJA GHARA 100KVA	4323DT032		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	Jarapada	KANJARA	TUKUDA MARKET 100KVA	4231DT001		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	MI COLONY	4223DT475		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	MUSLIM BASTI	4223DT485		1					LV Protection at DSS for DTR Protection
DHENKANAL	ANED	ATHAMALLIK	11 kV ATHAMALIK TOWN	ATHAMALLIK MEDICAL	4223DT501		1					LV Protection at DSS for DTR Protection
DHENKANAL	TED	KANIHA	KANIHA-2	KANIHA SEC OFFICE	4342DT001		1					LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder 2	Market 500 KVA	4324DT317				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder 2	Satya sai	4324DT321				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder 2	Hatiadanda	4324DT316				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder 2	Gallery	4324DT318				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder 2	Filter House	4324DT319				1			LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
DHENKANAL	TED	Rengali	OHPC feeder 2	Mandira Tala	4324DT320				1			LV Protection at DSS for DTR Protection
DHENKANAL	TED	Rengali	OHPC feeder 2	Mahulamula	4324DT322				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-I	DENGAPOLA	PARAHAT	5311DT121				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	NAUGAON	Naugaon HQ	Naugson Hat	5313DT021				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	NAUGAON	DERIK	MUTUNIA	5313DT172				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	STR	N/A				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	MEDICAL ROAD	5322DT099				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	CP	5322DT133				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	PUNANGA	RASMIGEDA	N/A				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	PUNANGA	COURT CHHAKA	5322DT028				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	PUNANGA	COLLAGE CHHAKA	5322DT069				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	ALIPINGALA	HATAPOLA	5322DT254				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	BORIKINA	BORIKINA MARKET	5312DT412				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	MACHHAGAON	MACHHAGAON MARKET	N/A				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	RAGHUNATHPUR	RAGHUNATHPUR	NARAYANI CHHAKA	5332DT070				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-I	BALIKUDA	TARENIA	5311DT020			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BIRIDI	ADHANGA	NAILO	5331DT320			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BIRIDI	NEW BALIA	BALIA	5331DT429			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	DHIASAHI	DHIASAHI	Dhiasahi	5321DT128			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	MEDICAL ROAD	5322DT009			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	JOGADHARI	5322DT136			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	CHARCHIKA BAZAR	5322DT170			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	KHERASA	5322DT173			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	NANDAMANI	5322DT182			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	PUNANGA	RASMIDENGA	5322DT018			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	TOWN	COLLECTOR OFFICE	N/A			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	ALIPINGALA	HANDIPAKA	5322DT225			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-II	PITEIPUR	Moudinpur	5323DT171			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	MACHHAGAON	MACHHAGAON DHANAHATA	N/A			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	MACHHAGAON	OCHHINDA	5312DT253			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	SOVA	SOVA	5312DT106			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	OSAKANA	APANDARA	5312DT177			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	NAHARANA	NALARA	5312DT067			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	TENTULIBELARI	KHADIKADANDA	5312DT133			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	BORIKINA	BORIKINA	5312DT414			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	AMBASALA	AMBASALA	5312DT234			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	TITIRA	BARUGUDIPADA	5312DT367			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	MANDASAHI	MANDASAHI	BIONLA	5324DT108			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	MANDASAHI	MANDASAHI	MANDASAHI MEDICAL	5324DT051			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	RAGHUNATHPUR	RAGHUNATHPUR	BLOCK CHHAKA	5332DT084			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	RAGHUNATHPUR	PRAHARAJPUR	NAMAJPADIA	5332DT1284			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	RAGHUNATHPUR	RAGHUNATHPUR	AUTO STAND	5332DT063			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-I	DENGAPOLA	MULUGAON	5311DT091			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BIRIDI	RANIPADA	HAZIPUR BAZAR	5331DT073			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	CHOUDAKULAT	CHOUDAKULAT	GONDAMUNDA	5135DT098			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	CHOUDAKULAT	CHOUDAKULAT	TAMALASASAN-1	5135DT077			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	CHOUDAKULAT	CHOUDAKULAT	TAMALASASAN-2	5135DT078			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	CHOUDAKULAT	CHOUDAKULAT	KADALIBANA	5135DT090			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	CHOUDAKULAT	NAPANGA	GANDAKULA	5135DT041			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	PATRAPUR	DASIPUR	BELARI	5132DT086			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	PATRAPUR	DASIPUR	KANTABNDHA	5132DT165			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	DANDISAHI	berhampur	amrutmanohi	5131DT029			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	DANDISAHI	berhampur	baluria	5131DT035			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	DANDISAHI	palimi	palimi	5131DT175			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	Makalapada market	5213DT020		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-2	MAHAKALPADA	MAHAKALPADA	Mahakalpada Block office	5213DT017		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-2	MAHAKALPADA	Ramnagar	Ramnagarmarket	5213DT304		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-2	MARSHAGHAI	ANGULAI	MARSHAGHAI CROSSING	5223DT228		1					LV Protection at DSS for DTR Protection
Paradeep	PDP	Paradeep	HANDIA	RICEMILL	5422DT010			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	Tirtol	Tirtol Bazar	Arada	5413DT280			1				LV Protection at DSS for DTR Protection

Circle	Division	Section	11 kV Feeder Name	DSS Name	DTC code	LTDB for 63 kVA DSS	LTDB for 100 kVA DSS	LTDB for 250 kVA DSS	LTDB for 500 kVA DSS	LTACB for 500/1000 kVA DSS	Additional New DP with ABS	Remarks
Paradeep	PDP	Paradeep	HANDIA	BALIJHARA	5422DT018			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	ERASAMA	KOTHI	KOTHI	5431DT092			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	Paradeep	Chaumuhani	Pahachgada	5422DT157			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	Paradeep	RANGIAGARH	CHUNAGAW 2	5422DT348			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	Kujanga	11 kV KUJANGA BAZAR	SUBHAS PHOTO LAB	5412DT104			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	Kujanga	11 kV TALADANDA	NEAR FURNITURE HOUSE	5412DT002			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	ERASAMA	11 kV ERASAMA	NEAR WATER SUPPLY	5431DT035			1				LV Protection at DSS for DTR Protection
Paradeep	PDP	Tirtol	Tirtol Bazar	Log Chhaka	5433DT151		1					LV Protection at DSS for DTR Protection
Paradeep	PDP	Paradeep	Paradeep garh	(NEAR BY PETROL PUMP)	5422DT277		1					LV Protection at DSS for DTR Protection
Paradeep	PDP	Paradeep	Chaumuhani	PIPAL KEUTASAHI	5422DT117		1					LV Protection at DSS for DTR Protection
Paradeep	PDP	Paradeep	Chaumuhani	sawmill	5421DT007		1					LV Protection at DSS for DTR Protection
PARADEEP	JED	NAUGAON	DERIK	MUTUNIA	5313DT172				1			LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	MACHHAGAON	MACHHAGAON MARKET	5312DT412				1			LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-1KENDRAPADA	TOWN-2	GANAMAHAL	5124DT056				1			LV Protection at DSS for DTR Protection
PARADEEP	KED-1	PATTAMUNDAI 1	BELTAL	BHARAT GASS	5133DT046				1			LV Protection at DSS for DTR Protection
PARADEEP	KED-1	AUL	AUL	DEMALA	5111DT326			1			1	DSS on Single Pole . New DP Reqd.
PARADEEP	PDP	TIRTOL	Tirtol Bazar	Arada	5413DT280			1			1	Fully damaged & in unsafe condition,Single Pole Mount
PARADEEP	JED	JAGATSINGHPUR-I	PUNANAGA	BADABAGA 250KVA	5322DT416			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	MANGALPUR	POLICE BARAK OLD 250 KVA	5322DT424			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-II	PITEIPUR	DEDHESWARDEULI	5323DT154			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-II	PITEIPUR	BANAMALIPUR	5323DT169			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	MACHHAGAON	OCHHINDA	5312DT253			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	SOVA	SOVA	5322DT291			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	OSAKANA	APANDARA	5312DT177			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	NAHARANA	NALARA	5312DT067			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	TENTULIBELARI	KHADIKADANDA	5312DT133			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	AMBASALA	AMBASALA	5312DT234			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	BALIKUDA-II	TITIRA	BARUGUDIPADA	5312DT019			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	AUL	CHHOTAKANIKA	DEMALA	5111DT143			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	PATTAMUNDAI-II	Chandanagar	Gunti	5134DT232			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-1KENDRAPADA	TOWN-2	TINIMUHANI	5124DT138			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-1KENDRAPADA	BLOCK	AJODHYANAGAR	5124DT229			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-2 SECTION ,KENDRAPARA	BARO	BARO CHOWK	5125DT135			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-2 SECTION ,KENDRAPARA	THAKURPATANA	THAKUR HALTHA	5125DT032			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	RAJNAGAR-2	RAJNAGAR	SBI CHHAK RAJNAGAR	5142DT189			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	CHOUDAKULAT	CHOUDAKULAT	TAMALSASAN 250 KV	5135DT099			1				LV Protection at DSS for DTR Protection
PARADEEP	PDP	ERASAMA	JAGANNATHPUR	DIHASAHI	5431DT584			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-2	Garadpur	Banakund	Mirzamahala 250kVA	5221DT227			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-2	Marshaghai	Marshaghai	250 kva, Badpaldia	5223DT113			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	Indupur	Nikirai	Nikirai Bazar 2×100 KVA DTR	123DT167,5123DT168			1				LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	PUNANAGA	GANDHICHHAK 100 KVA	5322DT086		1					LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	JANAKOTI	KHANDIABAZAR 100 KVA	5322DT464		1					LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-I	BADABAGA 1	TOTAPADA 100 KVA	5313DT048		1					LV Protection at DSS for DTR Protection
PARADEEP	JED	JAGATSINGHPUR-II	CHHAPADA	TARADAPADA BAZAR	5323DT102		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-1	PATTAMUNDAI 1	BALIPATANA	KAILASHI	5133DT245		1					LV Protection at DSS for DTR Protection
PARADEEP	PDP	Paradeep	HANDIA	RICEMILL	5422DT010			1				LV Protection at DSS for DTR Protection
PARADEEP	PDP	Tirtol	Tirtol Bazar	Arada	5413DT280			1				LV Protection at DSS for DTR Protection
PARADEEP	PDP	Paradeep	HANDIA	BALIJHARA	5422DT018			1				LV Protection at DSS for DTR Protection
PARADEEP	PDP	ERASAMA	KOTHI	KOTHI	5431DT092			1				LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-1KENDRAPADA	TOWN-1	MAHIPAL	5124DT008		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-1	PATTAMUNDAI 1	BELTAL	RADHARAMAN ITI	5133DT060		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-2 SECTION ,KENDRAPARA	THAKURPATANA	KHASAPADIA	5125DT306		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-1	NO-2 SECTION ,KENDRAPARA	BHARATAPUR	S,S PUR JATRAPADIA	5125DT067		1					LV Protection at DSS for DTR Protection
PARADEEP	KED-2	Mahakalpada	Mahakalpada	Medical 100KVA	5213DT019		1					LV Protection at DSS for DTR Protection

ANNEXURE-19

T-Off removal from 33kV Network

ANNEXURE-19	
Description	**Cost (in Cr.)**
Supply and installation of 33 kV (LLVV+Aux. PT) RMU with FRTU	0.62

ANNEXURE-19

Supply and installation of 33 kV (LLVV+Aux. PT) RMU with FRTU					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***48***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	48	3,165.00	1,51,920.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA		25,930.00	-
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	11,900.00	35,700.00
1.4	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA		11,340.00	-
1.5	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	3	71,915.00	2,15,745.00
1.6	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	48.00	812.00	38,976.00
2	**Supply of 33kV RMU**				
e	***No. of 33kV 4Way RMU LLVV(2ISO+2BKR)+ AUX.PT***	***EA***	***1***		
2.5	Supply of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	30,18,066.00	30,18,066.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***EA***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	EA	1	1,56,247.00	1,56,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	1	95,000.00	95,000.00
4.3	Networking Accessories	SET	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	32	275.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	16	275.00	4,400.00
4.6	Battery Charger	EA	1	17,500.00	17,500.00
4.7	Battery	EA	1	12,500.00	12,500.00
4.8	4G Modem cum Router	EA	1	24,400.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	40	309.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	40	299.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	40	382.00	15,280.00
4.12	4 C X 4 mm2 Copper cable for extension of CT & PT	M	20	185.59	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	10	210.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	20.0	229.00	4,580.00
4.15	Armored CAT6 SFTP Cable	M	20	107.00	2,140.00
4.16	Un-Armored CAT6 SFTP Cable	M	20	55.00	1,100.00
4.17	Multi Function Meter	EA	2	14,000.00	28,000.00
	Sub Total (Supply Portion) (in Rs.)				**38,64,187.40**

Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	48	115.00	5,520.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	48.00	195.00	9,360.00
2	**Erection, Commissioning, Wiring and Testing of 33kV RMU**				
2.5	Erection of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	14,000.00	14,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	6,755.00	6,755.00
	Sub Total (Erection Portion) (in Rs.)				**47,635.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.048	10,470.00	502.56
	Sub Total (Civil Portion) (in Rs.)				**2,57,214.66**
A1	**Sub Total (Supply Portion)**				**38,64,187.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**6,95,553.73**
A	**Total Landed Cost (A=A1 + A2)**				**45,59,741.13**
B	Stock, Storage & Insurance @ 3 % of A				1,36,792.23
C	**Sub Total (A+B)**				**46,96,533.37**
D	Contingency @ 3 % of C				1,40,896.00
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				3,52,240.00
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**51,89,819.53**
I1	Sub Total (Erection Portion + Civil Portion)				3,04,849.66
I2	**Applicable Taxes to make it Landed Cost @18%**				**54,872.94**
I	**Total landed Cost (I=I1+ I2)**				**3,59,722.60**
J	**Total Cost (H+I)**				**55,49,542.13**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**55,49,542.13**
M	CESS 1% of L				55,495.42
N	**Grand Total (L+M)**				**56,05,037.55**

O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	1,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**6,750.00**
T	GST @ 18% on Total Inspection Fees (S)	1,215.00
U	Total Inspection Fees including GST (S+T)	7,965.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**56,13,002.55**

Installation of 4 Nos.of 13 Mtr. H-Pole with LA arrangement for U/G Cable raising					
No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)			4		
MATERIALS FOR 33 KV Cut Point with 180 Degree Angle					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	4	2,43,320.00
2	GI Channel,angle & flat of different size	KG	78.00	274.816	21,435.65
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	33KV pin insulator polymer	EA	398.00	12	4,776.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	24	15,144.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
12	Earthing of Support (Coil Type)	EA	164.00	4	656.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	24	7,992.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	21.456	1,587.74
15	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
16	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
17	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	12	53,316.00
18	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
A1				**Total Cost of materials**	**3,90,303.39**
A2				**Applicable Taxes to make it Landed Cost @18%**	**70,254.61**
A				**Total landed Cost (A=A1 + A2)**	**4,60,558.00**
B				Stock, Storage & Insurance i.e 3% of A	13,816.74
C				**Sub Total (A+B)**	**4,74,374.74**
D				Contigency @ 3% of C	14,231.24
E				Tools & Plants @ 2% of C	8,779.06
F				Transportation @ 7.5% of C	35,578.11
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,786.56
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,322.20
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,62,071.91**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
4	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**55,647.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,016.63**
K				**Total landed Cost (K=K1+ K2)**	**65,664.56**
L				**Total (J+K)**	6,27,736.47
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)	
N				**Sub-Total Material +Services (L+M)**	**6,27,736.47**
O				CESS 1% of N	6,277.36
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**6,34,013.83**

ANNEXURE-19					
Sl. No.	**Circle**	**Proposed Location for 33kV RMU**	**Quantity (in nos.)**	**Cost (in Cr.)**	**Total Cost (in Cr.)**
1	BBSR-1	Near IOCL (33kV C.s.pur-1 and C.s.pur-2 Feeder)	2	0.625	1.25
2	BBSR-1	Eco. Railway (33kV Railway Feeder)	1	0.625	0.62
3	BBSR-1	Xavier Square (33kV Xavier Feeder)	1	0.625	0.62
4	BBSR-1	Govindpur 6-Pole (33kV Govindpur Feeder)	2	0.625	1.25
5	BBSR-1	Utkal Builders (33kV Naharkanta Feeder)	1	0.625	0.62
6	BBSR=2	Bharat Electrical T-Off point (33kV Bhusandapur Feeder)	1	0.625	0.62
Total			**8**		**5.00**

ANNEXURE-20

33kV Network Infrastructure

Summary of Proposal Details for 33kV Overloading Mitigation							
Sl. No.	***Circle***	***Division***	***GSS Name***	***33kV Feeder Name***	***Proposal Detail***	***Cost (In Cr)***	***Annex. No.***
1	Paradeep	KED-I	Kendrapara	Old Danpur Feeder	Proposal for augmentation/ refurbishment of 13 CKM line of 33 kV Danpur Old Fdr. from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC to improve reliability and mitigate overloading issue.	₹ 5.00	Annex-20.1
2	Paradeep	KED-I	Rajnagar	New Rajnagar PSS	Proposal for Augmentation of 7.1 CKM line of 33 kV New Rajnagar Fdr. from 100/148 Sq.mm. AAAC to 232 Sq.mm. AAAC/232 Sq.mm. XLPE AAAC to improve reliability and mitigate overloading issue.	₹ 2.00	Annex-20.2
3	Dhenkanal	DED	Gundichapada	Gondia, College and Dakhinakali Fdr.	Proposal for augmentation of 33kV Gondia feeder from Gundichapada GSS to College PSS, to mitigate college feeder overloading, providing 2nd source to PSS and improve network reliability.	₹ 7.00	Annex-20.3
4	Dhenkanal	DED	Goda	Goda Fdr.	Proposal for New 33kV linking line from 33/11kV MK Gola PSS to 33/11kV Dayanabili PSS, to enabling ring connectivity and provide 2nd 33kV source to PSS, mitigate overloading and improve network reliability.	₹ 6.00	Annex-20.4
			Total Cost for 33kV Overloading Mitigation (Cr.)			**₹ 20.00**	

Mitigation of 33kV Feeder Overloading Issue

1. Proposal for overloading mitigation of 33kV Old Danpur Feeder:

Proposal:

Proposal for augmentation of 13 CKM 33 kV O/H line of Old Danpur feeder from Kendrapara GSS to Danpur PSS for feeder overloading mitigation and reliability improvement.

Requirement/ Need of the proposal:

Objective:

To ensure reliable power supply by mitigating feeder overloading.

Existing Scenario:

- At present, 33kV Old Danpur feeder is emanating from Kendrapara GSS and feeding power supply to Danpur, DK Bhola & Korua/Kudanagari PSS. Feeder having conductor size of 100 sq.mm, with a peak load of 13.50 MVA.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- In addition, minimum ground clearance has not been maintained in several places over the feeder due to encroachment and due to increase of the existing soil level.
- Considering load growth for 2years @11% per year, 33kV Old Danpur feeder will be overloaded.

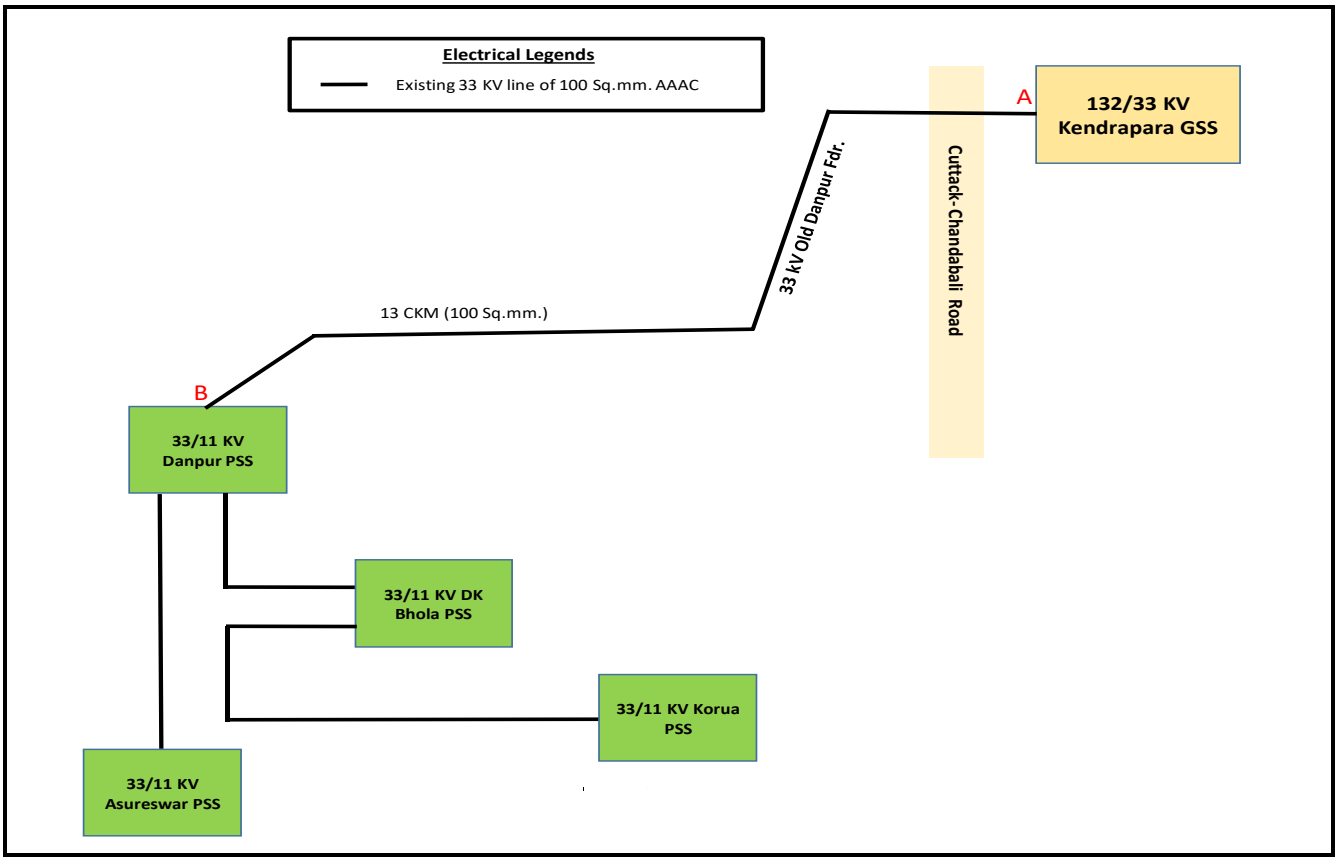
Existing Summer'26 Loading and projected load at 33kV Old Danpur Feeder:

Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**	**Loss Summer '28 (kW)**
Kendrapara	Old Danpur	15.54	13.50	87%	OK	16.63	107%	Overload	1792
Total Loss (kW)									**1792**

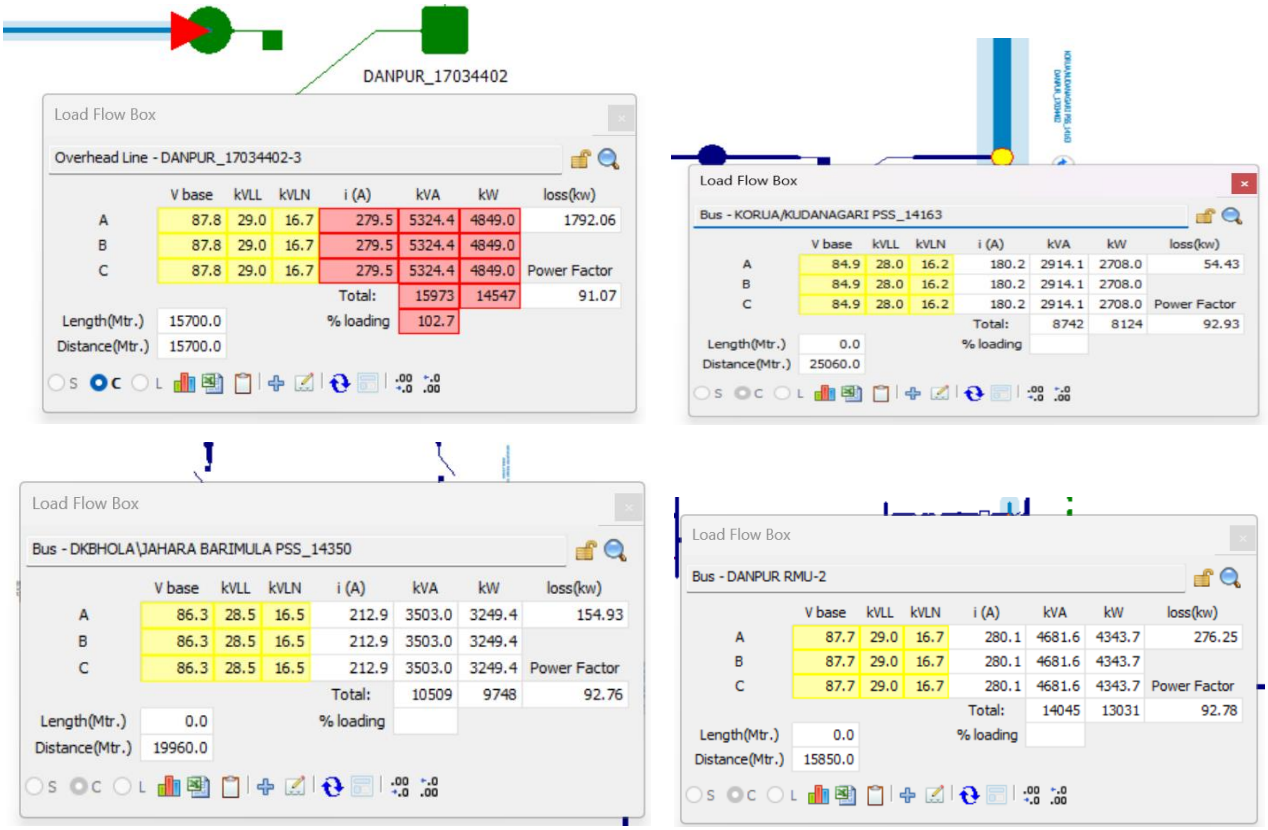
Existing Summer'26 voltage and projected voltage at PSS end:

33/11kV PSS Name	Voltage in kV in Summer '26	Projected Voltage with 2YR LG in kV in Summer '28 (Before Proposal)
Danpur	29.7	29
DK Bola	28.6	28.5
Korua	28.2	28

Existing SLD:



Network analysis using load flow software with 2 year load growth:



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 87% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 107%. In case the issue is not addressed, there will be load shedding of 27056 nos. consumers for prolonged period. No of 33 KV feeder tripping in FY26 is 89 No's. In existing scenario all the PSS are facing low voltage issue which will be further down in next two year with load growth if not attended.

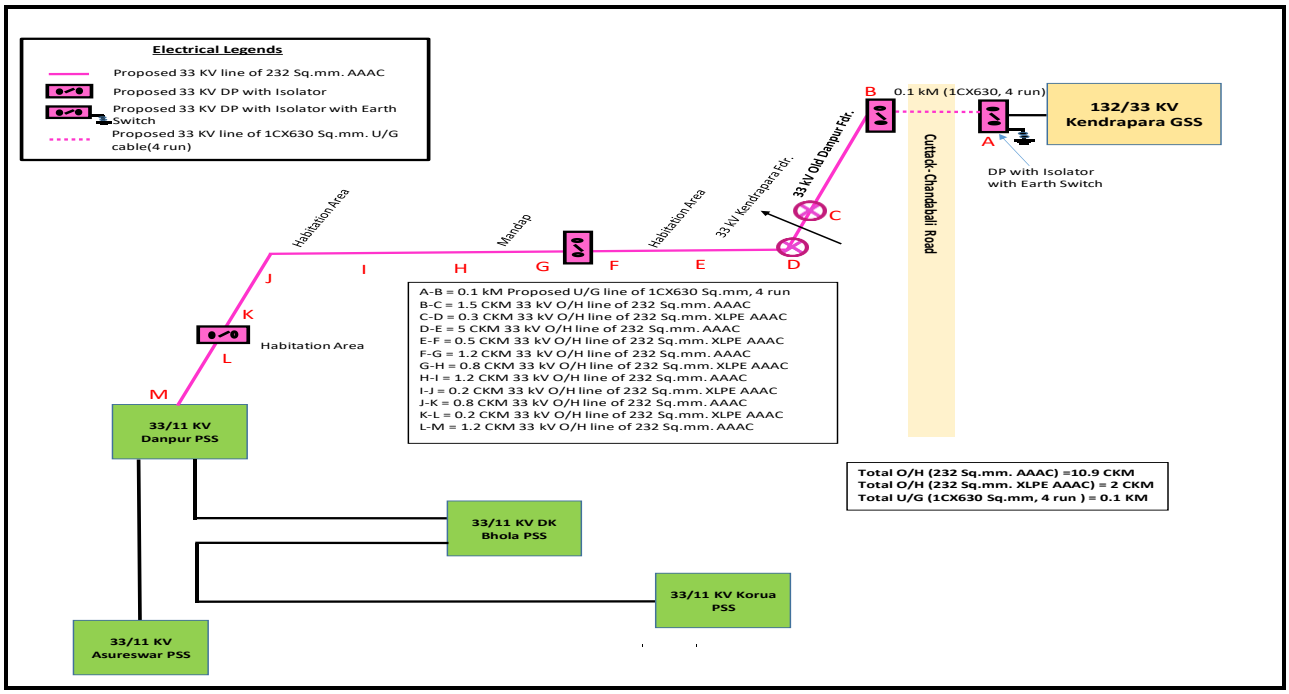
Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS: 398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 87% loaded w.r.t the current carrying capacity and will be overloaded to 107% with two-year load growth @ 11% per year.

Proposed Scenario:

- Augmentation proposed for 12.9 CKM 33 kV O/H line from Kendrapara GSS to Danpur PSS using 232 Sq.mm. AAAC/ 232 Sq.mm. XLPE AAAC & 13 Mtr. H-Pole for mitigation of overloading issue.
- Since the feeder is in within 0-60 kM of coastal area for cyclone resilient H-Pole has been considered.
- 33 kV U/G line proposed of 0.1 kM for SH (Cuttack Chandbali) crossing.
- 08 Nos 33 kV line protecting guarding proposed for road crossing.

Proposed SLD:



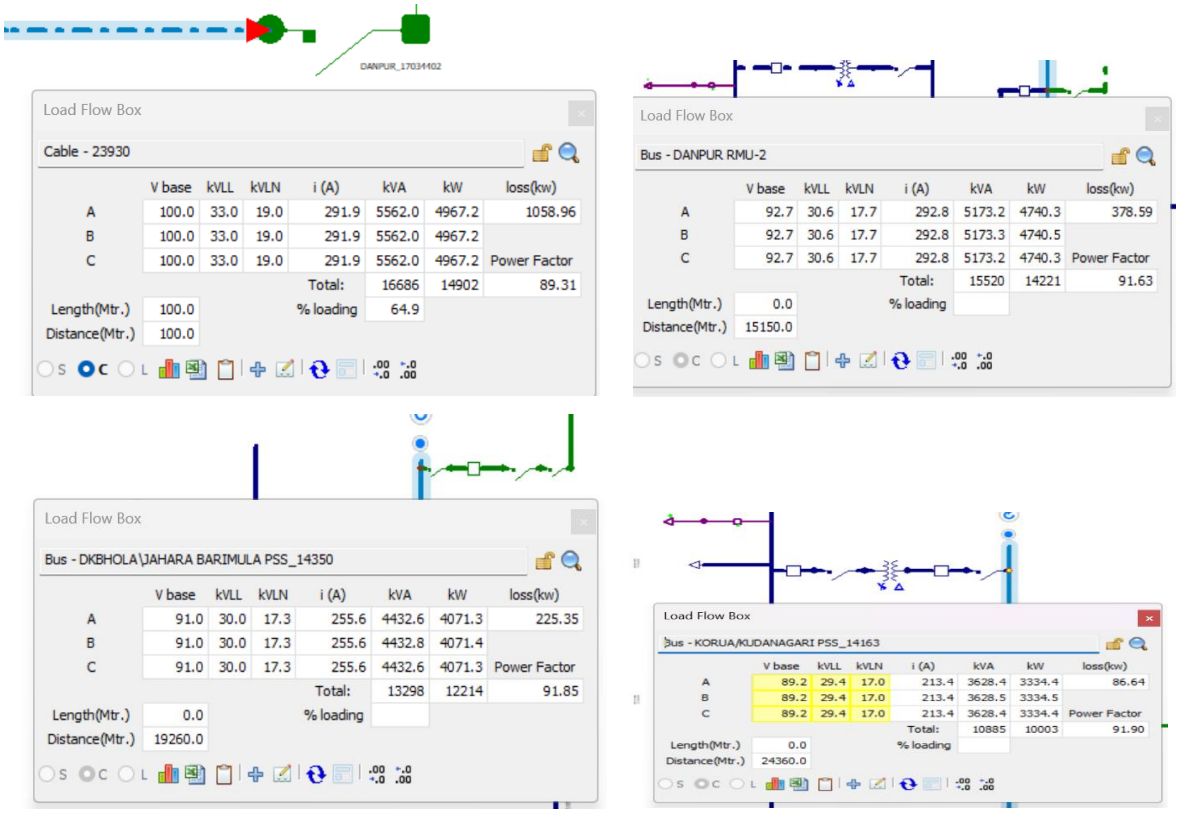
Proposed loading after execution of proposals:

Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'28 (kW)**
Kendrapara	Old Danpur	26.51	16.63	63%	OK	1059
Total Loss (kW)						**1059**

Proposed Voltage at the PSS end after execution of proposal in Summer'28 with 2YR LG

33/11kV PSS Name	Projected Voltage with 2YR LG in kV in Summer '28 (After Proposal)
Danpur	30.6
DK Bola	30
Korua	29.4

Network analysis using load flow software with 2 year load growth with proposal:



Scope of Work:

1. Augmentation & refurbishment of 33 kV feeder from Kendrapara GSS to Danpur PSS
2. Scope of work covers 10.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC and 2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC
3. Installation of 01 No. of 33 kV DP with Isolator with earth switch near Kendrapara GSS.

4. Installation of 12 Nos of 14 Mtr. H-Pole for 11 kV line crossing to maintain required safety clearances as per CEA guidelines.
5. Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (4 run) in HDD method.
6. Installation of 8 Nos 33 kV cuddle guard arrangement in road crossing having span 40 Mtr. each.

Proposed Cost with Estimate Break-up:

Name of the Division: -	KED-I	
Name of the Sub-Division: -	Kendrapara	
Name of the Section: -	Danpur	
Name of the Work: -	Proposal for augmentation/refurbishment of 13 CKM line of 33 kV Danpur Old Fdr. from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC to mitigate overloading issue.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 10.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)	37,578,507.73
2	PART B: 1. Construction of 2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD) 2. Installation of 01 No. of 33 kV DP with Isolator with earth switch (Refer PSLD)	7,767,483.76
3	PART C: Installation of 12 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing	1,813,284.54
4	PART D: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (4 run) in HDD method (Refer PSLD)	1,850,322.36
5	PART E: Installation of 8 Nos guarding having span 40 Mtr.	243,497.51
6	PART F: Dismantling portion	723,208.37
8	**Total Gross**	**49,976,304.28**
Total estimated cost is Rs. 5.00 Cr.		

Cost Estimate: ₹ 5.00 Cr. (For detailed BoQ refer Annexure-20.1).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sl. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	5.00	RS Cr
B	Additional load due to load growth	-	3133.35	kVA
C	Total kW due to load growth	BXPF (power factor)	2976.68	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	2607574	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	0.62	RS Cr
I	Revenue owing to tech. loss reduction	from Technical Loss Calculation	0.79	RS Cr
J	Net Revenue Collected	H+I	1.41	RS Cr
K	% revenue return	(J/A)X100	28.3	%
L	Pay Back Period	100/K	3.54	Years

Benefit to the system and consumers:

- Overloading mitigation of 33kV Old Danpur Feeder.
- Reduction in technical loss of network and improve the voltage profile.
- Ensure reliable & improved voltage supply to the consumers at Danpur, DK Bhola & Korua area.
- Annual average technical loss saving will be 253 kW.
- Improving the vertical clearances and other safety statutory requirements complying to CEA safety guidelines.

2. Proposal for overloading mitigation of 33kV New Rajnagar Feeder:

Proposal:

Proposal for augmentation of 7.1 CKM 33 kV O/H line of New Rajnagar feeder from Rajnagar GSS to Danpur PSS for feeder overloading mitigation and reliability improvement.

Requirement/ Need of the proposal:

Objective:

To ensure reliable power supply by mitigating feeder overloading.

Existing Scenario:

- At present, 33kV Old New Rajnagar feeder is emanating from Rajnagar GSS and feeding power supply to Rajnagar, Kandira & Badadia PSS. Feeder having conductor size of 100/148 sq.mm, with a peak load of 17 MVA.
- 2.5 CKM 33 kV O/H line (double circuit) from Rajnagar GSS to 6-pole is of 148 Sq.mm. AAAC & 13 Mtr. H-Pole and from 6-Pole to Rajnagar PSS is of 100 Sq.mm. AAAC which has very old conductor with multiple joint & short height pole.
- In addition, minimum ground clearance has not been maintained in several places over the feeder due to encroachment and due to increase of the existing soil level in the part of 6-Pole to Rajnagar PSS over the feeder.
- Considering load growth for 2years @11% per year, 33kV New Rajnagar feeder will be overloaded.

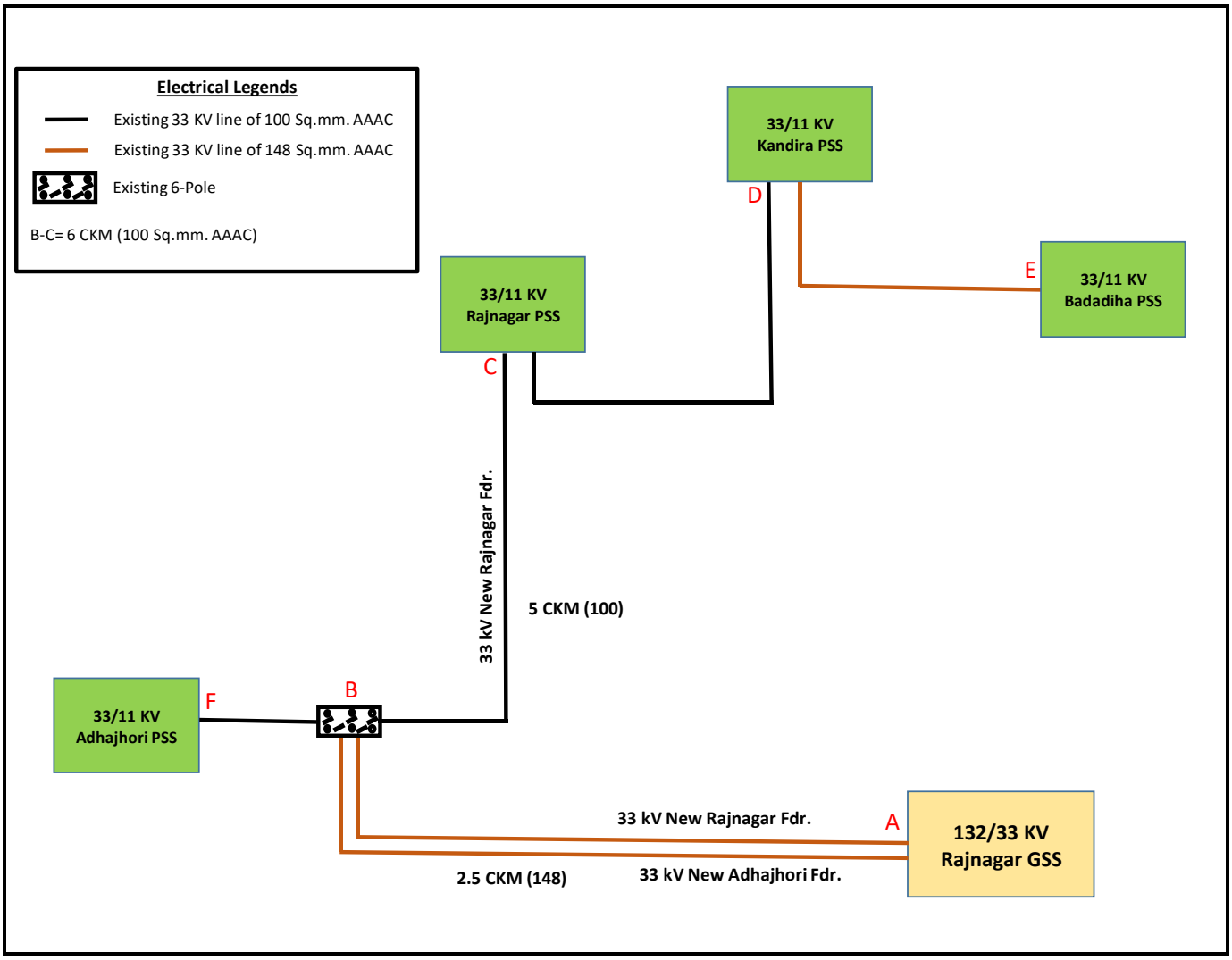
Existing Summer'26 Loading and projected load at 33kV New Rajnagar Feeder:

Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer' 28**	**Loss Summer' 28 (kW)**
Rajnagar	New Rajnagar	15.54	17.00	109%	Overload	20.95	135%	Overload	1863
Total Loss (kW)									**1863**

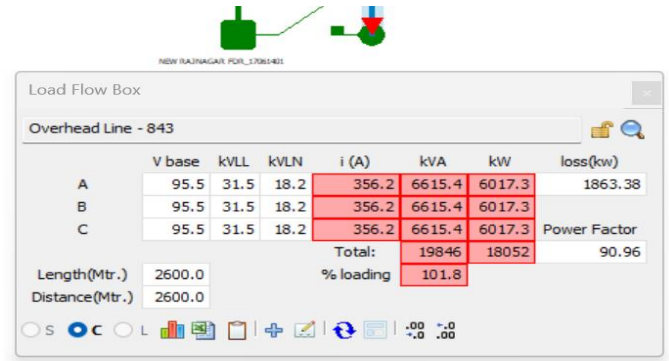
Existing Summer'26 voltage and projected voltage at PSS end:

33/11kV PSS Name	Voltage in kV in Summer '26	Projected Voltage with 2YR LG in kV in Summer '28 (Before Proposal)
Rajnagar	30.5	29.9
Kandira	28.3	27.3
Badadia	27.2	25.9

Existing SLD:

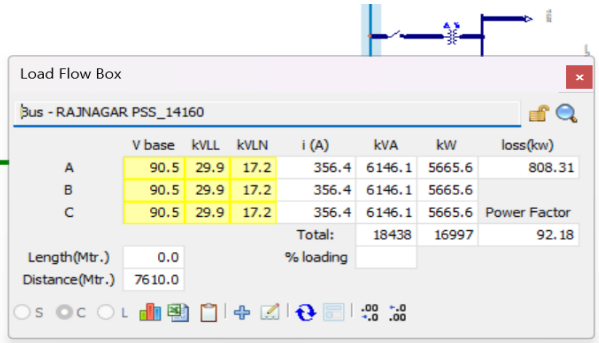


Network analysis using load flow software with 2 year load growth:


Load Flow Box

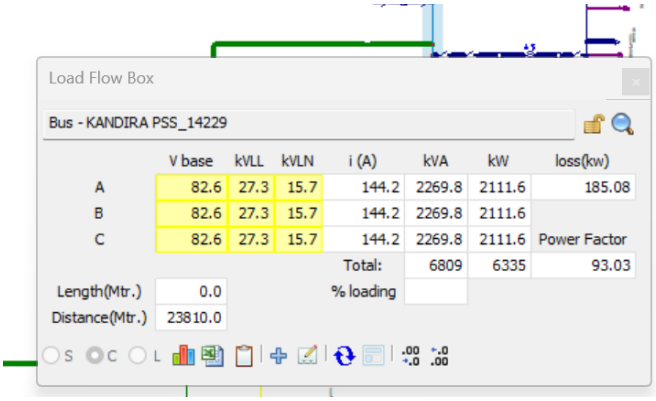
Overhead Line - 843

	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	95.5	31.5	18.2	356.2	6615.4	6017.3	1863.38
B	95.5	31.5	18.2	356.2	6615.4	6017.3	
C	95.5	31.5	18.2	356.2	6615.4	6017.3	Power Factor
				Total:	19846	18052	90.96
Length(Mtr.)	2600.0			% loading	101.8		
Distance(Mtr.)	2600.0						


Load Flow Box

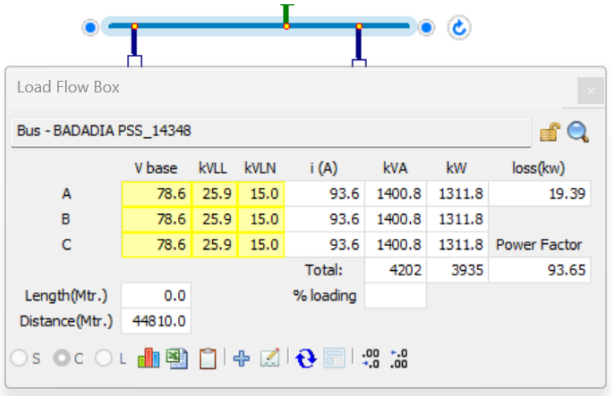
Bus - RAJNAGAR PSS_14160

	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	90.5	29.9	17.2	356.4	6146.1	5665.6	808.31
B	90.5	29.9	17.2	356.4	6146.1	5665.6	
C	90.5	29.9	17.2	356.4	6146.1	5665.6	Power Factor
				Total:	18438	16997	92.18
Length(Mtr.)	0.0			% loading			
Distance(Mtr.)	7610.0						


Load Flow Box

Bus - KANDIRA PSS_14229

	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	82.6	27.3	15.7	144.2	2269.8	2111.6	185.08
B	82.6	27.3	15.7	144.2	2269.8	2111.6	
C	82.6	27.3	15.7	144.2	2269.8	2111.6	Power Factor
				Total:	6809	6335	93.03
Length(Mtr.)	0.0			% loading			
Distance(Mtr.)	23810.0						


Load Flow Box

Bus - BADADIA PSS_14348

	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	78.6	25.9	15.0	93.6	1400.8	1311.8	19.39
B	78.6	25.9	15.0	93.6	1400.8	1311.8	
C	78.6	25.9	15.0	93.6	1400.8	1311.8	Power Factor
				Total:	4202	3935	93.65
Length(Mtr.)	0.0			% loading			
Distance(Mtr.)	44810.0						

Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 109% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 135%. In case the issue is not addressed, there will be load shedding of 37112 nos. consumers for prolonged period. No of 33 KV feeder tripping in FY26 is 103 No's. In existing scenario all the PSS are facing low voltage issue which will be further down in next two year with load growth if not attended.

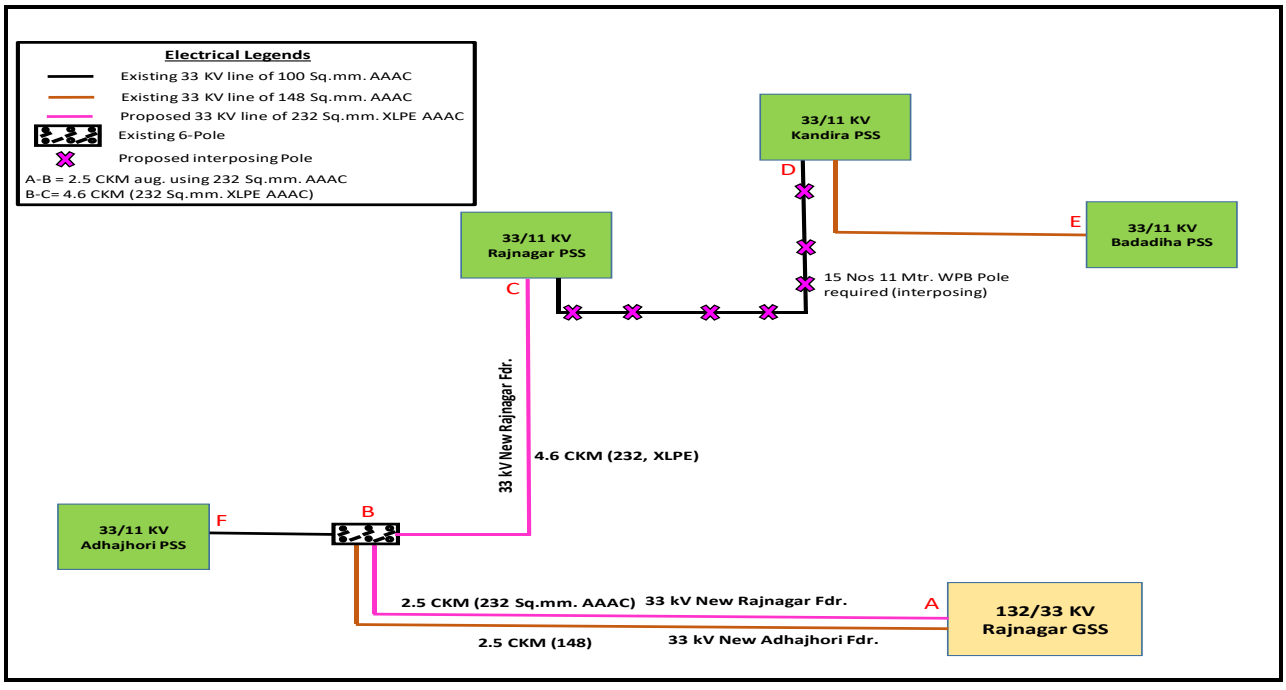
Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS: 398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 109% loaded w.r.t the current carrying capacity and will be overloaded to 135% with two-year load growth @ 11% per year.

Proposed Scenario:

- Augmentation proposed for 2.5 CKM 33 kV O/H line from Rajnagar GSS to Rajnagar 6-Pole using 232 Sq.mm. AAAC in existing 13 Mtr. H-Pole for mitigation of overloading issue of 33 kV Rajnagar feeder.
- Augmentation proposed for 4.6 CKM 33 kV O/H line from Rajnagar 6-Pole to Rajnagar PSS using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC for overloading mitigation.
- Since the feeder is in within 0-60 kM of coastal area for cyclone resilient H-Pole has been considered.
- 03 Nos 33 kV line protecting guarding proposed for road crossing.

Proposed SLD:



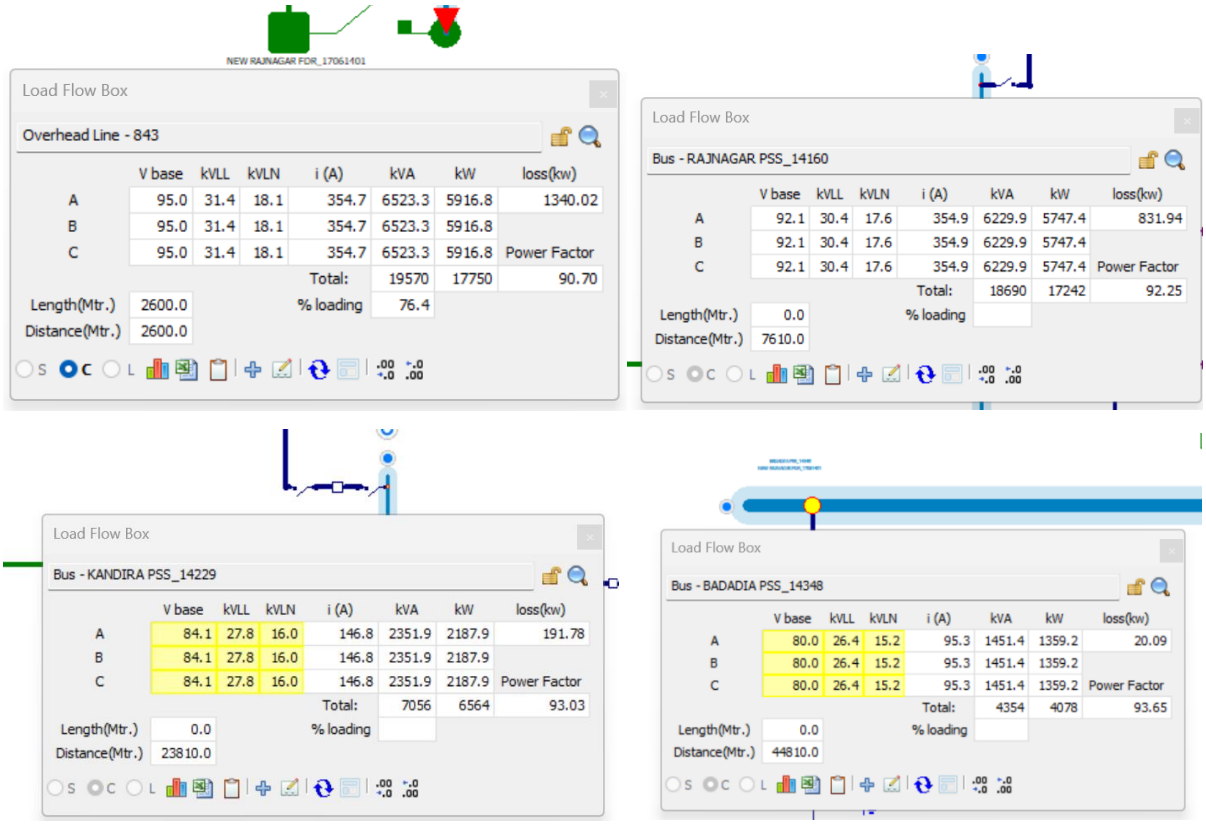
Proposed loading after execution of proposals:

Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'28 (kW)**
Rajnagar	New Rajnagar	26.51	20.95	79%	OK	1352
Total Loss (kW)						**1352**

Proposed Voltage at the PSS end after execution of proposal in Summer'28 with 2YR LG

33/11kV PSS Name	Projected Voltage with 2YR LG in kV in Summer '28 (After Proposal)
Rajnagar	30.4
Kandira	27.8
Badadia	26.4

Network analysis using load flow software with 2 year load growth with proposal:



Scope of Work:

1. Augmentation & refurbishment of 33 kV feeder from Rajnagar GSS to Rajnagar PSS.
2. Scope of work covers 4.6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC and 2.5 CKM 33 kV O/H line using 232 Sq.mm. AAAC (Existing pole will be re used).
3. Installation of 4 Nos of 14 Mtr. H-Pole for 11 kV line crossing to maintain required safety clearances as per CEA guidelines.

4. Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line for strengthening of feeder.
5. Installation of 03 Nos 33 kV cuddle guard arrangement in road crossing having span 30 Mtr. Each.

Proposed Cost with Estimate Break-up:

Name of the Division: -	KED-I	
Name of the Sub-Division: -	Rajnagar	
Name of the Section: -	Rajnagar-I	
Name of the Work: -	Proposal for augmentation of 7.1 CKM line of 33 kV New Rajnagar Fdr. from 100 Sq.mm./148 Sq.mm. AAAC to 232 Sq.mm.AAAC / XLPE AAAC to mitigate overloading issue.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Construction of 4.6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD) 2. Augmentation of 2.5 CKM 33 kV O/H line using 232 Sq.mm. AAAC (Existing pole will be re used) (Refer PSLD)	18,053,053.73
2	PART B: Installation of 4 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing	604,428.18
3	PART C: Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line (Refer PSLD)	945,503.79
4	PART D: Installation of 03 Nos guarding having span 30 Mtr.	88,032.94
5	PART E : Dismantling portion	283,925.70
6	**Total Gross**	**19,974,944.34**
Total estimated cost is Rs. 2.00 Cr.		

Cost Estimate: ₹ 2.00 Cr. (For detailed BoQ refer Annexure-20.2).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sl. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	2.00	RS Cr
B	Additional load due to load growth	-	3945.70	kVA
C	Total kW due to load growth	BXPF(power factor)	3748.42	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	3283612	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	0.78	RS Cr
I	Revenue owing to tech. loss reduction	from Technical Loss Calculation	0.55	RS Cr
J	Net Revenue Collected	H+I	1.33	RS Cr
K	% revenue return	(J/A)X100	66.8	%
L	Pay Back Period	100/K	1.50	Years

Benefit to the system and consumers:

- Overloading mitigation of 33kV New Rajnagar Feeder.
- Reduction in technical loss of network and improve the voltage profile.
- Ensure reliable & improve voltage supply to the consumers at Rajnagar, Balarampur,Talchua & Bhitarkanika area.
- Annual average technical loss saving will be 177 kW.
- Improving the vertical clearances and other safety statutory requirements complying to CEA safety guidelines.

3. Proposal for overloading mitigation and Reliability improvement for Dhekanal Town area:

Proposal:

Proposal for Augmentation of 33kV Gondia feeder to mitigate overloading of 33kV Dhenkanal Town feeder and provide 2nd source for Dakhinakali PSS to improve 33kV network reliability.

Requirement/ Need of the proposal:

Objective:

To ensure reliable power supply by Overload mitigation and providing ring connectivity for College PSS & Dakhinakali PSS.

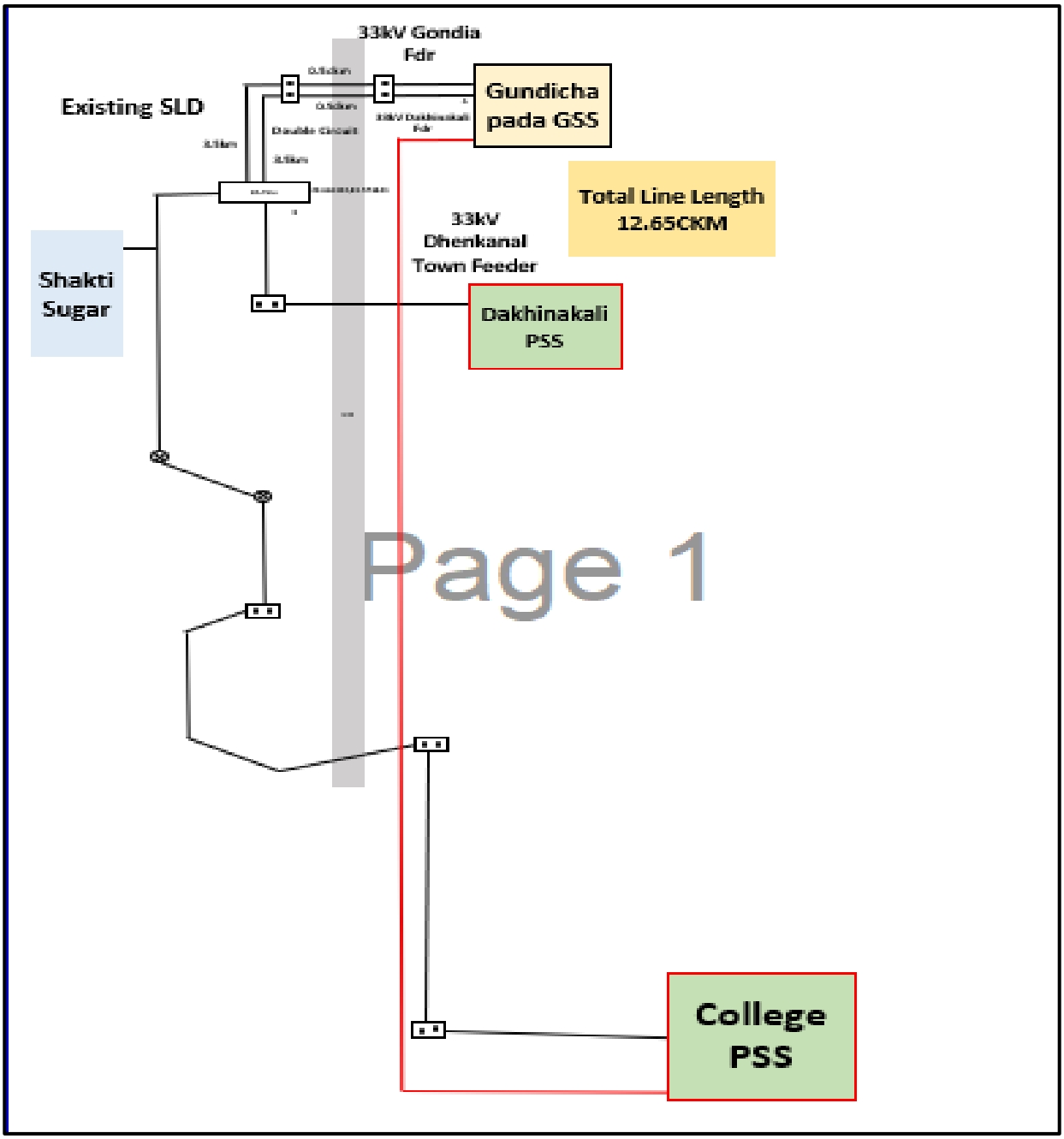
Existing Scenario:

- At present, 33kV Gondia feeder is emanating from Gundichapada GSS, and feeding Bhapur and Ghatipidi PSS. The 33kV Gondia feeder having length is 33Ckm with conductor size of 100 sq.mm and the peak load demand at summer'26 is 8MVA.
- 33kV Dhenkanal Town feeder is emanating from Gundichapada GSS, and feeding College PSS. The feeder having length of 13.5Ckm with conductor size of 148/232 sq.mm and the peak load demand at summer'26 is 21MVA.
- 33kV Dakhinakali feeder is emanating from Gundichapada GSS, and feeding Dakhinakali PSS. The feeder is radial, having length of 9Ckm with conductor size of 100 sq.mm and the peak load demand at summer'26 is 12MVA.
- Considering 2Yrs load growth @8% per year, the 33kV Dhenkanal Town feeder will be overload.
- Most of the part of these feeders passing overhead network arrangement in Forest area and unsafe clearance from households.

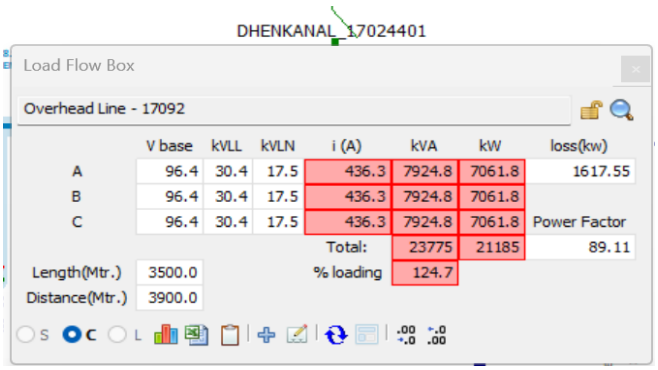
Existing Summer'26 Loading and projected load at 33kV Gondia Feeder:

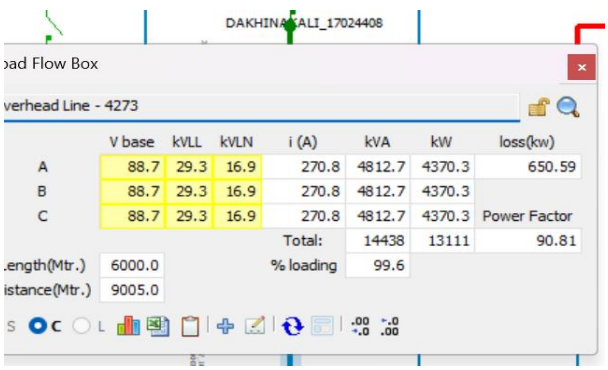
Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**	**Loss Summer' 28 (kW)**
Gundichapada	Gondia	15.54	8	48%	OK	9	56%	OK	646
	Dhenkanal Town	20.00	21	103%	Overload	24	120%	Overload	1618
	Dakhinakali	15.54	12	77%	OK	14	90%	OK	651
Total Loss (kW)									**2915**

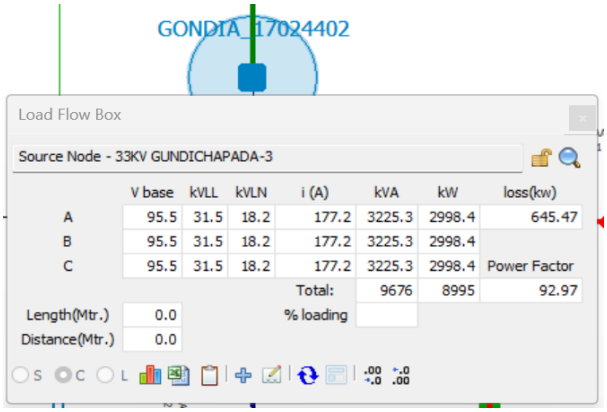
Existing SLD:



Network analysis using load flow software with 2year load growth







Priority and Timeline of the Project:

Priority: Since the Dhenkanal Town feeder loading has reached 103% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 120%. In case the issue is not addressed, there will be load shedding of 22153 nos. consumers for prolonged period.

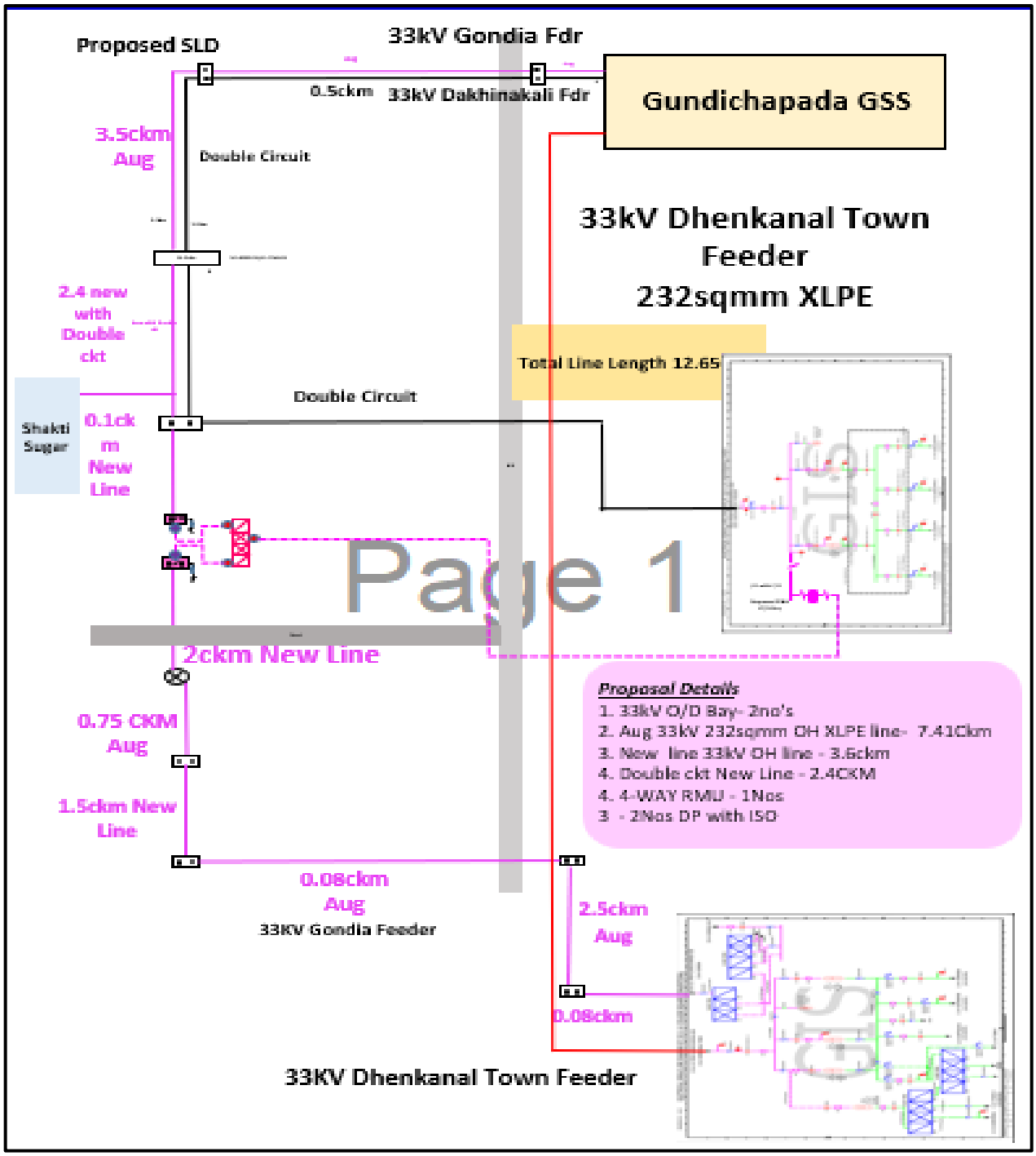
Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the 33kV Dhenkanal Town feeder is 103% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

- Augmentation of 33kV Gondia Feeder from Gundichapada Grid to 33/11kV College PSS.
- After execution of proposal, College PSS load will be able to take on 33kV Gondia Feeder.
- The proposal will enable 2nd source connectivity to Dakhinakali and College PSS and mitigate feeder overloading by Augmentation of 33kV Gondia feeder.

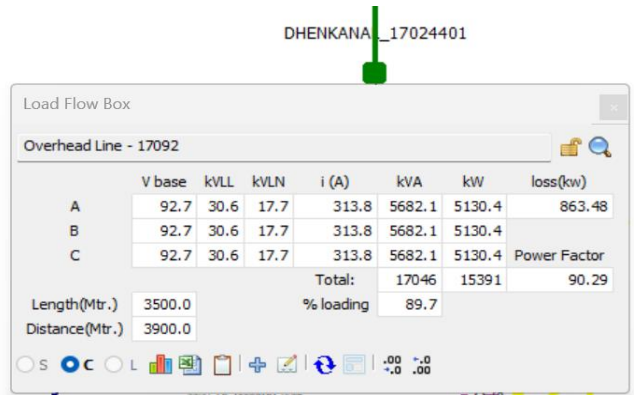
Proposed SLD:

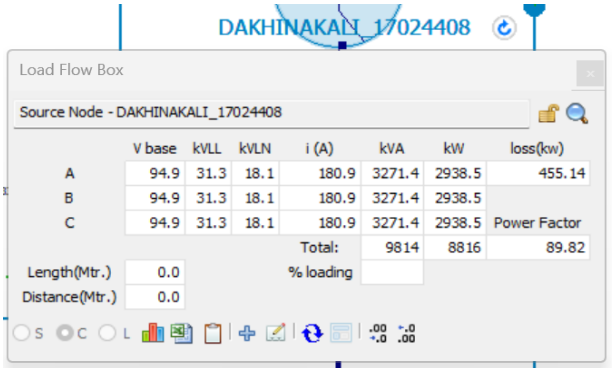


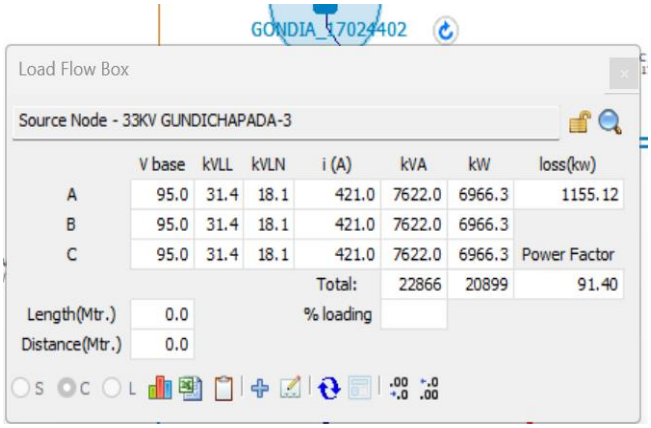
Proposed loading in Summer'28 after execution of proposals:

Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'28 (kW)**
Gundichapada	Gondia	26.51	22	81%	OK	1156
	Dhenkanal Town	20.00	16	80%	OK	864
	Dakhinakali	15.54	9	58%	OK	456
Total Loss (kW)						**2476**

Network analysis using load flow software with 2year load growth with proposal







Scope of Work:

1. Augmentation of 33kV Gondia Feeder- 15.91ckm.

Proposed Cost with Estimate Break-up:

Name of the Division :-	**DED (Dhenkanal)**
Name of the Work :-	Proposal for augmentation of 33kV Gondia feeder from Gundichapada GSS to College PSS, to mitigate college feeder overloading, providing 2nd source to PSS and improve network reliability.
Scope of work:-	Proposal Details 1. 33kV O/D Bay- 2no's 2. Aug 33kV 232sqmm OH XLPE line- 7.41Ckm 3. New line 33kV OH line - 3.6ckm 4. Double ckt New Line - 2.4CKM 4. 4-WAY RMU - 1Nos 3 - 2Nos DP with ISO 2 - 3Cx400sqmm (2.5Ckm) without spare
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***
ABSTRACT OF ESTIMATE	

Sl. No.	Part	Description	Amount
1	A	Part-A Construction of New Line 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-3.6ckm	₹ 1,23,00,775.65
2	B	Part-B Construction of Double ckt 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-2.4ckm	₹ 1,24,72,839.16
3	C	Part-C Aug 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-7.41ckm	₹ 1,65,28,908.54
4	D	Part-D Construction of Two No of 33 KV Outdoor Bay (Transformer & Line Bay) One is Dakhinakali PSS and College PSS	₹ 47,33,688.76
5	E	Part-E Supply and Laying of 33kV 3C, 400sqmm UG Cable without spare along with 33kV RMU-2.2km	₹ 2,39,15,013.68
		Total Amount	**₹ 6,99,51,225.79**
		Total Amount (In Cr)	**₹ 7.00**

Cost Estimate: ₹ 7.0 Cr. (For detailed BoQ refer Annexure-20.3).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	7.00	RS Cr
B	Additional load due to load growth	-	6400.00	kVA
C	Total kW due to load growth	BXPF(power factor)	6080.00	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	5326080	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	1.27	RS Cr
I	Revenue owing to tech. loss reduction	from Technical Loss Calculation	0.47	RS Cr
J	Net Revenue Collected	H+I	1.75	RS Cr
K	% revenue return	(J/A)X100	25.0	%
L	Pay Back Period	100/K	4.01	Years

Benefit to the system and consumers:

- Overloading mitigation of 33kV College Feeder.
- Provide 2nd source for 33/11kV College and Dakhinakali PSS.
- Reduction in technical loss of network and improve the voltage profile.
- Improving N-1 with ring connectivity for 33 Dhenkanal Town feeder.
- Ensure reliable & safe power supply to the consumers at Dhenkanal Area.
- Improving the vertical clearances and other safety statutory requirements complying to CEA safety guidelines.

4. Proposal for Overload mitigation and Reliability improvement for Dayanabili & MK Gola Area:

Proposal:

Proposal of new 33kV linking line from 33/11kV MK Gola PSS to 33/11kV Dayanabili PSS, which improve network reliability at Dayanabili & MK Gola by provide additional source and mitigating overloading.

Requirement/ Need of the proposal:

Objective:

To ensure reliable power supply by mitigation Overload of 33kV Bhuban feeder and providing ring connectivity for Dayanabili & MK Gola PSS.

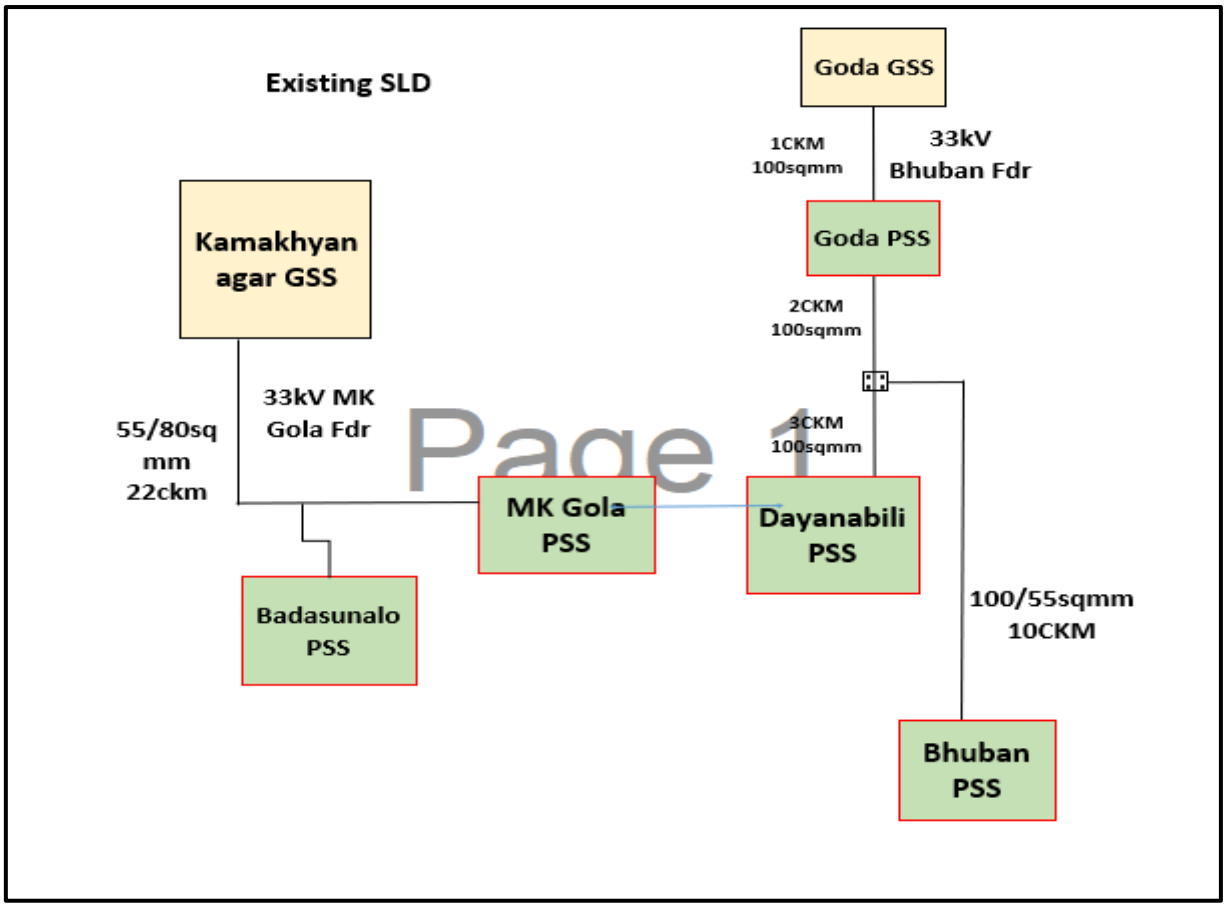
Existing Scenario:

- At present, 33kV MK Gola feeder is emanating from Kamakhyanagar GSS, and feeding Badasunao, MK Gola and Jiral PSS. The feeder is radial, having length of 27Ckm with conductor size of 100 sq.mm and the peak load demand at summer'26 is 6MVA.
- 33kV Goda feeder is emanating from Goda GSS, and feeding Goda, Dayanabil, Bhuban and Mahulpal PSS. The feeder is radial, having length of 32Ckm with conductor size of 148/100/80/55 sq.mm and the peak load demand at summer'26 is 13MVA. 33kV Bhbuan feeder from Goda Grid is under Execution which will further bifurcate load of 33kV Goda Feeder. Considering 2Yrs load growth @8% per year the feeder will be overload.
- Most of the part of these feeders passing overhead network arrangement in Forest area and this is length feeder. During any breakdown or maintenance work very difficult to restoration, which affect reliability of high value consumers.

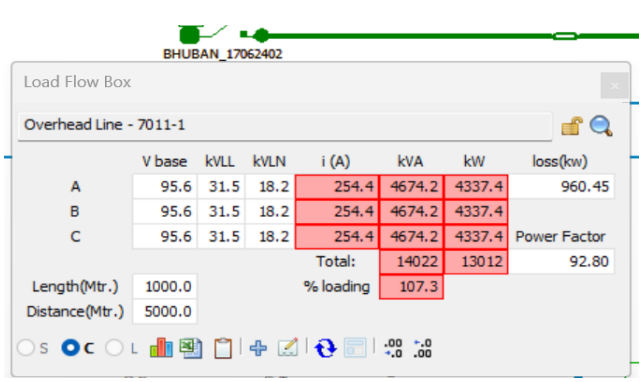
Existing Summer'26 Loading and projected load at 33kV Feeder:

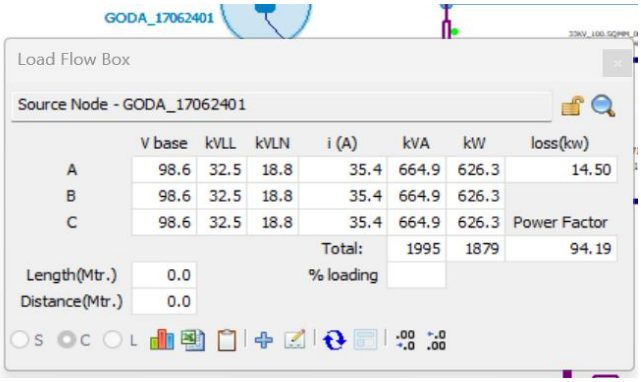
Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**	**Loss Summer'28 (kW)**
Goda	Goda	20.00	13	67%	OK	2	10%	OK	15
Goda	Bhuban	13.54	0	0%	OK	14	101%	Overload	960
Kamakhyanagar	M.K Gola	15.54	6	39%	OK	7	45%	OK	484
Total Loss (kW)									**1459**

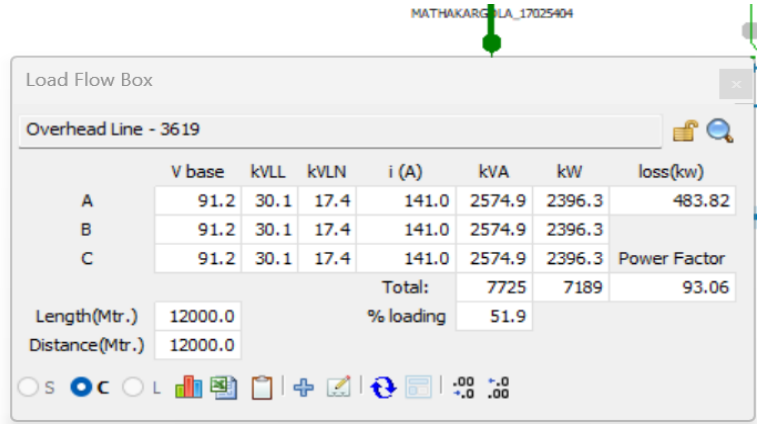
Existing SLD:



Network analysis using load flow software with 2Year load growth:







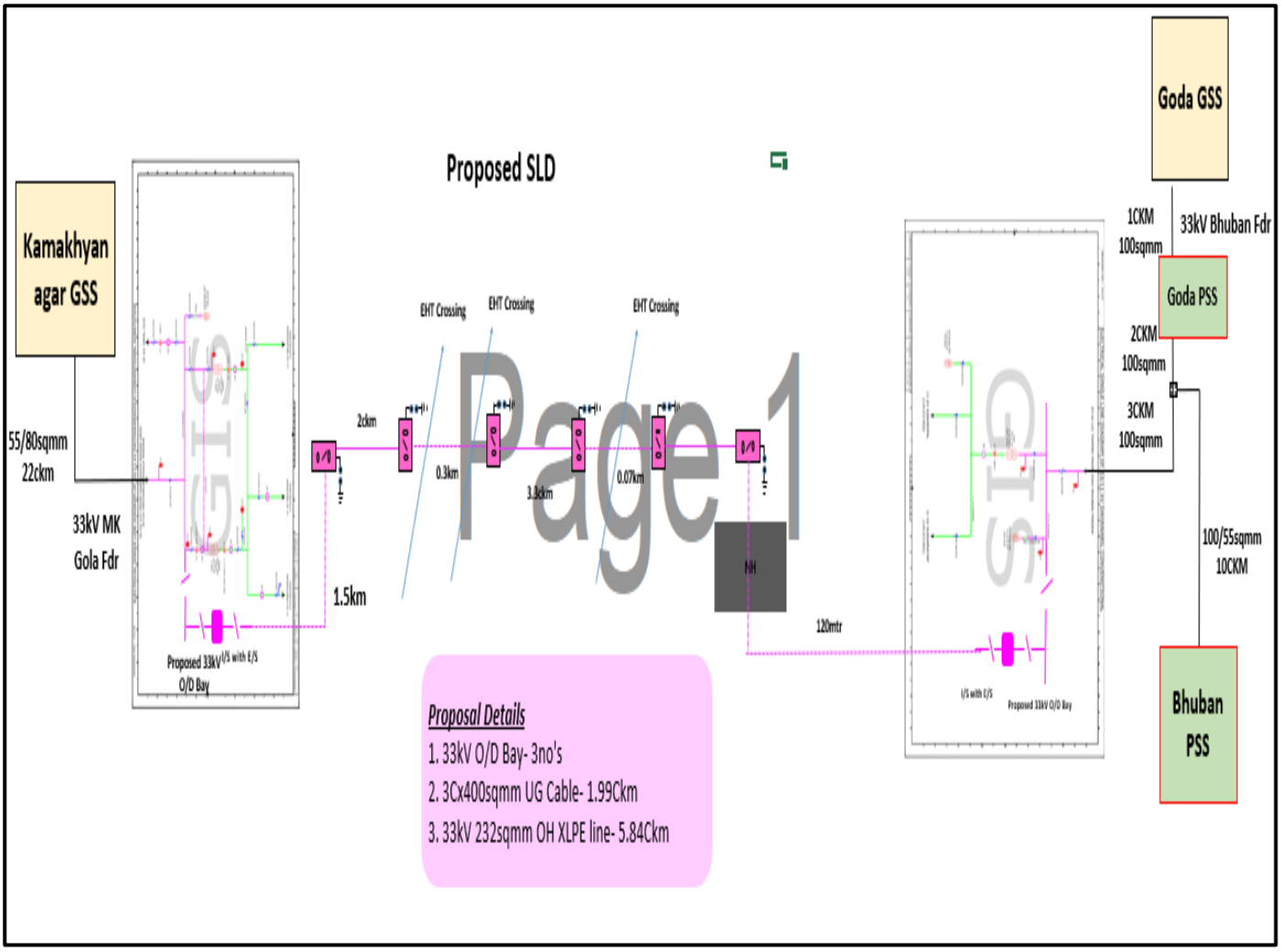
Priority and Timeline of the Project:

Priority: Since at present, the 33kV MK GOLA Feeder emanating from Kamakhyanagar GSS are serving 5657nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was _11_nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Construction of new 33kV linking line will provide addition 33kV source from Goda GSS to MK Gola & Dayanabili Area.
- After execution of proposal, during any breakdown or maintenance of existing 33kV feeders part load of the industrial area will restore which will improve network reliability of power supply.

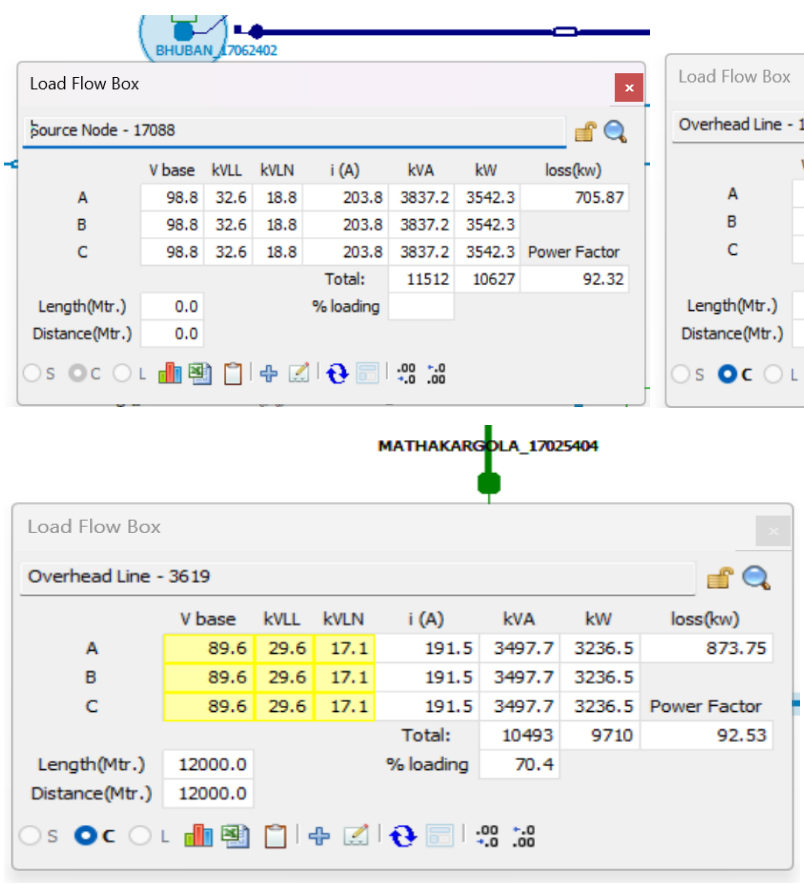
Proposed SLD:



Proposed loading in Summer'28 after execution of proposals:

Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'28 (kW)**
Goda	Goda	20.00	2	10%	OK	15
Goda	Bhuban	13.54	10	75%	OK	706
Kamakhyanagar	M.K Gola	15.54	11	68%	OK	874
Total Loss (kW)						**1595**

Network analysis using load flow software with 2Year load growth with proposal:



Scope of Work:

1. Construction of 33kV line using 232sqmm XLPE conductor- 5.84Ckm.
2. Installation of 33kV RMU -1 No.
3.Construction 33kV Outdoor Bay – 3Nos
3. Supply & laying of 33kV 1R,3CX400 Sq.mm. XLPE U/G cable- 1.99Ckm.

Proposed Cost with Estimate Break-up:

Name of the Division :-	**DED (Dhenkanal)**
Name of the Work :-	Proposal for New 33kV linking line from 33/11kV MK Gola PSS to 33/11kV Dayanabili PSS, to enabling ring connectivity and provide 2nd 33kV source to PSS, mitigate overloading and improve network reliability.
Scope of work:-	Proposal Details 1. 33kV O/D Bay- 3no's 2. 3Cx400sqmm UG Cable- 1.99Ckm 3. 33kV 232sqmm OH XLPE line- 5.84Ckm
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***

ABSTRACT OF ESTIMATE

Sl. No.	Part	Description	Amount
1	A	Part-A Construction of 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-5.84ckm	₹ 2,18,03,190.36
2	B	Part-B Supply and Laying of UG cable 3C, 400sqmm UG Cable without spare-1.99km	₹ 2,02,77,764.04
3	C	Part-C-Construction of 3 No of 33 KV Outdoor Bay (Transformer & Line Bay) One Nos MK Gola PSS and 2Nos Dayanabil PSS	₹ 1,79,22,622.19
		Total Amount	**₹ 6,00,03,576.59**
		Total Amount (In Cr)	**₹ 6.00**

Cost Estimate: ₹ 6.00 Cr. (For detailed BoQ refer Annexure-20.4).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	6.00	RS Cr
B	Additional load due to load growth	-	3228.16	kVA
C	Total kW due to load growth	BXPF(power factor)	3066.75	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	2686475	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	0.64	RS Cr
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	-0.15	RS Cr
J	Net Revenue Collected	H+I	0.50	RS Cr
K	% revenue return	(J/A)X100	8.3	%
L	Pay Back Period	100/K	12.10	Years

Benefit to the system and consumers:

- Additional 33kV source from other GSS with ring connectivity to MK Gola and Badasunalo PSS.
- Overloading mitigation for 33kV Bhuban feeder.
- Improve network reliability for power supply for Dayanabili & MK Gola Area.
- Improving the vertical clearances and other safety statutory requirements complying to CEA safety guidelines.

ANNEXURE-20.1		
TPCODL		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Kendrapara	
Name of the Section : -	Danpur	
Name of the Work :-	Proposal for augmentation/refurbishment of 13 CKM line of 33 kV Danpur Old Fdr. from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC to mitigate overloading issue.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 10.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)	37,578,507.73
2	PART B: 1. Construction of 2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD) 2. Installation of 01 No. of 33 kV DP with Isolator with earth switch (Refer PSLD)	7,767,483.76
3	PART C: Installation of 12 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing	1,813,284.54
4	PART D: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (4 run) in HDD method (Refer PSLD)	1,850,322.36
5	PART E: Installation of 8 Nos guarding having span 40 Mtr.	243,497.51
6	PART F : Dismantling portion	723,208.37
8	**Total Gross**	**49,976,304.28**
Total estimated cost is Rs. 5.00 Cr.		

PART A: Construction of 10.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	11

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	22	747,340.00
2	GI Channel,angle, flat of different size	KG	78.00	2314.862	180,559.24
3	Danger Plate	EA	180.00	22	3,960.00
4	H.T. Stay clamp	EA	260.00	44	11,440.00
5	H.T. Stay set (Complete)	SET	1,434.00	44	63,096.00
6	H.T. Stay Insulator Type-C	EA	87.00	88	7,656.00
7	7/8 SWG Stay Wire	KG	75.00	660	49,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	22	28,600.00
9	GI barbed wire anticlimbing device	KG	74.00	66	4,884.00
10	33 kV pin insulator polymer	EA	398.00	33	13,134.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	66	41,646.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	66	19,074.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	66	21,978.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	138.908	10,279.19
15	POLYCARBONATE BIRD GUARD	EA	21.00	99	2,079.00
A1				**Total Cost of materials**	**1,205,225.43**
A2				**Applicable Taxes to make it Landed Cost @18%**	**216,940.58**
A				**Total landed Cost (A=A1 + A2)**	**1,422,166.01**
B				Stock, Storage & Insurance i.e 3% of A	42,664.98
C				**Sub Total (A+B)**	**1,464,830.99**
D				Contigency @ 3% of C	43,944.93
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	25,400.24
F				Transportation @ 7.5% of C	109,862.32
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	45,415.85
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	36,169.51
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,725,623.84**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	44	101,267.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	12.1	80,451.09
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.475	16,455.90
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	22	83,264.06
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	11	9,196.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	22	6,233.48
K1				**Total Civil & Services**	**296,867.63**
K2				**Applicable Taxes to make it Landed Cost @18%**	**53,436.17**
K				**Total landed Cost (K=K1+ K2)**	**350,303.80**
L				**Total (J+K)**	2,075,927.64
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**2,075,927.64**
O				CESS 1% of N	20,759.28
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**2,096,686.92**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	3

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	203,820.00
2	GI Channel,angle & flat of different size	KG	78.00	1659.579	129,447.16
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
8	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	187,068.00
13	33KV pin insulator polymer	EA	398.00	9	3,582.00

14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	18	11,358.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	18	5,994.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	66.684	4,934.62
18	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**640,811.78**
A2				**Applicable Taxes to make it Landed Cost @18%**	**115,346.12**
A				**Total landed Cost (A=A1 + A2)**	**756,157.90**
B				Stock, Storage & Insurance i.e 3% of A	22,684.74
C				**Sub Total (A+B)**	**778,842.63**
D				Contigency @ 3% of C	23,365.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	14,514.20
F				Transportation @ 7.5% of C	58,413.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	47,798.74
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**935,320.20**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	1,030,857.60
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,030,857.60**
O				CESS 1% of N	10,308.58
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**1,041,166.17**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	9

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	9	547,470.00
2	GI Channel,angle & flat of different size	KG	78.00	405.936	31,663.01
3	Danger Plate	EA	180.00	9	1,620.00
4	H.T. Stay clamp	EA	260.00	18	4,680.00
5	H.T. Stay set (Complete)	SET	1,434.00	18	25,812.00
6	H.T. Stay Insulator Type-C	EA	87.00	36	3,132.00
7	7/8 SWG Stay Wire	KG	75.00	270	20,250.00
8	GI barbed wire anticlimbing device	KG	74.00	27	1,998.00
9	33KV pin insulator polymer	EA	398.00	27	10,746.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	54	34,074.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	54	15,606.00
12	Earthing of Support (Coil Type)	EA	164.00	9	1,476.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	54	17,982.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	48.276	3,572.42
15	POLYCARBONATE BIRD GUARD	EA	21.00	81	1,701.00
A1				**Total Cost of materials**	**721,782.43**
A2				**Applicable Taxes to make it Landed Cost @18%**	**129,920.84**
A				**Total landed Cost (A=A1 + A2)**	**851,703.27**
B				Stock, Storage & Insurance i.e 3% of A	25,551.10
C				**Sub Total (A+B)**	**877,254.37**
D				Contigency @ 3% of C	26,317.63
E				Tools & Plants @ 2% of C	16,235.52
F				Transportation @ 7.5% of C	65,794.08
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	33,269.75
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,638.09
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**1,033,509.43**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.95	32,911.81
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.0125	6,731.96
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	18	41,427.45
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	9	7,524.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	9	2,550.06
K1				**Total Civil & Services**	**91,145.28**
K2				**Applicable Taxes to make it Landed Cost @18%**	**16,406.15**
K				**Total landed Cost (K=K1+ K2)**	**107,551.43**
L				**Total (J+K)**	1,141,060.86
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**1,141,060.86**
O				CESS 1% of N	11,410.61
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**1,152,471.47**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	10

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	10	608,300.00
2	GI Channel,angle & flat of different size	KG	78.00	858.42	66,956.76
3	Danger Plate	EA	180.00	10	1,800.00
4	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
5	33KV pin insulator polymer	EA	398.00	40	15,920.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	60	37,860.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	60	17,340.00
8	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	60	19,980.00
10	H.T. Stay clamp	EA	260.00	20	5,200.00
11	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
12	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
13	7/8 SWG Stay Wire	KG	75.00	300	22,500.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	108.2	8,006.80
15	POLYCARBONATE BIRD GUARD	EA	21.00	100	2,100.00
A1				**Total Cost of materials**	**840,243.56**
A2				**Applicable Taxes to make it Landed Cost @18%**	**151,243.84**
A				**Total landed Cost (A=A1 + A2)**	**991,487.40**
B				Stock, Storage & Insurance i.e 3% of A	29,744.62
C				**Sub Total (A+B)**	**1,021,232.02**
D				Contigency @ 3% of C	30,636.96
E				Tools & Plants @ 2% of C (Except HT Stay Set)	19,011.86
F				Transportation @ 7.5% of C	76,592.40
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				36,966.39
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				21,126.52
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,205,566.15**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.500	36,568.68
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.125	7,479.96
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**101,272.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,229.06**
K				**Total landed Cost (K=K1+ K2)**	**119,501.59**
L				**Total (J+K)**	1,325,067.74
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**1,325,067.74**
O				CESS 1% of N	13,250.68

P	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				1,338,318.42
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		10.9		

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	225	13,686,750.00
2	33 KV V cross Arm (GI)	EA	1,701.00	225	382,725.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	225	18,225.00
4	Danger Plate	EA	180.00	225	40,500.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	492.75	38,434.50
6	GI barbed wire anticlimbing device	KG	74.00	675.00	49,950.00
7	33 kV pin insulator polymer	EA	398.00	675	268,650.00
8	Earthing of Support (Coil Type)	EA	164.00	225	36,900.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	526.95	38,994.30
10	232 sq.mm AAA conductor	M	181.65	33681.00	6,118,153.65
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	30	28,789.85
12	POLYCARBONATE BIRD GUARD	EA	21.00	675	14,175.00
A1				**Total Cost of materials**	**20,722,247.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,730,004.51**
A				**Total landed Cost (A=A1 + A2)**	**24,452,251.81**
B				Stock, Storage & Insurance i.e 3% of A	733,567.55
C				**Sub Total (A+B)**	**25,185,819.37**
D				Contigency @ 3% of C	755,574.58
E				Tools & Plants @ 2% of C	503,716.39
F				Transportation @ 7.5% of C	1,888,936.45
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				831,743.80
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				855,094.34
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**30,020,884.93**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	123.75	822,795.19
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	25.31	168,299.02
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	225	188,100.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	225	63,751.50
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	10.9	114,123.00
K1				**Total Civil & Services**	**1,357,068.70**
K2				**Applicable Taxes to make it Landed Cost @18%**	**244,272.37**
K				**Total landed Cost (K=K1+ K2)**	**1,601,341.07**
L				**Total (J+K)**	31,622,226.00
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**31,622,226.00**
O				CESS 1% of N	316,222.26
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**31,938,448.26**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	2,096,686.92
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	1,041,166.17
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	1,152,471.47
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	1,338,318.42
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	31,938,448.26
Q	**Gross Total Material +Services**	**37,567,091.23**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	7,425.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**9,675.00**
V	GST @ 18% on Total Inspection Fees (U)	1,741.50
W	Total Inspection Fees including GST (U+V)	11,416.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**37,578,507.73**

PART B:
1. Construction of 2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)
2. Installation of 01 No. of 33 kV DP with Isolator with earth switch (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	2

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle, flat of different size	KG	78.00	420.884	32,828.95
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	33 kV pin insulator polymer	EA	398.00	6	2,388.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	25.256	1,868.94
A1				**Total Cost of materials**	**248,705.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**44,767.06**
A				**Total landed Cost (A=A1 + A2)**	**293,472.96**
B				Stock, Storage & Insurance i.e 3% of A	8,804.19
C				**Sub Total (A+B)**	**302,277.15**
D				Contigency @ 3% of C	9,068.31
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,337.11
F				Transportation @ 7.5% of C	22,670.79
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	10,170.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**357,781.48**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	421,473.08
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**421,473.08**
O				CESS 1% of N	4,214.73
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**425,687.81**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	1

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00

12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch	EA	86,858.00	1	86,858.00
13	33KV pin insulator polymer	EA	398.00	3	1,194.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
A1				**Total Cost of materials**	**252,892.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,520.73**
A				**Total landed Cost (A=A1 + A2)**	**298,413.65**
B				Stock, Storage & Insurance i.e 3% of A	8,952.41
C				**Sub Total (A+B)**	**307,366.06**
D				Contigency @ 3% of C	9,220.98
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,793.11
F				Transportation @ 7.5% of C	23,052.45
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	20,708.10
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**370,269.42**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	402,115.22
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**402,115.22**
O				CESS 1% of N	4,021.15
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**406,136.37**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	2

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	2	121,660.00
2	GI Channel,angle & flat of different size	KG	78.00	90.744	7,078.03
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	33KV pin insulator polymer	EA	398.00	6	2,388.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**184,711.44**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,248.06**
A				**Total landed Cost (A=A1 + A2)**	**217,959.50**
B				Stock, Storage & Insurance i.e 3% of A	6,538.78
C				**Sub Total (A+B)**	**224,498.28**
D				Contigency @ 3% of C	6,734.95
E				Tools & Plants @ 2% of C	4,344.46
F				Transportation @ 7.5% of C	16,837.37
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,393.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	6,935.73

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**266,744.07**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1	**Total Civil & Services**				**15,651.46**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,817.26**
K	**Total landed Cost (K=K1+ K2)**				**18,468.72**
L	**Total (J+K)**				285,212.79
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**285,212.79**
O	CESS 1% of N				2,852.13
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**288,064.92**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	2

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	2	121,660.00
2	GI Channel,angle & flat of different size	KG	78.00	178.404	13,915.51
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	33KV pin insulator polymer	EA	398.00	8	3,184.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	8	960.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**198,222.92**
A2	**Applicable Taxes to make it Landed Cost @18%**				**35,680.13**
A	**Total landed Cost (A=A1 + A2)**				**233,903.05**
B	Stock, Storage & Insurance i.e 3% of A				7,017.09
C	**Sub Total (A+B)**				**240,920.14**
D	Contigency @ 3% of C				7,227.60
E	Tools & Plants @ 2% of C (Except HT Stay Set)				4,535.85
F	Transportation @ 7.5% of C				18,069.01
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,393.28
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,892.68
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**286,038.55**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.100	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1	**Total Civil & Services**				**20,254.51**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,645.81**
K	**Total landed Cost (K=K1+ K2)**				**23,900.32**
L	**Total (J+K)**				309,938.87
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**309,938.87**

O	CESS 1% of N	3,099.39
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**313,038.26**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)			2		
MATERIALS FOR 33 KV Pin Points					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	31	1,885,730.00
2	33 KV V cross Arm (GI)	EA	1,701.00	31	52,731.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	31	2,511.00
4	Danger Plate	EA	180.00	31	5,580.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	67.89	5,295.42
6	GI barbed wire anticlimbing device	KG	74.00	93.00	6,882.00
7	33 kV pin insulator polymer	EA	398.00	93	37,014.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	93	11,160.00
10	Earthing of Support (Coil Type)	EA	164.00	31	5,084.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	72.04	5,331.26
12	232 sq.mm XLPE AAA covered conductor	M	342.00	6180.00	2,113,560.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	6	4,500.00
A1	**Total Cost of materials**				**4,135,378.68**
A2	**Applicable Taxes to make it Landed Cost @18%**				**744,368.16**
A	**Total landed Cost (A=A1 + A2)**				**4,879,746.84**
B	Stock, Storage & Insurance i.e 3% of A				146,392.41
C	**Sub Total (A+B)**				**5,026,139.24**
D	Contigency @ 3% of C				150,784.18
E	Tools & Plants @ 2% of C				100,522.78
F	Transportation @ 7.5% of C				376,960.44
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				114,595.81
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				273,422.30
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**6,042,424.76**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	17.05	113,362.89
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.49	23,187.86
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	31	25,916.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	31	8,783.54
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1	**Total Civil & Services**				**192,190.30**
K2	**Applicable Taxes to make it Landed Cost @18%**				**34,594.25**
K	**Total landed Cost (K=K1+ K2)**				**226,784.55**
L	**Total (J+K)**				6,269,209.31
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**6,269,209.31**
O	CESS 1% of N				62,692.09
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**6,331,901.40**
Gross Total Summary					
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				425,687.81
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				406,136.37
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				288,064.92
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				313,038.26
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				6,331,901.40
Q	**Gross Total Material +Services**				**7,764,828.76**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				750.00
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**2,250.00**
V	GST @ 18% on Total Inspection Fees (U)				405.00
W	Total Inspection Fees including GST (U+V)				2,655.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**7,767,483.76**

PART C: Installation of 12 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	12

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	12	786,840.00
2	GI Channel,angle & flat of different size	KG	78.00	544.464	42,468.19
3	Danger Plate	EA	180.00	12	2,160.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
9	33KV pin insulator polymer	EA	398.00	36	14,328.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	36	4,320.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	72	64,800.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	72	180,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	72	20,808.00
15	Earthing of Support (Coil Type)	EA	164.00	12	1,968.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	119.952	8,876.45
A1				**Total Cost of materials**	**1,165,148.64**
A2				**Applicable Taxes to make it Landed Cost @18%**	**209,726.76**
A				**Total landed Cost (A=A1 + A2)**	**1,374,875.40**
B				Stock, Storage & Insurance i.e 3% of A	41,246.26
C				**Sub Total (A+B)**	**1,416,121.66**
D				Contigency @ 3% of C	42,483.65
E				Tools & Plants @ 2% of C	27,449.39
F				Transportation @ 7.5% of C	106,209.12
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				47,816.27
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				41,614.40
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,681,694.49**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.96	46,276.00
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	12	10,032.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**96,302.32**
K2				**Applicable Taxes to make it Landed Cost @18%**	**17,334.42**
K				**Total landed Cost (K=K1+ K2)**	**113,636.74**
L				**Total (J+K)**	1,795,331.23
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**1,795,331.23**
O				CESS 1% of N	17,953.31
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**1,813,284.54**

PART D: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (4 run) in HDD method (Refer PSLD)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
b	***Length of 33kV 1C, 630sqmm cable (HDD)***	***M***	***100***		
1.1	Supply of 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	400	1,279.00	511,600.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	8	7,521.00	60,168.00
	Sub Total (Supply Portion) (in Rs.)				**571,768.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by **open trench method**.	M	400	96.66	38,664.00
1.2	Erection of **Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits** Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium UG cable kits	EA	8	2,129.37	17,034.97
1.3	Laying of HDPE pipe (110mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	400	2,100.00	840,000.00
	Sub Total (Erection Portion) (in Rs.)				**895,698.97**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
2	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.1	10,470.00	1,047.00
	Sub Total (Civil Portion) (in Rs.)				**3,117.34**

A1	**Sub Total (Supply Portion)**	**571,768.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**102,918.24**
A	**Total Landed Cost (A=A1 + A2)**	**674,686.24**
B	Stock, Storage & Insurance @ 3 % of A	20,240.59
C	**Sub Total (A+B)**	**694,926.83**
D	Contingency @ 3 % of C	20,847.80
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	52,119.51
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**767,894.14**
I1	Sub Total (Erection Portion + Civil Portion)	898,816.31
I2	**Applicable Taxes to make it Landed Cost @18%**	**161,786.94**

I	**Total landed Cost (I=I1+ I2)**	**1,060,603.24**
J	**Total Cost (H+I)**	**1,828,497.39**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,828,497.39**
M	CESS 1% of L	18,284.97
N	**Grand Total (L+M)**	**1,846,782.36**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,000.00**
T	GST @ 18% on Total Inspection Fees (S)	540.00
U	Total Inspection Fees including GST (S+T)	3,540.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,850,322.36**

PART E: Installation of 8 Nos guarding having span 40 Mtr.

No. of 33 KV Line Protecting Guarding	8
Length of 33 KV Line Protecting Guarding in Mtr.	40

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	921.976	71,914.13
2	No-10 GI wire for lacing	KG	78.00	52.4	4,087.20
3	No-8 GI wire for guard wire	KG	78.00	245.76	19,169.28
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	16	20,800.00
A1				**Total Cost of materials**	**115,970.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,874.71**
A				**Total landed Cost (A=A1 + A2)**	**136,845.32**
B				Stock, Storage & Insurance i.e 3% of A	4,105.36
C				**Sub Total (A+B)**	**140,950.68**
D				Contigency @ 3% of C	4,228.52
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	2,313.41
F				Transportation @ 7.5% of C	10,571.30
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,567.04
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**169,630.94**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	16	60,555.68
K1				**Total Civil & Services**	**60,555.68**
K2				Applicable Taxes to make it Landed Cost @18%	10,900.02
K				**Total landed Cost (K=K1+ K2)**	**71,455.70**
L				**Total (J+K)**	241,086.64
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**241,086.64**
O				Total CESS @ 1% of (N)	2,410.87
P				**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**	**243,497.51**

PART F : Dismantling portion					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	90	1,380.92	124,282.35
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	130	950.00	123,500.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	39000	9.21	359,037.90
A1	**Sub Total (Civil Portion) (in Rs.)**				**606,820.25**
A2	**Applicable Taxes to make it Landed Cost @18%**				**109,227.65**
A	**Total landed Cost (A=A1+ A2)**				**716,047.90**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				716,047.90
D	**CESS @ 1% of C**				7,160.48
E	**Grand Total (C+D)**				723,208.37

ANNEXURE-20.2		
TPCODL		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Rajnagar	
Name of the Section : -	Rajnagar-I	
Name of the Work :-	Proposal for augmentation of 7.1 CKM line of 33 kV New Rajnagar Fdr. from 100 Sq.mm./148 Sq.mm. AAAC to 232 Sq.mm.AAAC / XLPE AAAC to mitigate overloading issue.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Construction of 4.6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD) 2. Augmentation of 2.5 CKM 33 kV O/H line using 232 Sq.mm. AAAC (Existing pole will be re used) (Refer PSLD)	18,053,053.73
2	PART B: Installation of 4 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing	604,428.18
3	PART C: Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line (Refer PSLD)	945,503.79
4	PART D: Installation of 03 Nos guarding having span 30 Mtr.	88,032.94
5	PART E : Dismantling portion	283,925.70
6	**Total Gross**	**19,974,944.34**
Total estimated cost is Rs. 2.00 Cr.		

PART A:

1. Construction of 4.6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD)

2. Augmentation of 2.5 CKM 33 kV O/H line using 232 Sq.mm. AAAC (Existing pole will be re used) (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	3

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	203,820.00
2	GI Channel,angle, flat of different size	KG	78.00	631.326	49,243.43
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	33 kV pin insulator polymer	EA	398.00	9	3,582.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	9	1,080.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.884	2,803.42
A1				**Total Cost of materials**	**373,058.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**67,150.59**
A				**Total landed Cost (A=A1 + A2)**	**440,209.44**
B				Stock, Storage & Insurance i.e 3% of A	13,206.28
C				**Sub Total (A+B)**	**453,415.72**
D				Contigency @ 3% of C	13,602.47
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	8,005.67
F				Transportation @ 7.5% of C	34,006.18
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,256.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**536,672.22**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	632,209.62
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**632,209.62**
O				CESS 1% of N	6,322.10
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**638,531.72**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	1

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00

12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
13	33KV pin insulator polymer	EA	398.00	3	1,194.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
16	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
17	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
A1				**Total Cost of materials**	**228,390.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,110.37**
A				**Total landed Cost (A=A1 + A2)**	**269,501.29**
B				Stock, Storage & Insurance i.e 3% of A	8,085.04
C				**Sub Total (A+B)**	**277,586.33**
D				Contigency @ 3% of C	8,327.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,197.51
F				Transportation @ 7.5% of C	20,818.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,730.12
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**333,789.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	365,635.05
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**365,635.05**
O				CESS 1% of N	3,656.35
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**369,291.40**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	3

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	3	182,490.00
2	GI Channel,angle & flat of different size	KG	78.00	136.116	10,617.05
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/8 SWG Stay Wire	KG	75.00	45	3,375.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	33KV pin insulator polymer	EA	398.00	9	3,582.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	9	1,080.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
12	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
13	Disc insulator (B&S)90 KN polymer	EA	289.00	18	5,202.00
14	Earthing of Support (Coil Type)	EA	164.00	3	492.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**277,067.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,872.09**
A				**Total landed Cost (A=A1 + A2)**	**326,939.25**
B				Stock, Storage & Insurance i.e 3% of A	9,808.18
C				**Sub Total (A+B)**	**336,747.43**
D				Contigency @ 3% of C	10,102.42
E				Tools & Plants @ 2% of C	6,516.69
F				Transportation @ 7.5% of C	25,256.06
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	11,089.92
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	10,403.60

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**400,116.11**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.65	10,970.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3375	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3	850.02
K1				**Total Civil & Services**	**23,477.18**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,225.89**
K				**Total landed Cost (K=K1+ K2)**	**27,703.08**
L				**Total (J+K)**	427,819.19
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**427,819.19**
O				CESS 1% of N	4,278.19
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**432,097.38**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	3

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	3	182,490.00
2	GI Channel,angle & flat of different size	KG	78.00	267.606	20,873.27
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	33KV pin insulator polymer	EA	398.00	12	4,776.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
8	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
9	Disc insulator (B&S)90 KN polymer	EA	289.00	18	5,202.00
10	Earthing of Support (Coil Type)	EA	164.00	3	492.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/8 SWG Stay Wire	KG	75.00	90	6,750.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**297,334.38**
A2				**Applicable Taxes to make it Landed Cost @18%**	**53,520.19**
A				**Total landed Cost (A=A1 + A2)**	**350,854.57**
B				Stock, Storage & Insurance i.e 3% of A	10,525.64
C				**Sub Total (A+B)**	**361,380.21**
D				Contigency @ 3% of C	10,841.41
E				Tools & Plants @ 2% of C (Except HT Stay Set)	6,803.77
F				Transportation @ 7.5% of C	27,103.52
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				11,089.92
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,839.01
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**429,057.83**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.650	10,970.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.338	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3	850.02
K1				**Total Civil & Services**	**30,381.76**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,468.72**
K				**Total landed Cost (K=K1+ K2)**	**35,850.48**
L				**Total (J+K)**	464,908.30
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**464,908.30**

O	CESS 1% of N	4,649.08
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**469,557.39**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		4.6			
MATERIALS FOR 33 KV Pin Points					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	66	4,014,780.00
2	33 KV V cross Arm (GI)	EA	1,701.00	66	112,266.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	66	5,346.00
4	Danger Plate	EA	180.00	66	11,880.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	144.54	11,274.12
6	GI barbed wire anticlimbing device	KG	74.00	198.00	14,652.00
7	33 kV pin insulator polymer	EA	398.00	198	78,804.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	198	23,760.00
10	Earthing of Support (Coil Type)	EA	164.00	66	10,824.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	153.38	11,350.42
12	232 sq.mm XLPE AAA covered conductor	M	342.00	14214.00	4,861,188.00
13	232 sq.mm AAA conductor	M	181.65	7725.00	1,403,246.25
14	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	12	9,000.00
A1	**Total Cost of materials**				**10,568,370.79**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,902,306.74**
A	**Total landed Cost (A=A1 + A2)**				**12,470,677.53**
B	Stock, Storage & Insurance i.e 3% of A				374,120.33
C	**Sub Total (A+B)**				**12,844,797.85**
D	Contigency @ 3% of C				385,343.94
E	Tools & Plants @ 2% of C				256,895.96
F	Transportation @ 7.5% of C				963,359.84
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				243,978.18
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				796,523.42
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**15,490,899.19**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	36.30	241,353.26
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.43	49,367.71
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	66	55,176.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	66	18,700.44
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.6	48,162.00
K1	**Total Civil & Services**				**412,759.41**
K2	**Applicable Taxes to make it Landed Cost @18%**				**74,296.69**
K	**Total landed Cost (K=K1+ K2)**				**487,056.10**
L	**Total (J+K)**				15,977,955.29
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**15,977,955.29**
O	CESS 1% of N				159,779.55
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**16,137,734.84**
Gross Total Summary					
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				638,531.72
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				369,291.40
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				432,097.38
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				469,557.39
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				16,137,734.84
Q	**Gross Total Material +Services**				**18,047,212.73**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				2,700.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**4,950.00**
V	GST @ 18% on Total Inspection Fees (U)				891.00
W	Total Inspection Fees including GST (U+V)				5,841.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**18,053,053.73**

PART B: Installation of 4 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	4

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	4	262,280.00
2	GI Channel,angle & flat of different size	KG	78.00	181.488	14,156.06
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	33KV pin insulator polymer	EA	398.00	12	4,776.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**388,382.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**69,908.92**
A				**Total landed Cost (A=A1 + A2)**	**458,291.80**
B				Stock, Storage & Insurance i.e 3% of A	13,748.75
C				**Sub Total (A+B)**	**472,040.55**
D				Contigency @ 3% of C	14,161.22
E				Tools & Plants @ 2% of C	9,149.80
F				Transportation @ 7.5% of C	35,403.04
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				15,938.76
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				13,871.47
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**560,564.83**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.32	15,425.33
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**32,100.77**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,778.14**
K				**Total landed Cost (K=K1+ K2)**	**37,878.91**
L				**Total (J+K)**	598,443.74
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**598,443.74**
O				CESS 1% of N	5,984.44
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**604,428.18**

PART C: Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line (Refer PSLD)

No. of 33 KV Cut Point with 180 Degree Angle	2

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel,angle & flat of different size	KG	78.00	90.744	7,078.03
3	Danger Plate, 1 no's.	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	33KV pin insulator polymer	EA	398.00	6	2,388.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	12	7,572.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	12	3,096.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
15	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**90,247.44**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,244.54**
A				**Total landed Cost (A=A1 + A2)**	**106,491.98**
B				Stock, Storage & Insurance i.e 3% of A	3,194.76
C				**Sub Total (A+B)**	**109,686.74**
D				Contigency @ 3% of C	3,290.60
E				Tools & Plants @ 2% of C	2,048.23
F				Transportation @ 7.5% of C	8,226.51
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,231.92
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**129,988.60**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	146,888.19
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)	
N				**Sub-Total Material +Services (L+M)**	**146,888.19**
O				CESS 1% of N	1,468.88
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**148,357.07**

No. of 33 KV Cut Point with 90 Degree Angle	2

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel,angle & flat of different size	KG	78.00	178.404	13,915.51
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	33KV pin insulator polymer	EA	398.00	8	3,184.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	12	7,572.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00

8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	12	3,096.00
10	H.T. Stay clamp	EA	260.00	4	1,040.00
11	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
12	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
13	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
15	POLYCARBONATE BIRD GUARD	EA	21.00	20	420.00
A1				**Total Cost of materials**	**103,560.92**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,640.97**
A				**Total landed Cost (A=A1 + A2)**	**122,201.89**
B				Stock, Storage & Insurance i.e 3% of A	3,666.06
C				**Sub Total (A+B)**	**125,867.94**
D				Contigency @ 3% of C	3,776.04
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,234.80
F				Transportation @ 7.5% of C	9,440.10
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,164.80
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**148,988.29**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.900	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	171,319.47
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**171,319.47**
O				CESS 1% of N	1,713.19
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**173,032.67**

33 Kv Line Length In KM with 40 Mtr. Span	1

MATERIALS FOR 33 KV Pin Points

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	11	317,185.00
2	33 KV V cross Arm (GI)	EA	1,701.00	21	35,721.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	21	1,701.00
4	Danger Plate	EA	180.00	11	1,980.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	16.94	1,321.32
6	GI barbed wire anticlimbing device	KG	74.00	33.00	2,442.00
7	33 kV pin insulator polymer	EA	398.00	33	13,134.00
8	Earthing of Support (Coil Type)	EA	164.00	11	1,804.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	18.12	1,340.66
10	POLYCARBONATE BIRD GUARD	EA	21.00	33	693.00
A1				**Total Cost of materials**	**377,321.98**
A2				**Applicable Taxes to make it Landed Cost @18%**	**67,917.96**
A				**Total landed Cost (A=A1 + A2)**	**445,239.93**
B				Stock, Storage & Insurance i.e 3% of A	13,357.20
C				**Sub Total (A+B)**	**458,597.13**
D				Contigency @ 3% of C	13,757.91
E				Tools & Plants @ 2% of C	9,171.94
F				Transportation @ 7.5% of C	34,394.78
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	19,275.33

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,309.05
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**542,506.15**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.95	32,911.81
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.24	8,227.95
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	11	9,196.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	11	3,116.74
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**63,922.50**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,506.05**
K				**Total landed Cost (K=K1+ K2)**	**75,428.55**
L				**Total (J+K)**	617,934.70
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**617,934.70**
O				CESS 1% of N	6,179.35
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**624,114.05**

Gross Total Summary

3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	148,357.07
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	173,032.67
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	624,114.05
Q	**Gross Total Material +Services**	**945,503.79**

PART D: Installation of 03 Nos guarding having span 30 Mtr.

No. of 33 KV Line Protecting Guarding	3
Length of 33 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	345.741	26,967.80
2	No-10 GI wire for lacing	KG	78.00	14.7375	1,149.53
3	No-8 GI wire for guard wire	KG	78.00	69.12	5,391.36
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
A1				**Total Cost of materials**	**41,308.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,435.56**
A				**Total landed Cost (A=A1 + A2)**	**48,744.25**
B				Stock, Storage & Insurance i.e 3% of A	1,462.33
C				**Sub Total (A+B)**	**50,206.57**
D				Contigency @ 3% of C	1,506.20
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	814.53
F				Transportation @ 7.5% of C	3,765.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,072.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**60,365.44**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
K1				**Total Civil & Services**	**22,708.38**
K2				Applicable Taxes to make it Landed Cost @18%	4,087.51
K				**Total landed Cost (K=K1+ K2)**	**26,795.89**
L				**Total (J+K)**	87,161.33
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**87,161.33**
O				Total CESS @ 1% of (N)	871.61
P				**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**	**88,032.94**

PART E : Dismantling portion					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	25	1,380.92	34,522.88
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	40	950.00	38,000.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	18000	9.21	165,709.80
A1	**Sub Total (Civil Portion) (in Rs.)**				**238,232.68**
A2	**Applicable Taxes to make it Landed Cost @18%**				**42,881.88**
A	**Total landed Cost (A=A1+ A2)**				**281,114.56**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				281,114.56
D	**CESS @ 1% of C**				2,811.15
E	**Grand Total (C+D)**				283,925.70

ANNEXURE-20.3			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-	**DED (Dhenkanal)**		
Name of the Work :-	Proposal for augmentation of 33kV Gondia feeder from Gundichapada GSS to College PSS, to mitigate college feeder overloading, providing 2nd source to PSS and improve network reliability.		
Scope of work:-	Proposal Details 1. 33kV O/D Bay- 2no's 2. Aug 33kV 232sqmm OH XLPE line- 7.41Ckm 3. New line 33kV OH line - 3.6ckm 4. Double ckt New Line - 2.4CKM 4. 4-WAY RMU - 1Nos 3 - 2Nos DP with ISO 2 - 3Cx400sqmm (2.5Ckm) without spare		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of New Line 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-3.6ckm	₹ 12,300,775.65
2	B	Part-B Construction of Double ckt 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-2.4ckm	₹ 12,472,839.16
3	C	Part-C Aug 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-7.41ckm	₹ 16,528,908.54
4	D	Part-D Construction of Two No of 33 KV Outdoor Bay (Transformer & Line Bay) One is Dakhinakali PSS and College PSS	₹ 4,733,688.76
5	E	Part-E Supply and Laying of 33kV 3C, 400sqmm UG Cable without spare along with 33kV RMU-2.2km	₹ 23,915,013.68
		Total Amount	**₹ 69,951,225.79**
		Total Amount (In Cr)	**₹ 7.00**

Part-A Construction of New Line 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-3.6ckm

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	2

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle, flat of different size	KG	78.00	420.884	32,828.95
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	33 kV pin insulator polymer	EA	398.00	6	2,388.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	25.256	1,868.94
A1				**Total Cost of materials**	**250,465.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,083.86**
A				**Total landed Cost (A=A1 + A2)**	**295,549.76**
B				Stock, Storage & Insurance i.e 3% of A	8,866.49
C				**Sub Total (A+B)**	**304,416.25**
D				Contigency @ 3% of C	9,132.49
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,379.89
F				Transportation @ 7.5% of C	22,831.22
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	10,384.61
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**360,401.88**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	424,093.48
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**424,093.48**
O				CESS 1% of N	4,240.93
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**428,334.42**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	4

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	8	271,760.00
2	GI Channel,angle & flat of different size	KG	78.00	2212.772	172,596.22
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	32	2,784.00
8	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	12	53,316.00

12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	4	249,424.00
13	33KV pin insulator polymer	EA	398.00	12	4,776.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	24	6,936.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	88.912	6,579.49
A1				**Total Cost of materials**	**917,083.70**
A2				**Applicable Taxes to make it Landed Cost @18%**	**165,075.07**
A				**Total landed Cost (A=A1 + A2)**	**1,082,158.77**
B				Stock, Storage & Insurance i.e 3% of A	32,464.76
C				**Sub Total (A+B)**	**1,114,623.53**
D				Contigency @ 3% of C	33,438.71
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	20,875.61
F				Transportation @ 7.5% of C	83,596.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,514.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	71,348.32
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,340,397.79**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**107,951.87**
K2				**Applicable Taxes to make it Landed Cost @18%**	**19,431.34**
K				**Total landed Cost (K=K1+ K2)**	**127,383.20**
L				**Total (J+K)**	1,467,780.99
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,467,780.99**
O				CESS 1% of N	14,677.81
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**1,482,458.80**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	3

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	3	101,910.00
2	GI Channel,angle & flat of different size	KG	78.00	136.116	10,617.05
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/8 SWG Stay Wire	KG	75.00	45	3,375.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	33KV pin insulator polymer	EA	398.00	9	3,582.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	9	1,080.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	18	5,202.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**197,807.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**35,605.29**
A				**Total landed Cost (A=A1 + A2)**	**233,412.45**
B				Stock, Storage & Insurance i.e 3% of A	7,002.37
C				**Sub Total (A+B)**	**240,414.82**
D				Contigency @ 3% of C	7,212.44
E				Tools & Plants @ 2% of C	4,590.03
F				Transportation @ 7.5% of C	18,031.11
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	6,193.07

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	10,564.03
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**287,005.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.65	10,970.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3375	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3	850.02
K1	**Total Civil & Services**				**23,477.18**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,225.89**
K	**Total landed Cost (K=K1+ K2)**				**27,703.08**
L	**Total (J+K)**				314,708.59
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**314,708.59**
O	CESS 1% of N				3,147.09
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**317,855.68**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	3

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	3	101,910.00
2	GI Channel,angle & flat of different size	KG	78.00	267.606	20,873.27
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	33KV pin insulator polymer	EA	398.00	12	4,776.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	18	5,202.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/8 SWG Stay Wire	KG	75.00	90	6,750.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1	**Total Cost of materials**				**218,074.38**
A2	**Applicable Taxes to make it Landed Cost @18%**				**39,253.39**
A	**Total landed Cost (A=A1 + A2)**				**257,327.77**
B	Stock, Storage & Insurance i.e 3% of A				7,719.83
C	**Sub Total (A+B)**				**265,047.60**
D	Contigency @ 3% of C				7,951.43
E	Tools & Plants @ 2% of C (Except HT Stay Set)				4,877.12
F	Transportation @ 7.5% of C				19,878.57
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,193.07
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,999.45
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**315,947.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.650	10,970.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.338	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3	850.02
K1	**Total Civil & Services**				**30,381.76**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,468.72**
K	**Total landed Cost (K=K1+ K2)**				**35,850.48**
L	**Total (J+K)**				351,797.71
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				

N	**Sub-Total Material +Services (L+M)**	**351,797.71**
O	CESS 1% of N	3,517.98
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**355,315.69**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	3.6

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	63	2,140,110.00
2	33 KV V cross Arm (GI)	EA	1,701.00	63	107,163.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	63	5,103.00
4	Danger Plate	EA	180.00	63	11,340.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	97.02	7,567.56
6	GI barbed wire anticlimbing device	KG	74.00	189.00	13,986.00
7	33 kV pin insulator polymer	EA	398.00	189	75,222.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	189	22,680.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	126	27,720.00
10	Earthing of Support (Coil Type)	EA	164.00	63	10,332.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	103.76	7,678.31
12	232 sq.mm XLPE AAA covered conductor	M	342.00	11124.00	3,804,408.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	9	6,750.00
A1	**Total Cost of materials**				**6,240,059.87**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,123,210.78**
A	**Total landed Cost (A=A1 + A2)**				**7,363,270.65**
B	Stock, Storage & Insurance i.e 3% of A				220,898.12
C	**Sub Total (A+B)**				**7,584,168.77**
D	Contigency @ 3% of C				227,525.06
E	Tools & Plants @ 2% of C				151,683.38
F	Transportation @ 7.5% of C				568,812.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				130,054.48
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				498,307.91
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**9,160,552.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	34.65	230,382.65
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.09	47,123.72
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	63	52,668.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	63	17,850.42
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3.6	37,692.00
K1	**Total Civil & Services**				**385,716.80**
K2	**Applicable Taxes to make it Landed Cost @18%**				**69,429.02**
K	**Total landed Cost (K=K1+ K2)**				**455,145.82**
L	**Total (J+K)**				9,615,698.08
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**9,615,698.08**
O	CESS 1% of N				96,156.98
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**9,711,855.06**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	428,334.42
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	1,482,458.80
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	317,855.68
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	355,315.69
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	9,711,855.06
Q	**Gross Total Material +Services**	**12,295,819.65**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	1,950.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**4,200.00**
V	GST @ 18% on Total Inspection Fees (U)	756.00
W	Total Inspection Fees including GST (U+V)	4,956.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**12,300,775.65**

Part-B Construction of Double ckt 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-2.4ckm

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	2

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle, flat of different size	KG	78.00	620.884	48,428.95
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	33 kV pin insulator polymer	EA	398.00	12	4,776.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	24	6,936.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	36	2,664.00
A1				**Total Cost of materials**	**314,236.95**
A2				**Applicable Taxes to make it Landed Cost @18%**	**56,562.65**
A				**Total landed Cost (A=A1 + A2)**	**370,799.60**
B				Stock, Storage & Insurance i.e 3% of A	11,123.99
C				**Sub Total (A+B)**	**381,923.59**
D				Contigency @ 3% of C	11,457.71
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,930.04
F				Transportation @ 7.5% of C	28,644.27
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	18,135.34
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**455,348.38**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	519,039.98
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**519,039.98**
O				CESS 1% of N	5,190.40
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**524,230.38**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	2

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	181.488	14,156.06
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00

7	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	33KV pin insulator polymer	EA	398.00	12	4,776.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	30	2,220.00
A1				**Total Cost of materials**	**187,066.06**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,671.89**
A				**Total landed Cost (A=A1 + A2)**	**220,737.96**
B				Stock, Storage & Insurance i.e 3% of A	6,622.14
C				**Sub Total (A+B)**	**227,360.09**
D				Contigency @ 3% of C	6,820.80
E				Tools & Plants @ 2% of C	4,401.69
F				Transportation @ 7.5% of C	17,052.01
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				4,128.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				13,751.04
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**273,514.36**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**15,651.46**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,817.26**
K				**Total landed Cost (K=K1+ K2)**	**18,468.72**
L				**Total (J+K)**	291,983.07
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**291,983.07**
O				CESS 1% of N	2,919.83
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**294,902.90**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	2

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	356.808	27,831.02
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	33KV pin insulator polymer	EA	398.00	16	6,368.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	16	1,920.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	30	2,220.00
A1				**Total Cost of materials**	**208,451.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,521.18**
A				**Total landed Cost (A=A1 + A2)**	**245,972.21**
B				Stock, Storage & Insurance i.e 3% of A	7,379.17

C	**Sub Total (A+B)**	**253,351.37**
D	Contigency @ 3% of C	7,600.54
E	Tools & Plants @ 2% of C (Except HT Stay Set)	4,784.47
F	Transportation @ 7.5% of C	19,001.35
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,664.93
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**304,531.38**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.100	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1	**Total Civil & Services**				**20,254.51**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,645.81**
K	**Total landed Cost (K=K1+ K2)**				**23,900.32**
L	**Total (J+K)**				328,431.70
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**328,431.70**
O	CESS 1% of N				3,284.32
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**				**331,716.02**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	2.4

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	54	1,834,380.00
2	33 KV V cross Arm (GI)	EA	1,701.00	108	183,708.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	108	8,748.00
4	Danger Plate	EA	180.00	54	9,720.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	83.16	6,486.48
6	GI barbed wire anticlimbing device	KG	74.00	162.00	11,988.00
7	33 kV pin insulator polymer	EA	398.00	324	128,952.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	324	38,880.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	108	23,760.00
10	Earthing of Support (Coil Type)	EA	164.00	54	8,856.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	177.88	13,162.82
12	232 sq.mm XLPE AAA covered conductor	M	342.00	14832.00	5,072,544.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	6	4,500.00
A1	**Total Cost of materials**				**7,345,685.30**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,322,223.35**
A	**Total landed Cost (A=A1 + A2)**				**8,667,908.66**
B	Stock, Storage & Insurance i.e 3% of A				260,037.26
C	**Sub Total (A+B)**				**8,927,945.92**
D	Contigency @ 3% of C				267,838.38
E	Tools & Plants @ 2% of C				178,558.92
F	Transportation @ 7.5% of C				669,595.94
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				111,475.27
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				669,844.05
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**10,825,258.48**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	29.70	197,470.85
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.08	40,391.76
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	54	45,144.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	54	15,300.36
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.4	25,128.00
K1				**Total Civil & Services**	**323,434.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**58,218.29**
K				**Total landed Cost (K=K1+ K2)**	**381,653.26**
L				**Total (J+K)**	11,206,911.74
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**11,206,911.74**
O				CESS 1% of N	112,069.12
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**11,318,980.86**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				524,230.38
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				-
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				294,902.90
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				331,716.02
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				11,318,980.86
Q				**Gross Total Material +Services**	**12,469,830.16**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				1,050.00
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**2,550.00**
V	GST @ 18% on Total Inspection Fees (U)				459.00
W	Total Inspection Fees including GST (U+V)				3,009.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**12,472,839.16**

Part-C Aug 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-7.41ckm

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	3

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	203,820.00
2	GI Channel,angle, flat of different size	KG	78.00	631.326	49,243.43
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	33 kV pin insulator polymer	EA	398.00	9	3,582.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	9	1,080.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.884	2,803.42
A1				**Total Cost of materials**	**375,698.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**67,625.79**
A				**Total landed Cost (A=A1 + A2)**	**443,324.64**
B				Stock, Storage & Insurance i.e 3% of A	13,299.74
C				**Sub Total (A+B)**	**456,624.37**
D				Contigency @ 3% of C	13,698.73
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	8,069.84
F				Transportation @ 7.5% of C	34,246.83
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,576.91
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**540,602.83**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	636,140.23
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**636,140.23**
O				CESS 1% of N	6,361.40
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**642,501.63**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00

12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	124,712.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
A1				**Total Cost of materials**	**458,541.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**82,537.53**
A				**Total landed Cost (A=A1 + A2)**	**541,079.39**
B				Stock, Storage & Insurance i.e 3% of A	16,232.38
C				**Sub Total (A+B)**	**557,311.77**
D				Contigency @ 3% of C	16,719.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	10,437.80
F				Transportation @ 7.5% of C	41,798.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	35,674.16
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**670,198.89**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	733,890.49
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**733,890.49**
O				CESS 1% of N	7,338.90
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**741,229.40**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	5

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	5	169,850.00
2	GI Channel,angle & flat of different size	KG	78.00	226.86	17,695.08
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
7	7/8 SWG Stay Wire	KG	75.00	75	5,625.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	33KV pin insulator polymer	EA	398.00	15	5,970.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	15	1,800.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	30	27,000.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	30	8,670.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**329,678.60**
A2				**Applicable Taxes to make it Landed Cost @18%**	**59,342.15**
A				**Total landed Cost (A=A1 + A2)**	**389,020.75**
B				Stock, Storage & Insurance i.e 3% of A	11,670.62
C				**Sub Total (A+B)**	**400,691.37**
D				Contigency @ 3% of C	12,020.74
E				Tools & Plants @ 2% of C	7,650.06
F				Transportation @ 7.5% of C	30,051.85
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,321.78

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,606.72
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**478,342.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.75	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5625	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
K1				**Total Civil & Services**	**39,128.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,043.16**
K				**Total landed Cost (K=K1+ K2)**	**46,171.80**
L				**Total (J+K)**	524,514.32
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**524,514.32**
O				CESS 1% of N	5,245.14
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**529,759.47**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	5

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	5	169,850.00
2	GI Channel,angle & flat of different size	KG	78.00	446.01	34,788.78
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	33KV pin insulator polymer	EA	398.00	20	7,960.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	20	2,400.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	30	27,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	30	8,670.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/8 SWG Stay Wire	KG	75.00	150	11,250.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**363,457.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**65,422.31**
A				**Total landed Cost (A=A1 + A2)**	**428,879.61**
B				Stock, Storage & Insurance i.e 3% of A	12,866.39
C				**Sub Total (A+B)**	**441,746.00**
D				Contigency @ 3% of C	13,252.38
E				Tools & Plants @ 2% of C (Except HT Stay Set)	8,128.53
F				Transportation @ 7.5% of C	33,130.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,321.78
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				19,999.08
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**526,578.73**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.750	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.563	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
K1				**Total Civil & Services**	**50,636.27**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,114.53**
K				**Total landed Cost (K=K1+ K2)**	**59,750.79**
L				**Total (J+K)**	586,329.52
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				

N	**Sub-Total Material +Services (L+M)**	**586,329.52**
O	CESS 1% of N	5,863.30
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**592,192.81**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	7.41

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	34	1,154,980.00
2	33 KV V cross Arm (GI)	EA	1,701.00	34	57,834.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	34	2,754.00
4	Danger Plate	EA	180.00	34	6,120.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	52.36	4,084.08
6	GI barbed wire anticlimbing device	KG	74.00	102.00	7,548.00
7	33 kV pin insulator polymer	EA	398.00	102	40,596.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	102	12,240.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	68	14,960.00
10	Earthing of Support (Coil Type)	EA	164.00	34	5,576.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	56.00	4,143.85
12	232 sq.mm XLPE AAA covered conductor	M	342.00	22896.90	7,830,739.80
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	21	15,750.00
A1	**Total Cost of materials**				**9,157,325.73**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,648,318.63**
A	**Total landed Cost (A=A1 + A2)**				**10,805,644.36**
B	Stock, Storage & Insurance i.e 3% of A				324,169.33
C	**Sub Total (A+B)**				**11,129,813.69**
D	Contigency @ 3% of C				333,894.41
E	Tools & Plants @ 2% of C				222,596.27
F	Transportation @ 7.5% of C				834,736.03
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				70,188.13
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				972,605.10
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**13,563,833.64**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	18.70	124,333.50
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.83	25,431.85
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	34	28,424.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	34	9,633.56
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7.41	77,582.70
K1	**Total Civil & Services**				**265,405.61**
K2	**Applicable Taxes to make it Landed Cost @18%**				**47,773.01**
K	**Total landed Cost (K=K1+ K2)**				**313,178.62**
L	**Total (J+K)**				13,877,012.26
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**13,877,012.26**
O	CESS 1% of N				138,770.12
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**14,015,782.38**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	642,501.63
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	741,229.40
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	529,759.47
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	592,192.81
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	14,015,782.38
Q	**Gross Total Material +Services**	**16,521,465.69**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	4,807.50
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**6,307.50**
V	GST @ 18% on Total Inspection Fees (U)	1,135.35
W	Total Inspection Fees including GST (U+V)	7,442.85
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**16,528,908.54**

Part-D Construction of Two No of 33 KV Outdoor Bay (Transformer & Line Bay) One is Dakhinakali PSS and College PSS					
No. of BAY requirement			2		
No. of VCB Requirement			2		
No. of Bus isolator requirement					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	115,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	22	28,600.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	779	60,746.40
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	101,652.00	1	101,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	263,629.00	1	263,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	270,500.00	1	270,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	449,000.00	0	-
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	243,306.00

19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	144,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
26	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	0	-
27	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
28	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	249,965.00	0	-
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**2,016,563.62**
A2				**Applicable Taxes to make it Landed Cost @18%**	**362,981.45**
A				**Total landed Cost (A=A1 + A2)**	**2,379,545.07**
B				Stock, Storage & Insurance i.e 3% of A	71,386.35
C				**Sub Total (A+B)**	**2,450,931.42**
D				Contigency @ 3% of C	73,527.94
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	48,323.42
F				Transportation @ 7.5% of C	183,819.86
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				209,575.63
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,982,199.01**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	22	83,264.06
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66

2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63

3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52

4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	188,494.90
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	163,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32

5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	69	16,008.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	4.6	6,808.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	4.6	23,138.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	9.2	69,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	8.4	63,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	112	30,240.00

6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	1982.8	202,245.60
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	2.4	19,080.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1060.4	110,281.60
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**1,441,624.24**
K2				**Applicable Taxes to make it Landed Cost @18%**	**259,492.36**
K				**Total landed Cost (K=K1+ K2)**	**1,701,116.60**
L				**Total Material +services (J+K)**	**4,683,315.60**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**4,683,315.60**
O				CESS 1% of (N)	46,833.16
P				**Total (N+O)**	4,730,148.76
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**4,733,688.76**

Part-E Supply and Laying of 33kV 3C, 400sqmm UG Cable without spare along with 33kV RMU-2.2km					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***2200***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	2200	3,165.00	6,963,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	8	25,930.00	207,440.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	11,900.00	35,700.00
1.4	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	3	71,915.00	215,745.00
1.5	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	24.00	812.00	19,488.00
2	**Supply of 33kV RMU**				
e	***No. of 33kV 4Way RMU LLVV(2ISO+2BKR)+ AUX.PT***	***EA***	***1***		
2.5	Supply of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	3,018,066.00	3,018,066.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***EA***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	EA	1	156,247.00	156,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	1	95,000.00	95,000.00
4.3	Networking Accessories	SET	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	32	275.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	16	275.00	4,400.00
4.6	Battery Charger	EA	1	17,500.00	17,500.00
4.7	Battery	EA	1	12,500.00	12,500.00
4.8	4G Modem cum Router	EA	1	24,400.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	40	309.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	40	299.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	40	382.00	15,280.00
4.12	4 C X 4 mm2 Copper cable for extension of CT & PT	M	20	185.59	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	10	210.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	20.0	229.00	4,580.00
4.15	Armored CAT6 SFTP Cable	M	20	107.00	2,140.00
4.16	Un-Armored CAT6 SFTP Cable	M	20	55.00	1,100.00

4.17	Multi Function Meter	EA	2	14,000.00	28,000.00
	Sub Total (Supply Portion) (in Rs.)				**10,863,219.40**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	2200	115.00	253,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	14	2,000.00	28,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2200	2,970.00	6,534,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	24.00	195.00	4,680.00
2	**Erection, Commissioning, Wiring and Testing of 33kV RMU**				
2.5	Erection of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	14,000.00	14,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	6,755.00	6,755.00
	Sub Total (Erection Portion) (in Rs.)				**6,840,435.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**30**	16,703.11	501,093.44
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	171,056.00	171,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	73	1,035.17	75,567.41
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.2	10,470.00	23,034.00
	Sub Total (Civil Portion) (in Rs.)				**854,336.61**

A1	**Sub Total (Supply Portion)**	**10,863,219.40**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,955,379.49**
A	**Total Landed Cost (A=A1 + A2)**	**12,818,598.89**
B	Stock, Storage & Insurance @ 3 % of A	384,557.97
C	**Sub Total (A+B)**	**13,203,156.86**

D	Contingency @ 3 % of C	396,094.71
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	25.03
F	Transportation @ 7.5% of C	990,236.76
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	125.14
H	**Total (C+D+E+F+G)**	**14,589,638.49**
I1	Sub Total (Erection Portion + Civil Portion)	7,694,771.61
I2	**Applicable Taxes to make it Landed Cost @18%**	**1,385,058.89**
I	**Total landed Cost (I=I1+ I2)**	**9,079,830.50**
J	**Total Cost (H+I)**	**23,669,468.99**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**23,669,468.99**
M	CESS 1% of L	236,694.69
N	**Grand Total (L+M)**	**23,906,163.68**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	2,250.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	1,500.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**7,500.00**
T	GST @ 18% on Total Inspection Fees (S)	1,350.00
U	Total Inspection Fees including GST (S+T)	8,850.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**23,915,013.68**

ANNEXURE-20.4			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**DED (Dhenkanal)**	
Name of the Work :-		Proposal for New 33kV linking line from 33/11kV MK Gola PSS to 33/11kV Dayanabili PSS, to enabling ring connectivity and provide 2nd 33kV source to PSS, mitigate overloading and improve network reliability.	
Scope of work:-		Proposal Details 1. 33kV O/D Bay- 3no's 2. 3Cx400sqmm UG Cable- 1.99Ckm 3. 33kV 232sqmm OH XLPE line- 5.84Ckm	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-5.84ckm	₹ 21,803,190.36
2	B	Part-B Supply and Laying of UG cable 3C, 400sqmm UG Cable without spare-1.99km	₹ 20,277,764.04
3	C	Part-C-Construction of 3 No of 33 KV Outdoor Bay (Transformer & Line Bay) One Nos MK Gola PSS and 2Nos Dayanabil PSS	₹ 17,922,622.19
		Total Amount	**₹ 60,003,576.59**
		Total Amount (In Cr)	**₹ 6.00**

Part-A Construction of 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-5.84ckm

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	6

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	12	407,640.00
2	GI Channel,angle, flat of different size	KG	78.00	1262.652	98,486.86
3	Danger Plate	EA	180.00	12	2,160.00
4	H.T. Stay clamp	EA	260.00	24	6,240.00
5	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
6	H.T. Stay Insulator Type-C	EA	87.00	48	4,176.00
7	7/8 SWG Stay Wire	KG	75.00	360	27,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00
9	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
10	33 kV pin insulator polymer	EA	398.00	18	7,164.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	18	2,160.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	36	32,400.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	24	5,280.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	36	90,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	36	10,404.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	75.768	5,606.83
A1				**Total Cost of materials**	**751,397.69**
A2				**Applicable Taxes to make it Landed Cost @18%**	**135,251.58**
A				**Total landed Cost (A=A1 + A2)**	**886,649.27**
B				Stock, Storage & Insurance i.e 3% of A	26,599.48
C				**Sub Total (A+B)**	**913,248.75**
D				Contigency @ 3% of C	27,397.46
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	16,139.68
F				Transportation @ 7.5% of C	68,493.66
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,772.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,153.82
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,081,205.65**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.6	43,882.41
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**161,927.80**
K2				**Applicable Taxes to make it Landed Cost @18%**	**29,147.00**
K				**Total landed Cost (K=K1+ K2)**	**191,074.80**
L				**Total (J+K)**	1,272,280.45
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,272,280.45**
O				CESS 1% of N	12,722.80
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**1,285,003.26**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	6

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	12	407,640.00
2	GI Channel,angle & flat of different size	KG	78.00	3319.158	258,894.32
3	DMC Insulator for LA (70/10)	EA	113.50	48	5,448.00
4	Danger Plate	EA	180.00	12	2,160.00
5	H.T. Stay clamp	EA	260.00	24	6,240.00
6	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
7	H.T. Stay Insulator Type-C	EA	87.00	48	4,176.00
8	7/8 SWG Stay Wire	KG	75.00	360	27,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00
10	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	18	79,974.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	6	374,136.00

13	33KV pin insulator polymer	EA	398.00	18	7,164.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	18	2,160.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	36	32,400.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	24	5,280.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	36	90,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	36	10,404.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	133.368	9,869.23
A1				**Total Cost of materials**	**1,375,625.56**
A2				**Applicable Taxes to make it Landed Cost @18%**	**247,612.60**
A				**Total landed Cost (A=A1 + A2)**	**1,623,238.16**
B				Stock, Storage & Insurance i.e 3% of A	48,697.14
C				**Sub Total (A+B)**	**1,671,935.30**
D				Contigency @ 3% of C	50,158.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	31,313.41
F				Transportation @ 7.5% of C	125,395.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,772.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	107,022.48
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,010,596.68**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.6	43,882.41
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**161,927.80**
K2				**Applicable Taxes to make it Landed Cost @18%**	**29,147.00**
K				**Total landed Cost (K=K1+ K2)**	**191,074.80**
L				**Total (J+K)**	2,201,671.48
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**2,201,671.48**
O				CESS 1% of N	22,016.71
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**2,223,688.19**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	8

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	8	271,760.00
2	GI Channel,angle & flat of different size	KG	78.00	362.976	28,312.13
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
9	33KV pin insulator polymer	EA	398.00	24	9,552.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	24	2,880.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	48	43,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	48	120,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	48	13,872.00
15	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
A1				**Total Cost of materials**	**527,485.76**
A2				**Applicable Taxes to make it Landed Cost @18%**	**94,947.44**
A				**Total landed Cost (A=A1 + A2)**	**622,433.20**
B				Stock, Storage & Insurance i.e 3% of A	18,673.00
C				**Sub Total (A+B)**	**641,106.19**
D				Contigency @ 3% of C	19,233.19
E				Tools & Plants @ 2% of C	12,240.09
F				Transportation @ 7.5% of C	48,082.96
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,514.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	28,170.76

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**765,348.05**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**62,605.83**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,269.05**
K				**Total landed Cost (K=K1+ K2)**	**73,874.87**
L				**Total (J+K)**	839,222.92
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**839,222.92**
O				CESS 1% of N	8,392.23
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**847,615.15**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	8

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	8	271,760.00
2	GI Channel,angle & flat of different size	KG	78.00	713.616	55,662.05
3	Danger Plate	EA	180.00	8	1,440.00
4	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
5	33KV pin insulator polymer	EA	398.00	32	12,736.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	32	3,840.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	48	43,200.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	48	120,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	48	13,872.00
11	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
12	H.T. Stay clamp	EA	260.00	16	4,160.00
13	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
14	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
15	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
A1				**Total Cost of materials**	**581,531.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**104,675.70**
A				**Total landed Cost (A=A1 + A2)**	**686,207.38**
B				Stock, Storage & Insurance i.e 3% of A	20,586.22
C				**Sub Total (A+B)**	**706,793.60**
D				Contigency @ 3% of C	21,203.81
E				Tools & Plants @ 2% of C (Except HT Stay Set)	13,005.65
F				Transportation @ 7.5% of C	53,009.52
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,514.86
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,998.53
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**842,525.96**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.400	29,254.94
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.900	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**81,018.03**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,583.24**
K				**Total landed Cost (K=K1+ K2)**	**95,601.27**
L				**Total (J+K)**	938,127.23
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**938,127.23**

O	CESS 1% of N	9,381.27
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**947,508.50**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	5.84

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	114	3,872,580.00
2	33 KV V cross Arm (GI)	EA	1,701.00	114	193,914.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	114	9,234.00
4	Danger Plate	EA	180.00	114	20,520.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	175.56	13,693.68
6	GI barbed wire anticlimbing device	KG	74.00	342.00	25,308.00
7	33 kV pin insulator polymer	EA	398.00	342	136,116.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	342	41,040.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	228	50,160.00
10	Earthing of Support (Coil Type)	EA	164.00	114	18,696.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	187.76	13,894.09
12	232 sq.mm XLPE AAA covered conductor	M	342.00	18045.60	6,171,595.20
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	15	11,250.00
A1	**Total Cost of materials**				**10,578,000.97**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,904,040.17**
A	**Total landed Cost (A=A1 + A2)**				**12,482,041.15**
B	Stock, Storage & Insurance i.e 3% of A				374,461.23
C	**Sub Total (A+B)**				**12,856,502.38**
D	Contigency @ 3% of C				385,695.07
E	Tools & Plants @ 2% of C				257,130.05
F	Transportation @ 7.5% of C				964,237.68
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				235,336.69
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				814,976.86
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**15,513,878.73**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	62.70	416,882.90
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	12.83	85,271.50
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	114	95,304.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	114	32,300.76
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	5.84	61,144.80
K1	**Total Civil & Services**				**690,903.96**
K2	**Applicable Taxes to make it Landed Cost @18%**				**124,362.71**
K	**Total landed Cost (K=K1+ K2)**				**815,266.67**
L	**Total (J+K)**				16,329,145.40
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**16,329,145.40**
O	CESS 1% of N				163,291.45
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**16,492,436.85**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	1,285,003.26
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	2,223,688.19
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	847,615.15
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	947,508.50
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	16,492,436.85
Q	**Gross Total Material +Services**	**21,796,251.96**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	3,630.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**5,880.00**
V	GST @ 18% on Total Inspection Fees (U)	1,058.40
W	Total Inspection Fees including GST (U+V)	6,938.40
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**21,803,190.36**

Part-B Supply and Laying of UG cable 3C, 400sqmm UG Cable without spare-1.99km

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***990***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***1000***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1990	3,165.00	6,298,350.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	8	25,930.00	207,440.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	11,900.00	95,200.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	1054.00	812.00	855,848.00
	Sub Total (Supply Portion) (in Rs.)				**7,456,838.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1990	115.00	228,850.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	16	2,000.00	32,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1000	2,970.00	2,970,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1054.00	195.00	205,530.00
	Sub Total (Erection Portion) (in Rs.)				**3,436,380.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	463		
1.1.a	Earth work excavation of **soil**	M3	388.92	716.03	278,478.39
1.1.b	Earth work excavation of **hard rock**	M3	166.68	1,759.39	293,255.13
1.2	Back filling with excavated soil outside and above the trench	M3	555.6	220.00	122,232.00
1.3	Road Repair and restoration charges	KM	0.463	9,294,727.82	4,303,458.98
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	66	1,035.17	68,321.22
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.99	10,470.00	20,835.30
	Sub Total (Civil Portion) (in Rs.)				**5,086,581.01**

A1	**Sub Total (Supply Portion)**	**7,456,838.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,342,230.84**
A	**Total Landed Cost (A=A1 + A2)**	**8,799,068.84**
B	Stock, Storage & Insurance @ 3 % of A	263,972.07
C	**Sub Total (A+B)**	**9,063,040.91**
D	Contingency @ 3 % of C	271,891.23

E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	679,728.07
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**10,014,660.20**
I1	Sub Total (Erection Portion + Civil Portion)	8,522,961.01
I2	**Applicable Taxes to make it Landed Cost @18%**	**1,534,132.98**
I	**Total landed Cost (I=I1+ I2)**	**10,057,094.00**
J	**Total Cost (H+I)**	**20,071,754.20**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**20,071,754.20**
M	CESS 1% of L	200,717.54
N	**Grand Total (L+M)**	**20,272,471.74**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,485.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**4,485.00**
T	GST @ 18% on Total Inspection Fees (S)	807.30
U	Total Inspection Fees including GST (S+T)	5,292.30
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**20,277,764.04**

Part-C-Construction of 3 No of 33 KV Outdoor Bay (Transformer & Line Bay) One Nos MK Gola PSS and 2Nos Dayanabil PSS

No. of BAY requirement	3
No. of VCB Requirement	3

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	1050	81,900.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	1260	98,280.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1860	145,080.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	2220	173,160.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	600	46,800.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	1050	81,900.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	1050	81,900.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	1980	154,440.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	630	49,140.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	48	62,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	1699	132,537.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	150	27,247.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	101,652.00	3	304,956.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	3	260,574.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	263,629.00	3	790,887.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	270,500.00	3	811,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	449,000.00	0	-
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	9	364,959.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	9	216,252.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	9	107,100.00

22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	150	49,350.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	150	63,900.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	150	18,600.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	150	29,400.00
26	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	0	-
27	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
28	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	249,965.00	0	-
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	54	15,606.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	54	34,074.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	36	11,988.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	600	44,400.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	3	22,167.33
A1				**Total Cost of materials**	**4,320,485.43**
A2				**Applicable Taxes to make it Landed Cost @18%**	**777,687.38**
A				**Total landed Cost (A=A1 + A2)**	**5,098,172.81**
B				Stock, Storage & Insurance i.e 3% of A	152,945.18
C				**Sub Total (A+B)**	**5,251,117.99**
D				Contigency @ 3% of C	157,533.54
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	103,505.54
F				Transportation @ 7.5% of C	393,833.85
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed	48,062.20
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	421,403.30
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,375,456.42**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	48	181,667.04
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	21.84	10,767.99
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	12	2,640.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	1.02375	1,047.19

2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.365	7,162.81
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	8.475	56,349.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	39.75	12,238.63
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	420	46,830.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	23.90625	11,786.74
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	13.5	2,970.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	1.089	1,113.94
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.089	5,714.50

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	7.0875	47,123.72
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	44.82	13,799.63
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	367.29	40,952.84
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	153.9293	75,893.28
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	72	15,840.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	6.3	33,059.11
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	42.525	282,742.35
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	268.92	82,797.78
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	2203.74	245,717.01
5	**Isolator**				

5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	28.35	13,977.68
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	12	2,640.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.701	8,925.96
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	17.1	113,695.34
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	1035	240,120.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	69	102,120.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	69	347,070.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	138	1,035,000.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	126	945,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	1680	453,600.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	29742	3,033,684.00
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	36	286,200.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	15906	1,654,224.00
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	64.8	42,120.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	21.6	64,800.00
K1				**Total Civil & Services**	**9,630,895.46**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,733,561.18**
K				**Total landed Cost (K=K1+ K2)**	**11,364,456.64**
L				**Total Material +services (J+K)**	**17,739,913.06**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**17,739,913.06**
O				CESS 1% of (N)	177,399.13
P				**Total (N+O)**	17,917,312.19
Q				Inspection Fee of VCB - Rs. 1500/ VCB	4,500.00
R				GST @ 18% on Total Inspection Fees (Q)	810.00
S				Total Inspection Fees including GST (Q+R)	5,310.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**17,922,622.19**

ANNEXURE-23

LT NETWORK STRENGTHENING FOR LOAD GROWTH

Sl. No.	Description	Unit	Per Unit Cost (In Cr.)	Qty.	Total Cost in Cr.
1	Construction of 1 CKM LT line using 9 Mtr. PSC pole and 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) LT AB Cable	KM	0.12	57.40	6.78
2	Construction of LT Line using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	KM	0.10	32.00	3.22
	Total			**89.40**	**10.00**

Construction of 1 CKM LT line using 9 Mtr. PSC pole and 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) LT AB Cable

AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-……)	1
Dead End 95-150 sq. mm (9/ KM)	9
Suspension 95-150 sq. mm (21/ KM)	21

MATERIALS FOR LT AB Cable Line

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	9 Mtr. long PSC Pole	EA	3,630.00	30	1,08,900.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	53	4,141.80
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	422.00	1050.00	4,43,100.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	116	13,117.28
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	6	7,800.00
14	Coil Earthing	EA	164.00	24	3,936.00
15	Danger plate (LT)	EA	180.00	30	5,400.00
16	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	15.00	1,110.00
A1				**Total Cost of materials**	**6,49,711.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,16,947.99**
A				**Total landed Cost (A=A1 + A2)**	**7,66,659.07**
B				Stock, Storage & Insurance i.e 3% of A	22,999.77
C				**Sub Total (A+B)**	**7,89,658.85**
D				Contigency @ 3% of C	23,689.77
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	15,154.44
F				Transportation @ 7.5% of C	59,224.41
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	62,536.47
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	26,471.41
J				**Sum of (C to I)**	**9,76,735.35**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**1,62,271.87**
K2				Applicable Taxes to make it Landed Cost @18%	29,208.94
K				**Total landed Cost (K=K1+ K2)**	**1,91,480.80**
L				**Total (J+K)**	**11,68,216.15**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**11,68,216.15**
O				CESS 1% of N	11,682.16
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**11,79,898.31**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	-
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,125.00**
U				GST @ 18% on Total Inspection Fees (T)	202.50
V				Total Inspection Fees including GST (T+U)	1,327.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**11,81,225.81**

Construction of LT Line using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-……)				1	
Dead End upto 70 sq. mm (9/ KM)				9	
Suspension upto 70 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	9 Mtr. long PSC Pole	EA	3,630.00	30	1,08,900.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	53	4,141.80
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	311.00	1050.00	3,26,550.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	116	13,117.28
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	6	7,800.00
14	Coil Earthing	EA	164.00	24	3,936.00
15	Danger plate (LT)	EA	180.00	30	5,400.00
16	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	15.00	1,110.00
A1				**Total Cost of materials**	**5,33,161.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**95,968.99**
A				**Total landed Cost (A=A1 + A2)**	**6,29,130.07**
B				Stock, Storage & Insurance i.e 3% of A	18,873.90
C				**Sub Total (A+B)**	**6,48,003.98**
D				Contigency @ 3% of C	19,440.12
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	12,321.34
F				Transportation @ 7.5% of C	48,600.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes	48,370.99
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	26,471.41
J				**Sum of (C to I)**	**8,03,208.13**
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**1,62,271.87**
K2				Applicable Taxes to make it Landed Cost @18%	29,208.94
K				**Total landed Cost (K=K1+ K2)**	**1,91,480.80**
L				**Total (J+K)**	**9,94,688.93**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**9,94,688.93**
O				CESS 1% of N	9,946.89
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**10,04,635.82**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	-
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,125.00**
U				GST @ 18% on Total Inspection Fees (T)	202.50
V				Total Inspection Fees including GST (T+U)	1,327.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**10,05,963.32**

Location for LT Network Strengthening for Load Growth

				TOTAL IN KM			89.4
CIRCLE	**DIVISION**	**SECTION**	**DT CODE**	**DT NAME**	**DT CAPACITY (IN KVA)**	**LT ABC Size**	**LT ABC Req (ckm)**
BBSR1	BED	RASULGARH	1316DT250	D. MOHANTY	100	4C×70 mm²	0.2
BBSR1	NED	PIPILI 1	1434DT303	OLD NAC MARKET1	200	4C×95 mm²	0.25
BBSR1	BED	PHULNAKHARA	1315DT676	MAHAVEER COLONY ADALIA	100	4C×70 mm²	0.2
BBSR1	NED	BALAKATI	1431DT195	NUAPATNA UPER SAHI	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT265	SAPTASATI NAGAR 1	100	4C×70 mm²	0.2
BBSR2	PED	BALIAPANDA	2411DT001	KRIYA YOGA ASHRAM	100	4C×70 mm²	0.2
CUTTACK	SED	BAHUGRAM	3531DT073	KOTHABADA MUSLIM SAHI	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 2	1324DT101	BARIK SAHI	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 1	1323DT154	INDRA COLONY	100	4C×70 mm²	0.2
BBSR1	BED	LAXMISAGAR	1313DT176	PLOT NO 152/1856	100	4C×70 mm²	0.2
BBSR1	BED	PHULNAKHARA	1315DT665	BHAGYA NAGAR	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT098	PLOT NO 362(P.K. MISHRA)	200	4C×95 mm²	0.25
BBSR1	BED	PHULNAKHARA	1315DT687	MUGABHANGA	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 2	1324DT049	T N ROUT CAPEX	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 3	1325DT049	G.MASANI	250	4C×95 mm²	0.25
BBSR1	BED	DHAULI	1322DT053	BHATA BHOISAHI BGJY	100	4C×70 mm²	0.2
BBSR2	PED	CHANDANPUR	2441DT259	BIRENARASINGHHAPUPS 1	100	4C×70 mm²	0.2
BBSR2	NYD	NAYAGARH	2241DT378	DEBOTTOR COLLONY	100	4C×70 mm²	0.2
BBSR1	BED	BARAGADA	1321DT131	KALING BASTEE	100	4C×70 mm²	0.2
CUTTACK	CDD-1	COLLEGE SQUARE	3112DT091	TALA SAHI(JAGANNATH TEMPLE)SI	100	4C×70 mm²	0.2
BBSR2	PED	KANAS	2423DT357	KANAS	100	4C×70 mm²	0.2
BBSR1	BED	PHULNAKHARA	1315DT409	BHUBANPUR - 2	100	4C×70 mm²	0.2
CUTTACK	CDD-2	CHAULIAGANJ	3231DT176	KANTIA 1	100	4C×70 mm²	0.2
BBSR1	BED	KALPANA 1	1311DT156	CHINTAMANISWAR RAPDRP	100	4C×70 mm²	0.2
DHENKANAL	DED	DKL SEC-II	4113DT323	PHATA BANDHA	100	4C×70 mm²	0.2
DHENKANAL	TED	SOUTH BALANDA	4344DT369	KALAMACHHUIN PIDHA SAHI_01	100	4C×70 mm²	0.2
BBSR2	NYD	NAYAGARH	2241DT167	M.I. COLONY SAGUDIA SAHI	100	4C×70 mm²	0.2
BBSR1	BED	DHAULI	1322DT228	BISWAJAYA ARYAN NAGAR	100	4C×70 mm²	0.2
BBSR1	BED	LAXMISAGAR	1313DT063	SAI VIHAR-1	100	4C×70 mm²	0.2
PARADEEP	JED	J S PUR 2	5323DT171	MOHIUDDINPUR	100	4C×70 mm²	0.2
BBSR2	KHD	KHURDA 1	2151DT158	MANGALA NAGAR 5TH LANE	100	4C×70 mm²	0.2
BBSR1	BED	UTTARA	1326DT249	SRIRAM NAGAR-2 RAPDRP	100	4C×70 mm²	0.2
BBSR1	BED	DHAULI	1322DT008	BDA SQUARE RAPDRP	100	4C×70 mm²	0.2
BBSR1	BED	PHULNAKHARA	1315DT114	BEHERA SAHI	100	4C×70 mm²	0.2
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT216	NEHERPALI	100	4C×70 mm²	0.2
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT198	N2/29	100	4C×70 mm²	0.2
CUTTACK	AED	ATHAGADA 1	3421DT076	UTTARACHANDI	100	4C×70 mm²	0.2
BBSR1	BED	LAXMISAGAR	1313DT169	NEAR P.J COLLEGE	100	4C×70 mm²	0.2
BBSR1	BED	DHAULI	1322DT013	BHIMESWAR TEMPLE RAPDRP	100	4C×70 mm²	0.2
CUTTACK	CED	BALICHANDRAPUR	3312DT238	CHARILANGALA 5	100	4C×70 mm²	0.2
CUTTACK	CDD-1	BIDANASI	3141DT267	BIJU PATNAIK PARK 1	160	4C×70 mm²	0.2
BBSR1	BCDD-2	KALINGANAGAR	1213DT152	MALLICK SHANKARPUR	100	4C×70 mm²	0.2

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	DT CAPACITY (IN KVA)	LT ABC Size	LT ABC Req (ckm)
CUTTACK	CED	CHOUDWAR 1	3322DT110	PERSONAL	100	4C×70 mm²	0.2
CUTTACK	CDD-2	42MAUZA	3221DT058	JHARAKATA 1	100	4C×70 mm²	0.2
BBSR1	BCDD-2	BARAMUNDA	1221DT111	LANE-4, ROAD-2, JAGANNATH VIHAR NO-1	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT009	PANDRA VILLAGE SCHOOL(NEAR)	100	4C×70 mm²	0.2
CUTTACK	CED	BALICHANDRAPUR	3312DT022	PATRAJPUR	100	4C×70 mm²	0.2
BBSR1	BED	UTTARA	1326DT235	SUABORI	100	4C×70 mm²	0.2
DHENKANAL	ANED	ANGUL-I	4211DT120	HULURISINGHA NEAR HOTEL SANDHYA	100	4C×70 mm²	0.2
PARADEEP	JED	J S PUR 1	5322DT103	NEW NEAR SANSKURTI BHAWAN	100	4C×70 mm²	0.2
BBSR1	BCDD-1	DELTA	1112DT022	LANE-10 S.NAGAR(CAPEX)	100	4C×70 mm²	0.2
BBSR2	NYD	ITAMATI 1	2222DT047	BADA HARI JAN SAHI_1	100	4C×70 mm²	0.2
BBSR1	BCDD-2	KALINGANAGAR	1213DT258	BALIA PADA-1	100	4C×70 mm²	0.2
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT204	JAGULAI TEMPLE	100	4C×70 mm²	0.2
BBSR1	NED	PIPILI 2	1435DT338	PANDA CHHUDA MILL	100	4C×70 mm²	0.2
CUTTACK	CDD-2	CHAULIAGANJ	3231DT179	RIO COLONY	100	4C×70 mm²	0.2
CUTTACK	CDD-2	CHAULIAGANJ	3231DT180	MAITRI NAGAR	200	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT167	JAGAMARA NO-1	250	4C×95 mm²	0.25
CUTTACK	CDD-1	BIDANASI	3141DT182	AIR TEL SEC 10	200	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT154	SUSANTA ROUT, GHAGIDI	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT072	SETHY BABU (NEAR)	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KALINGANAGAR	1213DT059	SOUBHAGYA LAXMINAGAR-1	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 1	1323DT219	MAHAVIR NAGAR	250	4C×95 mm²	0.25
DHENKANAL	ANED	ANGUL-I	4211DT093	PRAGATI NAGAR-1	250	4C×95 mm²	0.25
CUTTACK	CDD-2	JOBRA	3223DT168	TARALO	100	4C×70 mm²	0.2
BBSR2	PED	DELANGA	2422DT478	RENGAL BAZAR	250	4C×95 mm²	0.25
BBSR2	BAED	NACHUNI	2315DT227	NACHUNI (BAZAR) 1	100	4C×70 mm²	0.2
CUTTACK	CDD-2	42MAUZA	3221DT161	AITALANGA	100	4C×70 mm²	0.2
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT004	RICE MILL	200	4C×95 mm²	0.25
PARADEEP	KED1	KENDRAPARA 2	5125DT436	EKKADA KHANDI 1	100	4C×70 mm²	0.2
BBSR1	BCDD-2	XAVIER	1224DT014	NILACHAKRA NAGAR 1	250	4C×95 mm²	0.25
BBSR1	BED	DHAULI	1322DT543	ARADHANA NAGAR -2	250	4C×95 mm²	0.25
CUTTACK	CDD-2	KANDARPUR	3224DT254	RAGHUNATHPUR-2	100	4C×70 mm²	0.2
CUTTACK	CDD-1	KAZI BAZAR	3123DT022	BSY	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT047	BALIAPATA CEPX	250	4C×95 mm²	0.25
CUTTACK	CDD-2	KANDARPUR	3224DT146	SIDHESWAR	100	4C×70 mm²	0.2
BBSR1	BCDD-2	BARANG	1231DT191	MARUTI RESIDENCY-1	250	4C×95 mm²	0.25
PARADEEP	PDP	RAHAMA	5413DT018	SHISHU MANDIR	100	4C×70 mm²	0.2
CUTTACK	SED	SALIPUR 1	3533DT050	JAHAGIRABAD	100	4C×70 mm²	0.2
BBSR1	BCDD-2	KALINGANAGAR	1213DT060	SOUBHAGYA LAXMINAGAR-2	100	4C×70 mm²	0.2
PARADEEP	JED	R N PUR	5332DT427	THORIAPADA MUSLIM SAHI	100	4C×70 mm²	0.2
DHENKANAL	DED	HINDOL ROAD	4132DT029	NUA BANGURSINGH	100	4C×70 mm²	0.2
BBSR1	BCDD-2	CS PUR 1	1232DT041	MIG II BLOCK 65	100	4C×70 mm²	0.2
BBSR2	KHD	KHURDA 2	2152DT175	KERENGA NO 3	250	4C×95 mm²	0.25
CUTTACK	CDD-2	42MAUZA	3221DT019	SECTOR 7	100	4C×70 mm²	0.2
BBSR1	BCDD-2	XAVIER	1224DT177	IDCO SAHI	100	4C×70 mm²	0.2
BBSR1	BCDD-2	KALINGANAGAR	1213DT144	NEAR ARAY SCHOOL	100	4C×70 mm²	0.2

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CUTTACK	CDD-2	KANDARPUR	3224DT206	KAIJANGA	100	4C×70 mm²	0.2
BBSR1	BCDD-2	VSS NAGAR	1223DT115	RANGAMATIA 2	250	4C×95 mm²	0.25
BBSR1	BCDD-1	SAHID NAGAR	1132DT041	BERENA	250	4C×95 mm²	0.25
PARADEEP	KED1	KENDRAPARA 2	5125DT209	LAW COLLEGE	250	4C×95 mm²	0.25
BBSR1	BED	KALPANA 1	1311DT112	CHINTA MONI GOVT GIRLS SCHOOL	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 1	1232DT154	RAPDRP NEAR (6TH AVENUE)	100	4C×70 mm²	0.2
BBSR1	NED	BALAKATI	1431DT110	HIRIPUR, UPAR SAHI	100	4C×70 mm²	0.2
BBSR2	BAED	RANAPUR	2323DT448	DANDA SAHI 90	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 1	1323DT026	DALAKHAI	250	4C×95 mm²	0.25
DHENKANAL	TED	TALCHER	4345DT034	HANDIDHUA BAZAR	250	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT178	SAMBHU SHOP	250	4C×95 mm²	0.25
PARADEEP	PDP	KOLAR	5432DT157	KRISNANDAPUR 57	100	4C×70 mm²	0.2
CUTTACK	CDD-2	DOLAMUNDAI	3212DT159	SRIRAM NAGAR 2	250	4C×95 mm²	0.25
DHENKANAL	ANED	ANGUL-I	4211DT183	BANIABAHAL	250	4C×95 mm²	0.25
BBSR1	BED	KALPANA 1	1311DT008	CANEL ROAD	100	4C×70 mm²	0.2
BBSR1	BCDD-2	BARANG	1231DT456	GURUDIBANIA NO-2	100	4C×70 mm²	0.2
BBSR1	BED	MANCHESWAR	1314DT144	SRIRAM NAGAR CHHAKA -1	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KALINGANAGAR	1213DT253	K-6B NEAR HIG-59	250	4C×95 mm²	0.25
BBSR2	NYD	NAYAGARH	2241DT100	RAJA BAGICHA -IV	100	4C×70 mm²	0.2
BBSR1	BCDD-2	KALINGANAGAR	1213DT378	SANJUKTA KRAFT	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT070	JAGANNATH NAGAR ROAD 8(5)	200	4C×95 mm²	0.25
PARADEEP	JED	J S PUR 1	5322DT227	AUGRATARA COLONY-1	100	4C×70 mm²	0.2
CUTTACK	CDD-2	42MAUZA	3221DT174	BATUNIA	100	4C×70 mm²	0.2
BBSR1	BCDD-2	BARAMUNDA	1221DT046	IN FRONT MIG-61.BHB COLONY	250	4C×95 mm²	0.25
BBSR1	BCDD-1	POWER HOUSE	1115DT172	KABADIA-2	250	4C×95 mm²	0.25
BBSR1	BCDD-1	SAHID NAGAR	1132DT017	NEAR POTE NO 200	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT393	250kVA PSS JAGANNATH	250	4C×95 mm²	0.25
CUTTACK	CDD-2	CHAULIAGANJ	3231DT037	BC SAHOO	500	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 2	1233DT267	NULADRI BIHAR, S2-PLOT NO-119	250	4C×95 mm²	0.25
BBSR1	BCDD-1	DELTA	1112DT010	LANE 3	100	4C×70 mm²	0.2
BBSR2	BAED	RANAPUR	2323DT459	CHANDESHWARA SAHI 104	100	4C×70 mm²	0.2
BBSR1	BCDD-2	KHANDAGIRI	1214DT181	AMRIT NAGAR-1	100	4C×70 mm²	0.2
CUTTACK	CDD-2	DOLAMUNDAI	3212DT144	DOLAMUNDAI 8	500	4C×95 mm²	0.25
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT326	SLN BASTI NO1	100	4C×70 mm²	0.2
BBSR2	KHD	KHURDA 1	2151DT053	HOUSING BOARD 2	250	4C×95 mm²	0.25
CUTTACK	CDD-2	DOLAMUNDAI	3212DT140	DOLAMUNDAI 5	250	4C×95 mm²	0.25
DHENKANAL	TED	PALLAHARA	4322DT410	GUDIBANDHA-I	100	4C×70 mm²	0.2
BBSR1	BCDD-1	DELTA	1112DT086	HADISAHI-II	100	4C×70 mm²	0.2
BBSR1	BCDD-2	KHANDAGIRI	1214DT043	NEAR ITR COLLEGE CAPEX S/S	200	4C×95 mm²	0.25
BBSR1	BCDD-2	GODISAHI	1234DT304	DEULI	100	4C×70 mm²	0.2
BBSR1	BED	BARAGADA	1321DT411	GOPALUNI NAGAR	250	4C×95 mm²	0.25
BBSR1	BED	DHAULI	1322DT027	OSHB PUNAMA GATE	250	4C×95 mm²	0.25
BBSR1	BCDD-1	DELTA	1112DT070	CAPEX SIRIPUR	100	4C×70 mm²	0.2
BBSR1	BCDD-1	UNIT 6	1114DT048	JHARANA RAPDRP	100	4C×70 mm²	0.2
CUTTACK	CDD-2	KANDARPUR	3224DT119	KARAPADA	100	4C×70 mm²	0.2

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	DT CAPACITY (IN KVA)	LT ABC Size	LT ABC Req (ckm)
BBSR1	BCDD-1	DELTA	1112DT078	NABARD-II	250	4C×95 mm²	0.25
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT119	LB QUARTERS2	100	4C×70 mm²	0.2
BBSR1	BCDD-2	BARANG	1231DT761	DARUTENGA TALASAHI NO-2	100	4C×70 mm²	0.2
BBSR2	PED	KACHERI	2412DT011	SAHOO LODGE	250	4C×95 mm²	0.25
BBSR1	BED	PHULNAKHARA	1315DT789	TRINATH BAZAR	200	4C×95 mm²	0.25
BBSR1	BED	OLD TOWN 1	1323DT235	GARAGE CHHAK CANEL BHANDHA	250	4C×95 mm²	0.25
BBSR1	BCDD-1	POWER HOUSE	1115DT036	BHOI SAHI	100	4C×70 mm²	0.2
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT042	NANDAKRISHNA 2	250	4C×95 mm²	0.25
CUTTACK	CDD-2	CHAULIAGANJ	3231DT146	KESH PUR	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KALINGANAGAR	1213DT123	K9 A, PHD	250	4C×95 mm²	0.25
PARADEEP	PDP	BHUTAMUNDAI	5421DT151	GOPIA KUDHA 3	100	4C×70 mm²	0.2
BBSR1	BCDD-2	BARANG	1231DT068	MARICHIA VILLAGE	250	4C×95 mm²	0.25
BBSR1	BCDD-1	DELTA	1112DT003	BHOLI(C TYPE)	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 1	1323DT082	SISHUPAL PANCHAYAT	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BARAMUNDA	1221DT067	BARIK SAHI, JAGANNATH VIHAR NO-1	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BARANG	1231DT011	KENDUPATANA VILLAGE NEAR PUMP HOUSE	100	4C×70 mm²	0.2
BBSR1	BCDD-1	DELTA	1112DT050	TARINATH-1	200	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 1	1232DT104	ATMARAM HOTEL	100	4C×70 mm²	0.2
CUTTACK	CDD-1	TINIKONIA BAGICHA	3133DT021	MAKRABAG SAHI	250	4C×95 mm²	0.25
CUTTACK	CDD-1	TOWN HALL	3124DT032	KATHAGADA SAHI-1	250	4C×95 mm²	0.25
BBSR1	BED	MANCHESWAR	1314DT082	ACE INSULATION	250	4C×95 mm²	0.25
CUTTACK	SED	BAHUGRAM	3531DT350	33/11 kV BAHUGRAM-1 SS DT	250	4C×95 mm²	0.25
BBSR1	BCDD-2	DUMUDUMA	1212DT140	SUBASHNAGARBASTI NO1	250	4C×95 mm²	0.25
DHENKANAL	DED	K NAGAR	4142DT360	NILAMADHABPUR 5	100	4C×70 mm²	0.2
CUTTACK	CDD-1	KAZI BAZAR	3123DT025	TANTISAHI	250	4C×95 mm²	0.25
CUTTACK	CDD-1	RANIHAT 1	3113DT047	KHUNTIA LANE	250	4C×95 mm²	0.25
CUTTACK	SED	Bahugram -2	3531DT201	BHAIRPUR MASJID GALI	63	4C×70 mm²	0.2
DHENKANAL	TED	BANARPAL	4311DT287	NUAHATA SOCITY OFFICE	100	4C×70 mm²	0.2
BBSR1	BED	OLD TOWN 1	1323DT020	SAKTI NAGAR	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT045	RATHA S/S GHATIKIA	200	4C×95 mm²	0.25
BBSR2	KHD	BANKI 1	2111DT014	BANKI COLLEGE-2	250	4C×95 mm²	0.25
BBSR1	BCDD-1	POWER HOUSE	1115DT010	ODISA NURSING HOME	100	4C×70 mm²	0.2
CUTTACK	CDD-1	CHANDINI CHOWK	3132DT026	STEWORT PATNA BSVY	100	4C×70 mm²	0.2
CUTTACK	CDD-1	KAZI BAZAR	3123DT034	NETAJI 2	250	4C×95 mm²	0.25
BBSR2	PED	POWERHOUSE	2433DT049	GAJPATI NAGAR	100	4C×70 mm²	0.2
BBSR1	BCDD-2	KALINGANAGAR	1213DT539	SIJUA NEW	200	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 2	1233DT804	PLOT NO 138(STALWART CARE)	250	4C×95 mm²	0.25
BBSR2	PED	CHARINALA	2431DT001	MM NAGAR 01	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 2	1233DT012	VIM-746-1	250	4C×95 mm²	0.25
BBSR2	PED	BALIAPANDA	2411DT049	BIDHWA ASHRAM 1	500	4C×95 mm²	0.25
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT075	CHILDREN PARK 2	250	4C×95 mm²	0.25
BBSR1	BED	BARAGADA	1321DT144	JHARNA SHI	250	4C×95 mm²	0.25
CUTTACK	CDD-1	CITY	3121DT012	MAITRI 4	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT069	M COMPLEX NO-5	250	4C×95 mm²	0.25
BBSR1	BED	BARAGADA	1321DT122	BADAGADA PHD	200	4C×95 mm²	0.25

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BBSR1	BCDD-2	KANANVIHAR	1235DT252	N CHAND	250	4C×95 mm²	0.25
BBSR1	BED	LAXMISAGAR	1313DT376	JAYDURGA NAGAR PARK	250	4C×95 mm²	0.25
BBSR1	BED	RASULGARH	1316DT365	INFRONT OF DTDC OFFICE PALASUNI(PRAVATA PAN SHOP)	250	4C×95 mm²	0.25
BBSR1	NED	BALAKATI	1431DT055	PRATAP SASAN-2	100	4C×70 mm²	0.2
BBSR2	PED	PASCHIMADWAR	2413DT075	MUDULI JAGA	250	4C×95 mm²	0.25
CUTTACK	CDD-1	CDA	3142DT119	CHABIGALI BACK SIDE	200	4C×95 mm²	0.25
CUTTACK	CDD-1	CDA	3142DT080	MIG SECTOR 7	250	4C×95 mm²	0.25
DHENKANAL	TED	HATATOTA	4341DT444	GHANTAPADA BARA SAHI	250	4C×95 mm²	0.25
CUTTACK	CDD-1	KAZI BAZAR	3123DT018	CHAMAR SAHI	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 1	1232DT043	AKHANDALAMANI	250	4C×95 mm²	0.25
BBSR1	BCDD-1	POWER HOUSE	1115DT047	BEHERA SAHI	500	4C×95 mm²	0.25
BBSR1	BED	PHULNAKHARA	1315DT554	PAHAL VILLAGE	200	4C×95 mm²	0.25
CUTTACK	CDD-1	BIDANASI	3141DT173	JAGANNATH TEMPLE-2	250	4C×95 mm²	0.25
BBSR2	PED	POWERHOUSE	2433DT004	TIKARPADA-1	250	4C×95 mm²	0.25
CUTTACK	CDD-1	BUXI BAZAR	3111DT032	BADHEI SAHI CAPEX	100	4C×70 mm²	0.2
BBSR1	BCDD-2	CS PUR 2	1233DT504	MA SANTOSHI MANDIR	250	4C×95 mm²	0.25
PARADEEP	KED1	INDUPUR	5123DT048	INDUPUR MARKET	100	4C×70 mm²	0.2
CUTTACK	CED	NIALI-I	3341DT143	HALL CHACK 1	250	4C×95 mm²	0.25
BBSR2	KHD	KHURDA 4	2154DT118	PODA SAHI-1	250	4C×95 mm²	0.25
BBSR1	BED	DHAULI	1322DT020	BAUNSAKHANI-1	250	4C×95 mm²	0.25
BBSR1	BCDD-2	DUMUDUMA	1212DT171	SHIV MANDIR (ITR BOYS HOSTEL)	250	4C×95 mm²	0.25
DHENKANAL	DED	DKL SEC-II	4113DT058	TOWN PLANNING OLD	250	4C×95 mm²	0.25
BBSR1	BCDD-1	POWER HOUSE	1115DT154	RADHAKRISHNA MANDIRA	250	4C×95 mm²	0.25
BBSR1	BED	OLD TOWN 3	1325DT012	VETNARY SUB-2	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BARANG	1231DT474	PATIA TANGI NO-1	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KALINGANAGAR	1213DT171	SIJIPUT VILLAGE	250	4C×95 mm²	0.25
BBSR1	BCDD-2	DUMUDUMA	1212DT109	SAMBADIK, JADUPUR	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT148	KHANDAGIRI BARI NO-3(A)	500	4C×95 mm²	0.25
BBSR1	BED	OLD TOWN 1	1323DT021	BIJU GRAM JYOTI YOJANA 201617 BAJIYA	250	4C×95 mm²	0.25
BBSR2	KHD	JATANI 1	2143DT020	ASA KIRAN GOPINATHPUR	250	4C×95 mm²	0.25
CUTTACK	SED	SALIPUR 1	3533DT105	JAHAGIRABAD	250	4C×95 mm²	0.25
CUTTACK	CDD-1	CDA	3142DT143	TARINI BIHAR 1	250	4C×95 mm²	0.25
CUTTACK	CDD-1	COLLEGE SQUARE	3112DT095	JOBRA FIELD SS	250	4C×95 mm²	0.25
BBSR2	PED	POWERHOUSE	2433DT042	BUS STAND OUTGATE	250	4C×95 mm²	0.25
BBSR2	PED	KACHERI	2412DT052	JANHI MUMDIA 1 CHAAK	500	4C×95 mm²	0.25
BBSR1	BED	PHULNAKHARA	1315DT354	TALAGADA	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KALINGANAGAR	1213DT206	RAPDRP PARADIP COLONY	250	4C×95 mm²	0.25
BBSR2	PED	POWERHOUSE	2433DT001	AKHANDA MANI	500	4C×95 mm²	0.25
CUTTACK	AED	ATHAGADA 1	3421DT062	KANTOL HANUMAN	250	4C×95 mm²	0.25
PARADEEP	KED2	NUAPADA	5224DT357	NEAR HANUMAN STATUE(NUAPADA BAZAAR	100	4C×70 mm²	0.2
BBSR1	BCDD-1	POWER HOUSE	1115DT044	CAPEX BEHERA SAHI	100	4C×70 mm²	0.2
BBSR2	KHD	JATANI 2	2144DT246	PADANPUR BAGHA HARIJANA SAHI	100	4C×70 mm²	0.2
CUTTACK	CDD-1	COLLEGE SQUARE	3112DT014	LIC COLONY SS(SI)	250	4C×95 mm²	0.25
BBSR2	KHD	KHURDA 1	2151DT145	OLD DRDA-2	100	4C×70 mm²	0.2
CUTTACK	CDD-1	CDA	3142DT188	NEAR BM PARK SEC 11 1	250	4C×95 mm²	0.25

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	DT CAPACITY (IN KVA)	LT ABC Size	LT ABC Req (ckm)
BBSR1	BCDD-2	BHARATPUR	1211DT502	NEAR ASHOK DAS, MALIPADA (R-APDRP)	100	4C×70 mm²	0.2
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT193	NUA PADA 1	250	4C×95 mm²	0.25
BBSR2	KHD	KHURDA 1	2151DT052	HOUSING BOARD 1	100	4C×70 mm²	0.2
BBSR1	BED	RASULGARH	1316DT342	BHAGABAT SANDHAN COLONY 3	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT002	BACK SIDE OF KHANDAGIRI SUBSTATION(BABUSINGH NO-2)	250	4C×95 mm²	0.25
CUTTACK	CDD-1	CDA	3142DT200	BIREN MITRA PARK 1	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT085	LANE- 1 B.M NAGAR	250	4C×95 mm²	0.25
BBSR1	BCDD-1	DELTA	1112DT082	JAGANNATH-II	500	4C×95 mm²	0.25
BBSR2	PED	TALABANIA	2434DT036	MADHUSUDAN NAGAR	250	4C×95 mm²	0.25
CUTTACK	CDD-1	CDA	3142DT118	PETANALA-2	200	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 2	1233DT268	NULADRI BIHAR, S2-PLOT NO-119-1	250	4C×95 mm²	0.25
CUTTACK	CDD-1	CANTONMENT	3131DT116	GADHI KHANA	500	4C×95 mm²	0.25
CUTTACK	CDD-1	TULSIPUR	3143DT100	HATUA SAHI 1	250	4C×95 mm²	0.25
CUTTACK	CDD-2	CHAULIAGANJ	3231DT039	CHAULIAGANJ 1	500	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR 2	1233DT494	PRAGATI VIHAR	250	4C×95 mm²	0.25
PARADEEP	KED1	KENDRAPARA 2	5125DT212	NEAR DERABIS BLOCK 1	100	4C×70 mm²	0.2
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT031	ID MARKET NEAR RAINBOW NO1	250	4C×95 mm²	0.25
BBSR2	PED	TALABANIA	2434DT033	MARUTI NAGAR 1	250	4C×95 mm²	0.25
CUTTACK	AED	KHUNTUNI	3423DT416	MANCHESWAR-2	250	4C×95 mm²	0.25
CUTTACK	CDD-1	CANTONMENT	3131DT050	REVENUW COLONY-1	250	4C×95 mm²	0.25
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT020	SURA BEHRA	250	4C×95 mm²	0.25
CUTTACK	CDD-1	RANIHAT 1	3113DT022	PANA SAHI	250	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT 9 FLAT	1133DT015	BB BASTI NEW	100	4C×70 mm²	0.2
CUTTACK	CDD-2	DOLAMUNDAI	3212DT132	MAIN ROAD	500	4C×95 mm²	0.25
BBSR1	BCDD-2	DUMUDUMA	1212DT074	SHIBAMANDIR PHASE 2 DDHB MUNA BABU	500	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT064	MALLICK COMPLEX NO.-1	500	4C×95 mm²	0.25
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT203	N1/180	500	4C×95 mm²	0.25
BBSR1	BCDD-2	DUMDUMA	1212DT010	BHARMA GADI	500	4C×95 mm²	0.25
BBSR1	BCDD-2	DUMDUMA	1212DT009	PHASE 4 PARK	500	4C×95 mm²	0.25
PARADEEP	JED	JAGATSINGHPUR-I	5322DT113	FISH MARKET	250	4C×95 mm²	0.25
PARADEEP	KED1	AUL	NA	PADANPUR-1	250	4C×95 mm²	0.25
PARADEEP	KED1	KENDRAPARA 1	5124DT150	BAULA BIHARA	250	4C×95 mm²	0.25
PARADEEP	KED1	KENDRAPARA 1	5124DT225	Hajaribagicha	100	4C×70 mm²	0.2
BBSR2	KHD	Banki 2	2112DT177	Pathargadia Village	100	4C×70 mm²	0.2
DHENKANAL	DED	Dhkl-1	4112DT194	Back side of SBI	100	4C×70 mm²	0.2
DHENKANAL	TED	SOUTH BALANDA	4344DT212	Danara VS	100	4C×70 mm²	0.2
BBSR1	BCDD-1	UNIT-4	1124DT093	BM CSS-6	630	4C×95 mm²	0.25
Cuttack	CDD-1	TOWNHALL	3124DT076	PURIGHAT2	500	4C×95 mm²	0.25
BBSR1	BED	LAXMISAGAR	1313DT231	MARTHA TRADERS	250	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-3	1121DT118	JP CSS- C6	630	4C×95 mm²	0.25
Cuttack	CDD-1	TOWNHALL	3124DT011	GADIKHANA 250	250	4C×95 mm²	0.25
Cuttack	CED	BALIKUDA	3332DT166	JYOTSNABIHAR	250	4C×95 mm²	0.25
Cuttack	CED	BALIKUDA	3332DT073	NAGABALI	250	4C×95 mm²	0.25
Cuttack	CED	BALIKUDA	3332DT023	URALI	500	4C×95 mm²	0.25
Cuttack	CED	BALIKUDA	3332DT143	Jagganath bihar	500	4C×95 mm²	0.25
Cuttack	CED	BALIKUDA	3332DT364	KAJIPATNA 1	250	4C×95 mm²	0.25
Cuttack	CED	BALIKUDA	3332DT327	JAGGANATH COLONY	250	4C×95 mm²	0.25
Cuttack	CED	BALIKUDA	3332DT367	SAMPUR	250	4C×95 mm²	0.25
Cuttack	CDD-1	COLLEGE SQAUARE	3112DT148	Trenching Ground -200kva	200	4C×95 mm²	0.25
Cuttack	CDD-1	CITY	3121DT012	MAITRI-4-	250	4C×95 mm²	0.25
Cuttack	CDD-1	BIDANASI	3141DT184	AIRTEL-2	250	4C×95 mm²	0.25

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	DT CAPACITY (IN KVA)	LT ABC Size	LT ABC Req (ckm)
BBSR1	BCDD-1	UNIT-1	1122DT084	KEDARAPALI	500	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-3	1121DT117	JP CSS-19	630	4C×95 mm²	0.25
BBSR1	BED	LAXMISAGAR	1313DT280	KORADAKANTA GAHIRA	500	4C×95 mm²	0.25
Cuttack	CDD-1	CITY	3121DT031	KADAM RASUL-	250	4C×95 mm²	0.25
Cuttack	CDD-1	CITY	3121DT047	CHUNAVATI-2-	250	4C×95 mm²	0.25
Cuttack	CDD-1	KAZIBAZAR	3123DT034	GAUDASAHI-500 KVA	500	4C×95 mm²	0.25
Cuttack	CDD-1	KAZIBAZAR	3123DT023	DEWANBAZAR POKHARI	250	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT198	Cave view no-2 250	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR-II	1233DT792	GRIDCO COLONY	200	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-4	1124DT082	P&T-1	500	4C×95 mm²	0.25
BBSR1	BCDD-2	NAYAPALLI	1222DT123	LANE-3	500	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT369	YAMAHA SHOW ROOM	250	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT154	RAMA VILLA	250	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT033	N3	500	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT276	Maitri Vihar ph 2	250	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT280	Maitri Vihar police station	200	4C×95 mm²	0.25
BBSR1	BCDD-2	VSS Nagar	1223DT055	Gadakana Majhisahi	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT028	NANDI	500	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT132	BHUJABAL	250	4C×95 mm²	0.25
BBSR1	BCDD-2	Kanan Vihar	1235DT190	Sandha Chhaka	500	4C×95 mm²	0.25
BBSR1	BCDD-2	VSS NAGAR	1223DT006	AE COLONY	500	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-4	1124DT083	P&T-2	500	4C×95 mm²	0.25
BBSR1	BCDD-2	Kanan Vihar	1235DT464	HIG- 176	500	4C×95 mm²	0.25
Cuttack	CDD-1	KAZIBAZAR	3123DT015	NETAJI-500-1	500	4C×95 mm²	0.25
BBSR1	BCDD-2	VSS NAGAR	1223DT009	AM BM	500	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT223	old malima GA 500 kva	500	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT235	Pahi GA 500 kva	500	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT137	500 kva CET FRONT RAPDRP	500	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT365	500 kva Shradhapalli	500	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT332	250 kva SAI Basti	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT394	250 Paikarapur village 1	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT457	250 kva Gothapatna rapdrp	250	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT107	500 kva Bhalua dukan	500	4C×95 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT020	500 kva Atul Mohnaty	500	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT130	Dharmavihar no-1 500	500	4C×95 mm²	0.25
BBSR1	BCDD-2	KHANDAGIRI	1214DT094	Mandakini complex 250	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT267	BPCL backside	500	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT114	Rashmi Garden 500KVA	500	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT105	Atmaram 500KVA	500	4C×95 mm²	0.25
BBSR1	BCDD-2	Kanan Vihar	1235DT459	Patia Village	500	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT018	NALCO CHAKA	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT072	Pokharan village 250KVA	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT101	Damana village	500	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR-II	1233DT498	MULISAHI COLONY	200	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR-II	1233DT447	KANAK DURGA NAGAR	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS PUR-II	1233DT267	DURGA MANDAP	250	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-1	1122DT023	SBI BACK SIDE 1	250	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-1	1122DT123	BHAJAMANA	500	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-1	1122DT063	SMCSS-7	630	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT128	DK Mohanty	250	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT058	Swadhin Nagar RAPDRP	250	4C×95 mm²	0.25
BBSR1	BCDD-2	XAVIER	1224DT057	Swadhin Nagar 2	200	4C×95 mm²	0.25
BBSR1	BCDD-1	BRIT COLONY	1111DT012	DELTA GARAGE	500	4C×95 mm²	0.25
BBSR1	BCDD-1	BRIT COLONY	1111DT030	PAIKANAGAR CLUB	500	4C×95 mm²	0.3
BBSR1	BCDD-2	NAYAPALLI	1222DT212	Arabinda Behera,250	250	4C×95 mm²	0.25
BBSR1	BCDD-2	VSS NAGAR	1223DT115	KALIABOU	250	4C×95 mm²	0.25
BBSR1	BCDD-2	VSS NAGAR	1223DT108	KALIABOU	250	4C×95 mm²	0.25
BBSR1	BCDD-2	Baramunda	1221DT096	L-123 (Old) 500 KVA	500	4C×95 mm²	0.25
BBSR1	BCDD-2	Baramunda	1221DT046	SANKAR BAZAR, BHB COLONY-2	250	4C×95 mm²	0.25
BBSR1	BCDD-1	Kharvelnagar	1121DT060	SRIYA	250	4C×95 mm²	0.3
Cuttack	CDD-1	GANESH GHAT	3122Dt040	PARISEN LANE -	250	4C×95 mm²	0.3
BBSR1	BCDD-2	NAYAPALLI	1222DT091	N1/40,500	500	4C×95 mm²	0.25
BBSR1	BCDD-2	NAYAPALLI	1222DT150	Bhagabati Temple,500	500	4C×95 mm²	0.25
BBSR1	BCDD-2	NAYAPALLI	1222DT209	Mahaveer Temple,500	500	4C×95 mm²	0.25
BBSR1	BCDD-2	NAYAPALLI	1222DT343	Indalco,500	500	4C×95 mm²	0.25
BBSR1	BCDD-2	NAYAPALLI	1222DT094	E-TYPE CRP SQR 250	250	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT238	Uco bank	200	4C×95 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT033	Twin 2	250	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-1	1122DT010	TALASAHI	250	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-1	1122DT117	JHARANASAHI	200	4C×95 mm²	0.25
BBSR1	BCDD-1	BRIT COLONY	1111DT003	DELTA C-COLONY	500	4C×95 mm²	0.25
BBSR1	BCDD-1	UNIT-1	1122DT102	SASHIHOTEL	500	4C×95 mm²	0.3
BBSR1	BCDD-1	UNIT-1	1122DT129	DHUNABABU	250	4C×95 mm²	0.3
BBSR1	BED	OLD TOWN -II	1324DT109	MAUSIMA CSS	750	4C×95 mm²	0.3
BBSR2	BAED	BALUGAON-1	2311DT065	FISHARY	500	4C×95 mm²	0.3
BBSR2	BAED	BALUGAON-1	2311DT050	RAJIB NAGAR	63	4C×95 mm²	0.3
BBSR1	BCDD-2	DUMDUMA	1212DT096	Sarada Vihar 100	100	4C×70 mm²	0.25

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	DT CAPACITY (IN KVA)	LT ABC Size	LT ABC Req (ckm)
BBSR1	BED	LAXMISAGAR	1313DT164	SREEKHETRA NAGAR LANE-3 100KVA	100	4C×70 mm²	0.3
BBSR1	BCDD-1	UNIT-9 FLAT	1133DT029	NALCO BARACK	100	4C×70 mm²	0.3
CUTTACK	CED	BALIKUDA	3332DT324	BARAHINAGAR	100	4C×70 mm²	0.3
CUTTACK	CED	BALIKUDA	3332DT358	TENTULINALI	100	4C×70 mm²	0.3
CUTTACK	CED	CHOUDWAR	3322DT090	KAYALPADA 1	100	4C×70 mm²	0.3
cuttack	CED	CHARIBATIA	3321DT083	BUDHALINGA SS	100	4C×70 mm²	0.3
cuttack	CED	CHARIBATIA	3321DT119	ANGARJODI	100	4C×70 mm²	0.3
CUTTACK	CED	BALIKUDA	3332DT180	SANTUKA	100	4C×70 mm²	0.3
cuttack	CED	CHARIBATIA	3321DT118	ANGARJODI	100	4C×70 mm²	0.3
CUTTACK	CED	BALIKUDA	3332DT177	BHANAPUR	100	4C×70 mm²	0.3
CUTTACK	CED	BALIKUDA	3332DT106	SANKHATARASHA	100	4C×70 mm²	0.3
CUTTACK	CED	BALIKUDA	3332DT336	BALIKUDA NUABAZAR	100	4C×70 mm²	0.3
CUTTACK	CED	CHOUDWAR	3322DT137	BALUNKESWAR	100	4C×70 mm²	0.3
Cuttack	CED	CHARIBATIA	3321DT070	BAISNAB VIHAR	100	4C×70 mm²	0.3
BBSR1	BCDD-2	CS-1	1232DT091	Arbindo nagar market complex	100	4C×70 mm²	0.25
BBSR1	BCDD-2	CS PUR-II	1233DT139	ISWANESWAR BASTI	100	4C×70 mm²	0.25
BBSR1	BCDD-2	Godisahi	1234DT298	Madhupura 1	100	4C×70 mm²	0.25
BBSR1	BCDD-2	Godisahi	1234DT405	Naraj Marthapur	100	4C×70 mm²	0.25
BBSR1	BCDD-2	VSS NAGAR	1223DT019	SECTION OFFICE2 1	100	4C×70 mm²	0.25
BBSR1	BCDD-2	BHARATPUR	1211DT119	100 kva pandakudia	100	4C×70 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT078	Pokharan village 100KVA	100	4C×70 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT166	NRI 100KVA	100	4C×70 mm²	0.25
BBSR1	BCDD-2	CS-1	1232DT051	DAMNA HATA BASTI	100	4C×70 mm²	0.25
PARADEEP	JED	RAGHUNATHPUR	5332DT250	Praharajpur	100	4C×70 mm²	0.3
BBSR2	BAED	BALUGAON-1	2311DT133	NIMIKETA	100	4C×70 mm²	0.2
BBSR2	BAED	BALUGAON-1	2311DT161	NANDPUR	100	4C×70 mm²	0.3
BBSR2	BAED	Banapur-2	2314DT137	SAHASPUR	100	4C×70 mm²	0.3

ANNEXURE-24

DTR/CSS (NEW & AUG.)
TO MEET LOAD GROWTH

Summary of Scope					
New CSS					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Installation of 1 No. 11/0.4 KV, 1000 KVA CSS along with accessories.	EA	0.60	20	12.01
A	**Total (In Cr.)**				**12.01**
New DT					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Installation of 1 No. 11/0.4 KV, 250 KVA DTR (Cu) alongwith accessories.	EA	0.17	9	1.56
2	Installation of 1 No. 11/0.4 KV, 500 KVA DTR (Cu) alongwith accessories.	EA	0.35	105	36.73
3	Construction of 1 CKM 11kV Line using 100 SQ.MM. -AAA XLPE Conductor and 11 Mtr. WPB pole.	CKM	0.23	9.0	2.08
4	Construction of 11 kV line using 3C, 400sqmm U/G Cable	KM	1.38	0.3	0.41
5	Construction of 1 CKM LT line using 9 Mtr. PSC pole and 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) LT AB Cable	KM	0.12	5.00	0.59
6	Construction of LT Line using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	KM	0.10	24.40	2.45
B	**Total (In Cr.)**				**43.83**
DT Augmentation (DTR Swapping- Existing DTR to be re-used)					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Augmentation of DTR from 11/0.4 KV, 100 kVA to 250 kVA DTR (Cu) alongwith accessories. (DTR cost not considered in estimate, Existing DTR to be re-used in swapping)	EA	0.064	121	7.76
2	Augmentation of DTR from 11/0.4 KV, 250 kVA to 500 kVA DTR (Cu) alongwith accessories. (DTR cost not considered in estimate, Existing DTR to be re-used in swapping)	EA	0.182	16	2.92
C	**Total (In Cr.)**				**10.68**
New DSS (DTR Swapping- Existing DTR to be re-used)					
Sl. No.	**Description**	**Unit**	**Unit Cost (in Cr.)**	**Qty**	**Cost (in Cr.)**
1	Installation of 11/0.4 kV 100 kVA New DSS alongwith accessories. (DTR cost not considered in estimate, Existing DTR to be re-used in swapping)	EA	0.063	55	3.49
D	**Total (In Cr.)**				**3.49**
E= A+B+C+D	**Total Amount (In Cr.)**				**70.00**

Loaction for DTR Augmentation

				TOTAL		262	
CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	EXISTING DTR RATING (IN KVA)	PROPOSED DTR RATING (IN KVA)	% LOADING
BBSR1	BED	RASULGARH	1316DT250	D. MOHANTY	100	250	184.40%
BBSR1	NED	PIPILI 1	1434DT303	OLD NAC MARKET1	200	250	173.24%
BBSR1	BED	PHULNAKHARA	1315DT676	MAHAVEER COLONY ADALIA	100	250	171.36%
BBSR1	NED	BALAKATI	1431DT195	NUAPATNA UPER SAHI	100	250	170.72%
BBSR1	BED	RASULGARH	1316DT265	SAPTASATI NAGAR 1	100	250	162.64%
BBSR2	PED	BALIAPANDA	2411DT001	KRIYA YOGA ASHRAM	100	250	158.56%
CUTTACK	SED	BAHUGRAM	3531DT073	KOTHABADA MUSLIM SAHI	100	250	154.00%
BBSR1	BED	OLD TOWN 2	1324DT101	BARIK SAHI	100	250	152.40%
BBSR1	BED	OLD TOWN 1	1323DT154	INDRA COLONY	100	250	151.88%
BBSR1	BED	LAXMISAGAR	1313DT176	PLOT NO 152/1856	100	250	151.04%
BBSR1	BED	PHULNAKHARA	1315DT665	BHAGYA NAGAR	100	250	150.30%
BBSR1	BED	RASULGARH	1316DT098	PLOT NO 362(P.K. MISHRA)	200	250	149.80%
BBSR1	BED	PHULNAKHARA	1315DT687	MUGABHANGA	100	250	149.32%
BBSR1	BED	OLD TOWN 2	1324DT049	T N ROUT CAPEX	100	250	148.60%
BBSR1	BED	OLD TOWN 3	1325DT049	G.MASANI	250	500	148.14%
BBSR1	BED	DHAULI	1322DT053	BHATA BHOISAHI BGJY	100	250	148.08%
BBSR2	PED	CHANDANPUR	2441DT259	BIRENARASINGHHAPUPS 1	100	250	147.36%
BBSR2	NYD	NAYAGARH	2241DT378	DEBOTTOR COLLONY	100	250	146.72%
BBSR1	BED	BARAGADA	1321DT131	KALING BASTEE	100	250	146.64%
CUTTACK	CDD-1	COLLEGE SQUARE	3112DT091	TALA SAHI(JAGANNATH TEMPLE)SI	100	250	146.24%
BBSR2	PED	KANAS	2423DT357	KANAS	100	250	145.48%
BBSR1	BED	PHULNAKHARA	1315DT409	BHUBANPUR - 2	100	250	145.40%
CUTTACK	CDD-2	CHAULIAGANJ	3231DT176	KANTIA 1	100	250	145.30%
BBSR1	BED	KALPANA 1	1311DT156	CHINTAMANISWAR RAPDRP	100	250	144.24%
DHENKANAL	DED	DKL SEC-II	4113DT323	PHATA BANDHA	100	250	144.22%
DHENKANAL	TED	SOUTH BALANDA	4344DT369	KALAMACHHUIN PIDHA SAHI_01	100	250	142.40%
BBSR2	NYD	NAYAGARH	2241DT167	M.I. COLONY SAGUDIA SAHI	100	250	142.20%
BBSR1	BED	DHAULI	1322DT228	BISWAJAYA ARYAN NAGAR	100	250	142.16%
BBSR1	BED	LAXMISAGAR	1313DT063	SAI VIHAR-1	100	250	142.08%
PARADEEP	JED	J S PUR 2	5323DT171	MOHIUDDINPUR	100	250	141.84%
BBSR2	KHD	KHURDA 1	2151DT158	MANGALA NAGAR 5TH LANE	100	250	141.80%
BBSR1	BED	UTTARA	1326DT249	SRIRAM NAGAR-2 RAPDRP	100	250	141.52%
BBSR1	BED	DHAULI	1322DT008	BDA SQUARE RAPDRP	100	250	140.70%
BBSR1	BED	PHULNAKHARA	1315DT114	BEHERA SAHI	100	250	140.54%
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT216	NEHERPALI	100	250	139.12%
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT198	N2/29	100	250	138.86%
CUTTACK	AED	ATHAGADA 1	3421DT076	UTTARACHANDI	100	250	138.56%
BBSR1	BED	LAXMISAGAR	1313DT169	NEAR P.J COLLEGE	100	250	138.24%
BBSR1	BED	DHAULI	1322DT013	BHIMESWAR TEMPLE RAPDRP	100	250	137.40%
CUTTACK	CED	BALICHANDRAPUR	3312DT238	CHARILANGALA 5	100	250	136.80%
CUTTACK	CDD-1	BIDANASI	3141DT267	BIJU PATNAIK PARK 1	160	250	135.42%
BBSR1	BCDD-2	KALINGANAGAR	1213DT152	MALLICK SHANKARPUR	100	250	135.28%
CUTTACK	CED	CHOUDWAR 1	3322DT110	PERSONAL	100	250	135.04%
CUTTACK	CDD-2	42MAUZA	3221DT058	JHARAKATA 1	100	250	135.04%
BBSR1	BCDD-2	BARAMUNDA	1221DT111	LANE-4, ROAD-2, JAGANNATH VIHAR NO-1	100	250	134.68%
BBSR1	BED	RASULGARH	1316DT009	PANDRA VILLAGE SCHOOL(NEAR)	100	250	133.74%
CUTTACK	CED	BALICHANDRAPUR	3312DT022	PATRAJPUR	100	250	133.30%
BBSR1	BED	UTTARA	1326DT235	SUABORI	100	250	131.16%
DHENKANAL	ANED	ANGUL-I	4211DT120	HULURISINGHA NEAR HOTEL SANDHYA	100	250	129.64%
PARADEEP	JED	J S PUR 1	5322DT103	NEW NEAR SANSKURTI BHAWAN	100	250	129.18%
BBSR1	BCDD-1	DELTA	1112DT022	LANE-10 S.NAGAR(CAPEX)	100	250	129.04%
BBSR2	NYD	ITAMATI 1	2222DT047	BADA HARI JAN SAHI_1	100	250	129.00%
BBSR1	BCDD-2	KALINGANAGAR	1213DT258	BALIA PADA-1	100	250	128.26%
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT204	JAGULAI TEMPLE	100	250	127.92%
BBSR1	NED	PIPILI 2	1435DT338	PANDA CHHUDA MILL	100	250	127.64%
CUTTACK	CDD-2	CHAULIAGANJ	3231DT179	RIO COLONY	100	250	127.56%
CUTTACK	CDD-2	CHAULIAGANJ	3231DT180	MAITRI NAGAR	200	250	126.46%
BBSR1	BCDD-2	KHANDAGIRI	1214DT167	JAGAMARA NO-1	250	500	124.99%
CUTTACK	CDD-1	BIDANASI	3141DT182	AIR TEL SEC 10	200	250	124.64%
BBSR1	BCDD-2	BHARATPUR	1211DT154	SUSANTA ROUT, GHAGIDI	100	250	124.12%
BBSR1	BED	RASULGARH	1316DT072	SETHY BABU (NEAR)	250	500	123.78%
BBSR1	BCDD-2	KALINGANAGAR	1213DT059	SOUBHAGYA LAXMINAGAR-1	100	250	123.76%
BBSR1	BED	OLD TOWN 1	1323DT219	MAHAVIR NAGAR	250	500	123.62%
DHENKANAL	ANED	ANGUL-I	4211DT093	PRAGATI NAGAR-1	250	500	123.37%
CUTTACK	CDD-2	JOBRA	3223DT168	TARALO	100	250	123.16%
BBSR2	PED	DELANGA	2422DT478	RENGAL BAZAR	250	500	122.43%
BBSR2	BAED	NACHUNI	2315DT227	NACHUNI (BAZAR) 1	100	250	120.62%
CUTTACK	CDD-2	42MAUZA	3221DT161	AITALANGA	100	250	119.84%
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT004	RICE MILL	200	250	119.69%
PARADEEP	KED1	KENDRAPARA 2	5125DT436	EKKADA KHANDI 1	100	250	119.12%
BBSR1	BCDD-2	XAVIER	1224DT014	NILACHAKRA NAGAR 1	250	500	118.94%

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	EXISTING DTR RATING (IN KVA)	PROPOSED DTR RATING (IN KVA)	% LOADING
BBSR1	BED	DHAULI	1322DT543	ARADHANA NAGAR -2	250	500	118.66%
CUTTACK	CDD-2	KANDARPUR	3224DT254	RAGHUNATHPUR-2	100	250	118.56%
CUTTACK	CDD-1	KAZI BAZAR	3123DT022	BSY	100	250	118.32%
BBSR1	BED	RASULGARH	1316DT047	BALIAPATA CEPX	250	500	118.24%
CUTTACK	CDD-2	KANDARPUR	3224DT146	SIDHESWAR	100	250	117.84%
BBSR1	BCDD-2	BARANG	1231DT191	MARUTI RESIDENCY-1	250	500	117.50%
PARADEEP	PDP	RAHAMA	5413DT018	SHISHU MANDIR	100	250	117.42%
CUTTACK	SED	SALIPUR 1	3533DT050	JAHAGIRABAD	100	250	117.38%
BBSR1	BCDD-2	KALINGANAGAR	1213DT060	SOUBHAGYA LAXMINAGAR-2	100	250	117.24%
PARADEEP	JED	R N PUR	5332DT427	THORIAPADA MUSLIM SAHI	100	250	117.00%
DHENKANAL	DED	HINDOL ROAD	4132DT029	NUA BANGURSINGH	100	250	116.90%
BBSR1	BCDD-2	CS PUR 1	1232DT041	MIG II BLOCK 65	100	250	116.84%
BBSR2	KHD	KHURDA 2	2152DT175	KERENGA NO 3	250	500	115.71%
CUTTACK	CDD-2	42MAUZA	3221DT019	SECTOR 7	100	250	115.54%
BBSR1	BCDD-2	XAVIER	1224DT177	IDCO SAHI	100	250	115.48%
BBSR1	BCDD-2	KALINGANAGAR	1213DT144	NEAR ARAY SCHOOL	100	250	114.82%
CUTTACK	CDD-2	KANDARPUR	3224DT206	KAIJANGA	100	250	114.50%
BBSR1	BCDD-2	VSS NAGAR	1223DT115	RANGAMATIA 2	250	500	114.24%
BBSR1	BCDD-1	SAHID NAGAR	1132DT041	BERENA	250	500	113.86%
PARADEEP	KED1	KENDRAPARA 2	5125DT209	LAW COLLEGE	250	500	113.52%
BBSR1	BED	KALPANA 1	1311DT112	CHINTA MONI GOVT GIRLS SCHOOL	250	500	113.04%
BBSR1	BCDD-2	CS PUR 1	1232DT154	RAPDRP NEAR (6TH AVENUE)	100	250	112.62%
BBSR1	NED	BALAKATI	1431DT110	HIRIPUR, UPAR SAHI	100	250	112.54%
BBSR2	BAED	RANAPUR	2323DT448	DANDA SAHI 90	100	250	112.28%
BBSR1	BED	OLD TOWN 1	1323DT026	DALAKHAI	250	500	111.63%
DHENKANAL	TED	TALCHER	4345DT034	HANDIDHUA BAZAR	250	500	111.41%
BBSR1	BCDD-2	XAVIER	1224DT178	SAMBHU SHOP	250	500	111.20%
PARADEEP	PDP	KOLAR	5432DT157	KRISNANDAPUR 57	100	250	111.18%
CUTTACK	CDD-2	DOLAMUNDAI	3212DT159	SRIRAM NAGAR 2	250	500	110.54%
DHENKANAL	ANED	ANGUL-I	4211DT183	BANIABAHAL	250	500	110.50%
BBSR1	BED	KALPANA 1	1311DT008	CANEL ROAD	100	250	110.48%
BBSR1	BCDD-2	BARANG	1231DT456	GURUDIBANIA NO-2	100	250	110.44%
BBSR1	BED	MANCHESWAR	1314DT144	SRIRAM NAGAR CHHAKA -1	250	500	110.43%
BBSR1	BCDD-2	KALINGANAGAR	1213DT253	K-6B NEAR HIG-59	250	500	110.38%
BBSR2	NYD	NAYAGARH	2241DT100	RAJA BAGICHA -IV	100	250	110.37%
BBSR1	BCDD-2	KALINGANAGAR	1213DT378	SANJUKTA KRAFT	100	250	110.32%
BBSR1	BED	RASULGARH	1316DT070	JAGANNATH NAGAR ROAD 8(5)	200	250	109.99%
PARADEEP	JED	J S PUR 1	5322DT227	AUGRATARA COLONY-1	100	250	109.52%
CUTTACK	CDD-2	42MAUZA	3221DT174	BATUNIA	100	250	108.64%
BBSR1	BCDD-2	BARAMUNDA	1221DT046	IN FRONT MIG-61.BHB COLONY	250	500	108.38%
BBSR1	BCDD-1	POWER HOUSE	1115DT172	KABADIA-2	250	500	108.16%
BBSR1	BCDD-1	SAHID NAGAR	1132DT017	NEAR POTE NO 200	100	250	107.97%
BBSR1	BED	RASULGARH	1316DT393	250kVA PSS JAGANNATH	250	500	107.87%
CUTTACK	CDD-2	CHAULIAGANJ	3231DT037	BC SAHOO	500	1000	107.81%
BBSR1	BCDD-2	CS PUR 2	1233DT267	NULADRI BIHAR, S2-PLOT NO-119	250	500	107.70%
BBSR1	BCDD-1	DELTA	1112DT010	LANE 3	100	250	107.54%
BBSR2	BAED	RANAPUR	2323DT459	CHANDESHWARA SAHI 104	100	250	107.28%
BBSR1	BCDD-2	KHANDAGIRI	1214DT181	AMRIT NAGAR-1	100	250	107.24%
CUTTACK	CDD-2	DOLAMUNDAI	3212DT144	DOLAMUNDAI 8	500	1000	106.94%
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT326	SLN BASTI NO1	100	250	106.76%
BBSR2	KHD	KHURDA 1	2151DT053	HOUSING BOARD 2	250	500	106.22%
CUTTACK	CDD-2	DOLAMUNDAI	3212DT140	DOLAMUNDAI 5	250	500	105.86%
DHENKANAL	TED	PALLAHARA	4322DT410	GUDIBANDHA-I	100	250	105.50%
BBSR1	BCDD-1	DELTA	1112DT086	HADISAHI-II	100	250	105.44%
BBSR1	BCDD-2	KHANDAGIRI	1214DT043	NEAR ITR COLLEGE CAPEX S/S	200	250	105.38%
BBSR1	BCDD-2	GODISAHI	1234DT304	DEULI	100	250	105.16%
BBSR1	BED	BARAGADA	1321DT411	GOPALUNI NAGAR	250	500	105.10%
BBSR1	BED	DHAULI	1322DT027	OSHB PUNAMA GATE	250	500	104.58%
BBSR1	BCDD-1	DELTA	1112DT070	CAPEX SIRIPUR	100	250	104.54%
BBSR1	BCDD-1	UNIT 6	1114DT048	JHARANA RAPDRP	100	250	104.28%
CUTTACK	CDD-2	KANDARPUR	3224DT119	KARAPADA	100	250	104.24%
BBSR1	BCDD-1	DELTA	1112DT078	NABARD-II	250	500	104.03%
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT119	LB QUARTERS2	100	250	103.96%
BBSR1	BCDD-2	BARANG	1231DT761	DARUTENGA TALASAHI NO-2	100	250	103.95%
BBSR2	PED	KACHERI	2412DT011	SAHOO LODGE	250	500	103.74%
BBSR1	BED	PHULNAKHARA	1315DT789	TRINATH BAZAR	200	250	103.64%
BBSR1	BED	OLD TOWN 1	1323DT235	GARAGE CHHAK CANEL BHANDHA	250	500	103.54%
BBSR1	BCDD-1	POWER HOUSE	1115DT036	BHOI SAHI	100	250	103.36%
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT042	NANDAKRISHNA 2	250	500	102.83%
CUTTACK	CDD-2	CHAULIAGANJ	3231DT146	KESH PUR	250	500	102.80%
BBSR1	BCDD-2	KALINGANAGAR	1213DT123	K9 A, PHD	250	500	102.69%
PARADEEP	PDP	BHUTAMUNDAI	5421DT151	GOPIA KUDHA 3	100	250	102.54%
BBSR1	BCDD-2	BARANG	1231DT068	MARICHIA VILLAGE	250	500	102.19%
BBSR1	BCDD-1	DELTA	1112DT003	BHOLI(C TYPE)	100	250	101.94%
BBSR1	BED	OLD TOWN 1	1323DT082	SISHUPAL PANCHAYAT	250	500	101.63%

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	EXISTING DTR RATING (IN KVA)	PROPOSED DTR RATING (IN KVA)	% LOADING
BBSR1	BCDD-2	BARAMUNDA	1221DT067	BARIK SAHI, JAGANNATH VIHAR NO-1	250	500	101.60%
BBSR1	BCDD-2	BARANG	1231DT011	KENDUPATANA VILLAGE NEAR PUMP HOUSE	100	250	101.50%
BBSR1	BCDD-1	DELTA	1112DT050	TARINATH-1	200	250	101.48%
BBSR1	BCDD-2	CS PUR 1	1232DT104	ATMARAM HOTEL	100	250	101.42%
CUTTACK	CDD-1	TINIKONIA BAGICHA	3133DT021	MAKRABAG SAHI	250	500	100.99%
CUTTACK	CDD-1	TOWN HALL	3124DT032	KATHAGADA SAHI-1	250	500	100.80%
BBSR1	BED	MANCHESWAR	1314DT082	ACE INSULATION	250	500	100.74%
CUTTACK	SED	BAHUGRAM	3531DT350	33/11 kV BAHUGRAM-1 SS DT	250	500	100.74%
BBSR1	BCDD-2	DUMUDUMA	1212DT140	SUBASHNAGARBASTI NO1	250	500	100.56%
DHENKANAL	DED	K NAGAR	4142DT360	NILAMADHABPUR 5	100	250	100.26%
CUTTACK	CDD-1	KAZI BAZAR	3123DT025	TANTISAHI	250	500	100.16%
CUTTACK	CDD-1	RANIHAT 1	3113DT047	KHUNTIA LANE	250	500	100.00%
CUTTACK	SED	Bahugram -2	3531DT201	BHAIRPUR MASJID GALI	63	100	100.00%
DHENKANAL	TED	BANARPAL	4311DT287	NUAHATA SOCITY OFFICE	100	250	99.96%
BBSR1	BED	OLD TOWN 1	1323DT020	SAKTI NAGAR	250	500	99.68%
BBSR1	BCDD-2	BHARATPUR	1211DT045	RATHA S/S GHATIKIA	200	250	99.60%
BBSR2	KHD	BANKI 1	2111DT014	BANKI COLLEGE-2	250	500	99.58%
BBSR1	BCDD-1	POWER HOUSE	1115DT010	ODISA NURSING HOME	100	250	99.42%
CUTTACK	CDD-1	CHANDINI CHOWK	3132DT026	STEWORT PATNA BSVY	100	250	99.40%
CUTTACK	CDD-1	KAZI BAZAR	3123DT034	NETAJI 2	250	500	99.39%
BBSR2	PED	POWERHOUSE	2433DT049	GAJPATI NAGAR	100	250	99.36%
BBSR1	BCDD-2	KALINGANAGAR	1213DT539	SIJUA NEW	200	250	99.36%
BBSR1	BCDD-2	CS PUR 2	1233DT804	PLOT NO 138(STALWART CARE)	250	500	99.36%
BBSR2	PED	CHARINALA	2431DT001	MM NAGAR 01	250	500	99.04%
BBSR1	BCDD-2	CS PUR 2	1233DT012	VIM-746-1	250	500	98.96%
BBSR2	PED	BALIAPANDA	2411DT049	BIDHWA ASHRAM 1	500	1000	98.88%
CUTTACK	CDD-2	MAHANADI VIHAR	3232DT075	CHILDREN PARK 2	250	500	98.70%
BBSR1	BED	BARAGADA	1321DT144	JHARNA SHI	250	500	98.18%
CUTTACK	CDD-1	CITY	3121DT012	MAITRI 4	250	500	98.18%
BBSR1	BCDD-2	KHANDAGIRI	1214DT069	M COMPLEX NO-5	250	500	98.13%
BBSR1	BED	BARAGADA	1321DT122	BADAGADA PHD	200	250	98.08%
BBSR1	BCDD-2	KANANVIHAR	1235DT252	N CHAND	250	500	98.08%
BBSR1	BED	LAXMISAGAR	1313DT376	JAYDURGA NAGAR PARK	250	500	98.05%
BBSR1	BED	RASULGARH	1316DT365	INFRONT OF DTDC OFFICE PALASUNI(PRAVATA PAN SHOP)	250	500	97.96%
BBSR1	NED	BALAKATI	1431DT055	PRATAP SASAN-2	100	250	97.60%
BBSR2	PED	PASCHIMADWAR	2413DT075	MUDULI JAGA	250	500	97.52%
CUTTACK	CDD-1	CDA	3142DT119	CHABIGALI BACK SIDE	200	250	97.52%
CUTTACK	CDD-1	CDA	3142DT080	MIG SECTOR 7	250	500	97.46%
DHENKANAL	TED	HATATOTA	4341DT444	GHANTAPADA BARA SAHI	250	500	97.44%
CUTTACK	CDD-1	KAZI BAZAR	3123DT018	CHAMAR SAHI	250	500	97.41%
BBSR1	BCDD-2	CS PUR 1	1232DT043	AKHANDALAMANI	250	500	97.34%
BBSR1	BCDD-1	POWER HOUSE	1115DT047	BEHERA SAHI	500	1000	97.11%
BBSR1	BED	PHULNAKHARA	1315DT554	PAHAL VILLAGE	200	250	97.07%
CUTTACK	CDD-1	BIDANASI	3141DT173	JAGANNATH TEMPLE-2	250	500	97.07%
BBSR2	PED	POWERHOUSE	2433DT004	TIKARPADA-1	250	500	97.05%
CUTTACK	CDD-1	BUXI BAZAR	3111DT032	BADHEI SAHI CAPEX	100	250	97.00%
BBSR1	BCDD-2	CS PUR 2	1233DT504	MA SANTOSHI MANDIR	250	500	96.85%
PARADEEP	KED1	INDUPUR	5123DT048	INDUPUR MARKET	100	250	96.84%
CUTTACK	CED	NIALI-I	3341DT143	HALL CHACK 1	250	500	96.79%
BBSR2	KHD	KHURDA 4	2154DT118	PODA SAHI-1	250	500	96.74%
BBSR1	BED	DHAULI	1322DT020	BAUNSAKHANI-1	250	500	96.70%
BBSR1	BCDD-2	DUMUDUMA	1212DT171	SHIV MANDIR (ITR BOYS HOSTEL)	250	500	96.66%
DHENKANAL	DED	DKL SEC-II	4113DT058	TOWN PLANNING OLD	250	500	96.48%
BBSR1	BCDD-1	POWER HOUSE	1115DT154	RADHAKRISHNA MANDIRA	250	500	96.40%
BBSR1	BED	OLD TOWN 3	1325DT012	VETNARY SUB-2	250	500	96.36%
BBSR1	BCDD-2	BARANG	1231DT474	PATIA TANGI NO-1	250	500	96.34%
BBSR1	BCDD-2	KALINGANAGAR	1213DT171	SIJIPUT VILLAGE	250	500	96.30%
BBSR1	BCDD-2	DUMUDUMA	1212DT109	SAMBADIK, JADUPUR	250	500	96.05%
BBSR1	BCDD-2	BHARATPUR	1211DT148	KHANDAGIRI BARI NO-3(A)	500	1000	95.81%
BBSR1	BED	OLD TOWN 1	1323DT021	BIJU GRAM JYOTI YOJANA 201617 BAJIYA	250	500	95.78%
BBSR2	KHD	JATANI 1	2143DT020	ASA KIRAN GOPINATHPUR	250	500	95.67%
CUTTACK	SED	SALIPUR 1	3533DT105	JAHAGIRABAD	250	500	95.66%
CUTTACK	CDD-1	CDA	3142DT143	TARINI BIHAR 1	250	500	95.66%
CUTTACK	CDD-1	COLLEGE SQUARE	3112DT095	JOBRA FIELD SS	250	500	95.42%
BBSR2	PED	POWERHOUSE	2433DT042	BUS STAND OUTGATE	250	500	95.22%
BBSR2	PED	KACHERI	2412DT052	JANHI MUMDIA 1 CHAAK	500	1000	95.17%
BBSR1	BED	PHULNAKHARA	1315DT354	TALAGADA	250	500	94.93%
BBSR1	BCDD-2	KALINGANAGAR	1213DT206	RAPDRP PARADIP COLONY	250	500	94.85%
BBSR2	PED	POWERHOUSE	2433DT001	AKHANDA MANI	500	1000	94.78%
CUTTACK	AED	ATHAGADA 1	3421DT062	KANTOL HANUMAN	250	500	94.69%
PARADEEP	KED2	NUAPADA	5224DT357	NEAR HANUMAN STATUE(NUAPADA BAZAAR	100	250	94.54%
BBSR1	BCDD-1	POWER HOUSE	1115DT044	CAPEX BEHERA SAHI	100	250	94.48%

CIRCLE	DIVISION	SECTION	DT CODE	DT NAME	EXISTING DTR RATING (IN KVA)	PROPOSED DTR RATING (IN KVA)	% LOADING
BBSR2	KHD	JATANI 2	2144DT246	PADANPUR BAGHA HARIJANA SAHI	100	250	94.32%
CUTTACK	CDD-1	COLLEGE SQUARE	3112DT014	LIC COLONY SS(SI)	250	500	94.02%
BBSR2	KHD	KHURDA 1	2151DT145	OLD DRDA-2	100	250	93.96%
CUTTACK	CDD-1	CDA	3142DT188	NEAR BM PARK SEC 11 1	250	500	93.68%
BBSR1	BCDD-2	BHARATPUR	1211DT502	NEAR ASHOK DAS, MALIPADA (R-APDRP)	100	250	93.60%
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT193	NUA PADA 1	250	500	93.29%
BBSR2	KHD	KHURDA 1	2151DT052	HOUSING BOARD 1	100	250	93.22%
BBSR1	BED	RASULGARH	1316DT342	BHAGABAT SANDHAN COLONY 3	250	500	93.14%
BBSR1	BCDD-2	KHANDAGIRI	1214DT002	BACK SIDE OF KHANDAGIRI SUBSTATION(BABUSINGH NO-2)	250	500	92.87%
CUTTACK	CDD-1	CDA	3142DT200	BIREN MITRA PARK 1	250	500	92.80%
BBSR1	BCDD-2	KHANDAGIRI	1214DT085	LANE- 1 B.M NAGAR	250	500	92.59%
BBSR1	BCDD-1	DELTA	1112DT082	JAGANNATH-II	500	1000	92.14%
BBSR2	PED	TALABANIA	2434DT036	MADHUSUDAN NAGAR	250	500	92.09%
CUTTACK	CDD-1	CDA	3142DT118	PETANALA-2	200	250	91.82%
BBSR1	BCDD-2	CS PUR 2	1233DT268	NULADRI BIHAR, S2-PLOT NO-119-1	250	500	91.71%
CUTTACK	CDD-1	CANTONMENT	3131DT116	GADHI KHANA	500	1000	91.69%
CUTTACK	CDD-1	TULSIPUR	3143DT100	HATUA SAHI 1	250	500	91.46%
CUTTACK	CDD-2	CHAULIAGANJ	3231DT039	CHAULIAGANJ 1	500	1000	91.23%
BBSR1	BCDD-2	CS PUR 2	1233DT494	PRAGATI VIHAR	250	500	91.14%
PARADEEP	KED1	KENDRAPARA 2	5125DT212	NEAR DERABIS BLOCK 1	100	250	91.06%
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT031	ID MARKET NEAR RAINBOW NO1	250	500	90.99%
BBSR2	PED	TALABANIA	2434DT033	MARUTI NAGAR 1	250	500	90.98%
CUTTACK	AED	KHUNTUNI	3423DT416	MANCHESWAR-2	250	500	90.96%
CUTTACK	CDD-1	CANTONMENT	3131DT050	REVENUW COLONY-1	250	500	90.94%
CUTTACK	CDD-2	IND.ESTATE(OGP)	3213DT020	SURA BEHRA	250	500	90.11%
CUTTACK	CDD-1	RANIHAT 1	3113DT022	PANA SAHI	250	500	90.05%
BBSR1	BCDD-1	UNIT 9 FLAT	1133DT015	BB BASTI NEW	100	250	90.00%
CUTTACK	CDD-2	DOLAMUNDAI	3212DT132	MAIN ROAD	500	1000	89.26%
BBSR1	BCDD-2	DUMUDUMA	1212DT074	SHIBAMANDIR PHASE 2 DDHB MUNA BABU	500	1000	87.53%
BBSR1	BCDD-2	KHANDAGIRI	1214DT064	MALLICK COMPLEX NO.-1	500	1000	86.34%
BBSR1	BCDD-2	IRC NAYAPALLI	1222DT203	N1/180	500	1000	82.00%
BBSR1	BCDD-2	DUMDUMA	1212DT010	BHARMA GADI	500	1000	97%
BBSR1	BCDD-2	DUMDUMA	1212DT009	PHASE 4 PARK	500	1000	94%
PARADEEP	JED	JAGATSINGHPUR-I	5322DT113	FISH MARKET	250	500	90%
PARADEEP	KED1	AUL	NA	PADANPUR-1	250	500	93%
PARADEEP	KED1	KENDRAPARA 1	5124DT150	BAULA BIHARA	250	500	90%
PARADEEP	KED1	KENDRAPARA 1	5124DT225	Hajaribagicha	100	250	97%
BBSR2	KHD	Banki 2	2112DT177	Pathargadia Village	100	250	95%
DHENKANAL	DED	Dhkl-1	4112DT194	Back side of SBI	100	250	114%
DHENKANAL	TED	SOUTH BALANDA	4344DT212	Danara VS	100	250	101%
BBSR1	BED	LAXMISAGAR	1313DT450	CSS 3	630	1000	91.78%
BBSR2	PED	PASCHIMADWAR	2413DT051	KAPALA MACHHOU CSS	750	1000	90.10%
BBSR1	BED	LAXMISAGAR	1313DT453	CSS 5	630	1000	84.50%
BBSR2	PED	POWERHOUSE	2433DT050	OLD LIC CSS	750	1000	80.06%

Loaction for Additional DSS for Low Voltage / Overload Mitigation

						TOTAL	55	9	9.0	0.3	5	24.4
Circle	**Division**	**Section**	**Name of DSS / Area**	**DT Code**	**Capacity of Existing DT**	**Approximate LT tail end conusmer voltage in Peak Summer**	**100 kVA (Using Dismantled DTR from Augmentation)**	**250 kVA (New)**	**HT OH (C.kM)**	**HT UG (KM)**	**4X95 LT AB Cable (KM)**	**4X70 LT AB Cable (KM)**
BBSR-1	NED	NIMAPARA 2	KAJIPATNA	1424DT173	100	150-170	1		0.1			0.2
BBSR-1	NED	KONARK	THANA CHHAKA	1422DT204	500	170-190	1		0.14			0.41
BBSR-1	NED	KONARK	IB	1422DT133	500	170-190	1		0.14			0.41
BBSR-1	NED	NIMAPARA 2	SRIMUKHA	1424DT159	100	170-190	1		0.205			0.5
BBSR-1	NED	NIMAPARA 2	KUANSA	1424DT284	100	150	1		0.14			0.41
BBSR-1	NED	NIMAPARA 2	SANTARAS	1424DT455	25	170-190	1		0.14			0.46
BBSR-1	BCDD-1	DELTA	Mahadev-I	1112DT170	500	170-190	1		0.21			0.46
BBSR-1	BED	DHAULI	BACKSIDE OF KALYANI PLAZA ANNEX	1322DT372	3*16	150-170	1		0.1			0.4
BBSR-1	BED	DHAULI	KHETRAPAL(KUHA)	1322DT413	200	170-190	1		0.1			0.2
BBSR-1	BED	PHULNAKARA	NATHA SAHI	1315DT601	100	150-170	1		0.21			0.46
BBSR-1	BED	PHULNAKARA	KACHARAMAL -2	1315DT439	500	170-190		1	0.21		0.5	
BBSR-1	BED	RASULGARH	SATYA ENCLAVE 4(L&T)	1316DT194	250	150-170	1		0.205			0.46
BBSR-1	BED	KALPNA-1	LAXMI VIHAR	1323DT041	250	150-170	1		0.21			0.41
BBSR-1	BED	OLD TOWN-2	SHEILA MANSON CSS	1324DT108	750	150-170		1	0.05	0.3	0.5	
BBSR-1	BED	RASULGARH	KISAN NAGAR	1316DT260	3*16	150	1		0.21			0.41
BBSR-1	BED	BADAGADA	BASUDEV NAGAR	1321DT272	6*16	150-170	1		0.21			0.46
BBSR-1	BED	LAXMISAGAR	CSS 5	1313DT453	630	170-190		1	0.3		0.5	
BBSR-1	BED	BARAGADA	EA LANE	1321DT158	500	170-190		1	0.21		0.6	
BBSR-1	BED	LAXMISAGAR	CSS 3	1313DT450	630	170-190		1	0.21		0.6	
BBSR-1	BED	BARAGADA	MAHAVIR NAGAR	1323DT040	500	150-170		1	0.21		0.7	
BBSR-1	BCDD-2	DUMUDUMA	KABILAYA VIHAR	1212DT068	500	150-170		1	0.14		0.6	
BBSR-1	BCDD-2	KALINGANAGAR	BAIRANGA	1213DT362	100	170-190	1		0.14			0.46
BBSR-1	BCDD-2	GODISAHI	Munduli near HP Gas	1234DT369	250	190-200	1		0.05			0.46
BBSR-2	NYED	NAYAGARH	LOKANATH NAGAR	2241DT177	500	150-170	1		0.14			0.46
BBSR-2	NYED	KANTILO	KENDUPALLI	2233DT061	16	150-170	1		0.05			0.3
BBSR-2	NYED	BOLAGARH	Duguri mundia	2221DT226	16	150-170	1		0.1			0.41
BBSR-2	NYED	NAYAGARH	BARAMASHI DANDA 2	2241DT357	100	150	1		0.14			0.2
BBSR-2	KHD	MALIPADA	MANDARABASTA	2132DT034	100	150-170	1		0.05			0.46
BBSR-2	KHD	Khurda 3	Totapada	2153DT004	500	170-190	1		0.05			0.4
BBSR-2	PED	SUNAMUHIN	Alupatana	2425DT390	250	190-200	1		0.21			0.45
BBSR-2	BAED	BALUGAON-2	ANKULA CHATTI2	2312DT036	100	150-170	1		0.05			0.45
BBSR-2	BAED	Chandpur	Champagarh	2325DT112	10*16	150-170		1	0.1		0.5	

Circle	Division	Section	Name of DSS / Area	DT Code	Capacity of Existing DT	Approximate LT tail end conusmer voltage in Peak Summer	100 kVA (Using Dismantled DTR from Augmentation)	250 kVA (New)	HT OH (C.kM)	HT UG (KM)	4X95 LT AB Cable (KM)	4X70 LT AB Cable (KM)
BBSR-2	BAED	Chandpur	KERENDARTANGI1	2325DT161	100	150	1		0.14			0.45
BBSR-2	BAED	Chandpur	Kanchanpur	2325DT336	100	150-170	1		0.1			0.45
CUTTACK	CDD-1	CDA	DAHIBARA CHHAKA	3142DT147	100	170-190	1		0.21			0.45
CUTTACK	CDD-1	BUXIBAZAR	MOHANTY LANE - I	3111DT030	500	170-190	1		0.05			0.45
CUTTACK	CDD-2	Jobra	Fakirpur	3223DT120	500	170-190	1		0.21			0.45
CUTTACK	CED	BALIKUDA	Ramnagar	3332DT268	250	150	1		0.21			0.45
CUTTACK	SED	ERAKANA	JAMAPADA & KOUDAKOAL		16	170-190	1		0.28			0.45
CUTTACK	SED	Orikanta	Babujanga 1	3523DT043	500	170-190	1		0.21			0.45
CUTTACK	SED	SALIPUR-1	KASIPUR-1	3533DT181	100	150-170	1		0.21			0.45
CUTTACK	SED	SALIPUR-1	Sisua Bazar	3533DT125	500	170-190	1		0.14			0.45
CUTTACK	SED	BAHUGRAM	KAJI BAZAR	3531DT159	500	170-190	1		0.3			0.45
CUTTACK	SED	KOTHAPADA	KUNDI MALIA CHAKA	3512DT102	100	150-170	1		0.1			0.3
CUTTACK	SED	ASURESWAR	Gaudabisi	3521DT114	63	150	1		0.05			0.45
DHENKANAL	TED	PARJANG-2	JANGU_01, JANGU_02	4332DT282	63	150	1		0.14			0.5
DHENKANAL	TED	PALLAHARA	BIRU JATRA PADA	4323DT097	250	150-170	1		0.21			0.5
DHENKANAL	DED	Dhenkanal-1	NABIN DALEI TRANSFORMER		100	150-170	1		0.21			0.5
PARADEEP	JED	Jagatsinghpur-II	Alasudha	5323DT121	100	150	1		0.1			0.5
PARADEEP	JED	Raghunathpur	Sadhusahi	5332DT150	100	150-170	1		0.14			0.5
PARADEEP	JED	Dihasahi	Odisso Post office (Panichhatrapadia)	5321DT166	16	150-170	1		0.05			0.5
PARADEEP	JED	Biridi	Nuapari	5331DT095	16	150-170	1		0.05			0.5
PARADEEP	JED	Raghunathpur	Badakhandaita	5332DT418	100	170-190	1		0.14			0.5
PARADEEP	JED	Biridi	DHADASAHI	5331DT035	16	150	1		0.05			0.5
PARADEEP	JED	Raghunathpur	Khandatari	5332DT381	16	150-170	1		0.05			0.5
PARADEEP	JED	Balikuda-II	Balijori	5312DT049	16	170-190	1		0.05			0.5
PARADEEP	JED	Jagatsinghpur-I	PUNANGA	5322DT098	100	150	1		0.12			0.5
PARADEEP	KED-1	Pat1	Greengola chaka Ward no5	5133DT345	200	170-190	1		0.05			0.5
PARADEEP	KED-1	Ked2	Attabuha	5125DT108	100	150-170	1		0.05			0.5
PARADEEP	KED-1	Pat1	Kathiapada	5133DT245	100	150	1		0.05			0.5
PARADEEP	KED-2	KORUA	KUSUNPUR-1,2,3	5221DT260	16*3	150	1		0.14			0.5
PARADEEP	KED-2	KORUA	DHANIRAMPUR	5222DT141	100	150	1		0.05			0.5
PARADEEP	KED-2	MARSHAGHAI	VILLAGE MARSHAGHAI-2	5223DT187	9*16	150-170		1	0.14		0.5	
PARADEEP	KED-2	GARADPUR	NEAR MAA AMBALAI THAKURANI		100	170-190	1		0.3			0.5

Installation of 1 No. 11/0.4 KV, 1000 KVA CSS along with accessories.

	No. of CSS (Ref. Drawing No.- TPCODL-……..)	1			
Supply Portion					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	1000 KVA , 11/ 0.4 KV Compact Sub-station	EA	37,32,666.00	1	37,32,666.00
2	50x6mm Flat(GI) for earthing	KG	78.00	70.80	5,522.40
3	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4.00	5,200.00
4	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2,375.00	50.00	1,18,750.00
5	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8,260.00	1.00	8,260.00
6	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2,900.00	1.00	2,900.00
7	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	812.00	50.00	40,600.00
8	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
9	Supply of HDPE PE 80-PN8 pipe of 160mm diameter	M	1,572.00	100	1,57,200.00
10	9 Mtr. long PSC Pole	EA	3,630.00	1.00	3,630.00
11	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2.00	480.00
12	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2.00	150.00
13	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2.00	434.00
14	LT Stay set Complete	SET	736.00	1.00	736.00
15	7/12 SWG GI stay wire, Grade -2	KG	79.00	12.00	948.00
16	LT stay Clamp	EA	350.00	1.00	350.00
17	LT Stay insulator	EA	19.00	1.00	19.00
18	Supply of 1.1kV, 4Core, 300 sqmm, XLPE insulation armoured -Aluminium UG cable	M	1,572.00	100.00	1,57,200.00
A1				**Total Cost of materials**	**42,42,434.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,63,638.21**
A				**Total landed Cost (A=A1 + A2)**	**50,06,072.72**
B				Stock, Storage & Insurance i.e 3% of A	1,50,182.18
C				**Sub Total (A+B)**	**51,56,254.90**
D				Contigency @ 3% of C	1,54,687.65
E				Tools & Plants @ 2% of C (considered for earthing items)	12,215.15
F				Transportation @ 7.5% of C	3,86,719.12
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	60,634.54
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sub Total (Supply Portion) (C to I)**	**57,71,393.74**
	Erection Portion				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Erection of 1000 KVA , 11/ 0.4 KV Compact substation	EA	51,758.74	1.00	51,758.74
				Sub Total (Erection Portion)	**51,758.74**
	Civil Portion				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA.	3,784.73	4.00	15,138.92
2	PCC ratio 1:3:6(M-10 Grade) For CSS Area	M3	5,247.48	0.00	-
3	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
4	GIS coordinate mapping, drawing preparation and submission of the same for CSS.	EA	1,000.00	1.000	1,000.00
5	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
6	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
7	CSS Plinth	EA	45,006.58	1	45,006.58
8	**Fencing**				
a	**GI Chain link**	EA			
8.1	GI chain link fencing for DSS	RM	4,167.57	0	-
9	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
10	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1.000	2,301.53
K				**Sub Total (Civil Portion)**	**83,675.84**
L1				**Sub Total (Erection Portion + Civil Portion)**	**1,35,434.58**
L2				Applicable Taxes to make it Landed Cost @18%	24,378.23
L				**Total landed Cost (L=L1+ L2)**	**1,59,812.81**
M				**Total (J+L)**	**59,31,206.55**
N				Other overheads (Including 6% supervision charges) of M	
O				**Sub-Total (L+M)**	**59,31,206.55**
P				CESS 1% of O	59,312.07
Q				**Gross Total Material +Services (O+P)**	**59,90,518.61**
R				Inspection Fee of Transformer (100kVA to 1000kVA)	10,500.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (R+S)**	**11,250.00**
U				GST @ 18% on Total Inspection Fees (T)	2,025.00
V				Total Inspection Fees including GST (T+U)	13,275.00
W				**Gross Total Material, Services and Inspection Fees (Q+V)**	**60,03,793.61**

Installation of 1 No. 11/0.4 KV, 250 KVA DTR (Cu) alongwith accessories.

	No. of Plinth Mounted DSS (Ref. Drawing No.- TPCODL/RMR/SECTION DTR/28)		1		
	MATERIALS FOR PLINTH MOUNTED DSS				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	471.06	36,742.68
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	3	720.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	3	225.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	3	651.00
7	LT Stay set Complete	SET	736.00	1	736.00
8	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
9	LT stay Clamp	EA	350.00	1	350.00
10	LT Stay insulator	EA	19.00	1	19.00
11	250 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	6,19,789.00	1	6,19,789.00
12	LT Distribution Box for 250 KVA S/S	EA	55,267.00	1	55,267.00
13	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
14	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60	38,520.00
15	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable	M	850.00	60	51,000.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	30	7,830.00
17	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
18	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
19	20 AMP Fuse Link	EA	40.00	3	120.00
20	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
21	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
22	Disc insulator (B&S)70 KN polymer	EA	150.00	3	450.00
23	H W fitting (B&S)70KN(3bolted)	EA	412.00	3	1,236.00
24	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
25	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
26	HT stay set complete	SET	1,434.00	2	2,868.00
27	HT stay Clamp	EA	260.00	2	520.00
28	HT stay insulator TYPE-C	EA	87.00	2	174.00
29	7/10 SWG GI stay wire, Grade -2	KG	77.00	30	2,310.00
30	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	7	9,100.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	25	1,850.00
32	GI Barbed wire/Anticlimbing device	KG	74.00	6	444.00
33	Danger plate 11kv	EA	180.00	2	360.00
34	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**9,25,413.79**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,66,574.48**
A				**Total landed Cost (A=A1 + A2)**	**10,91,988.27**
B				Stock, Storage & Insurance i.e 3% of A	32,759.65
C				**Sub Total (A+B)**	**11,24,747.92**
D				Contigency @ 3% of C	33,742.44
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	19,714.73
F				Transportation @ 7.5% of C	84,356.09
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	41,169.18
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,794.10
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**13,20,406.84**
	Civil and Services Works				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.226	1,502.64
3	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3.1985	16,784.06
4	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
5	Fixing of HT complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
6	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	7	26,493.11
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	DTR Plinth	EA	70,988.27	1	70,988.27
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	30	5,850.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	60	3,600.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8.000	3,682.48
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8.000	9,819.84
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	3.000	14,760.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
19	**Earth work excavation of soil-Route Length**	M			
19.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
20	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
22	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
23	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
24	**Fencing**				
a	**GI Chain link**	EA			
b	**Boundary Wall**	EA			
24.1	GI chain link fencing for DSS	RM	4,167.57	25.000	1,04,189.31
24.2	Boundary wall Fencing for DSS	RM	11,173.88	0.000	-
K1				**Total Civil & Services**	**3,22,101.43**
K2				Applicable Taxes to make it Landed Cost @18%	57,978.26
K				**Total landed Cost (K=K1+ K2)**	**3,80,079.68**
L				**Total (J+K)**	17,00,486.53
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**17,00,486.53**
O				CESS 1% of N	17,004.87
P				**Gross Total Material +Services (N+O)**	**17,17,491.39**
Q				Inspection Fee of Transformer (100kVA to 1000KVA)	10,500.00
R				Inspection Fee of LV Cable	375.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**11,625.00**
U				GST @ 18% on Total Inspection Fees (T)	2,092.50
V				Total Inspection Fees including GST (T+U)	13,717.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**17,31,208.89**

Installation of 1 No. 11/0.4 KV, 500 KVA DTR (Cu) alongwith accessories.

	No. of Plinth Mounted DSS (Drawing Reference…….)	1			
	MATERIALS FOR PLINTH MOUNTED DSS				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	4,14,079.00	1	4,14,079.00
2	Supply of 11kV, 3Core, 95sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA)	M	1,014.00	20	20,280.00
3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	1,830.00	2	3,660.00
4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	2,060.00	2	4,120.00
5	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
6	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	4	960.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	4	300.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	4	868.00
10	LT Stay set Complete	SET	736.00	1	736.00
11	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
12	LT stay Clamp	EA	350.00	1	350.00
13	LT Stay insulator	EA	19.00	1	19.00
14	GI Channel, angle & flat of different size	KG	78.00	352.688	27,509.66
15	500 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	12,25,143.00	1.00	12,25,143.00
16	LT DISTRIBUTION BOX (GI)with for 500 kVA S/S	EA	82,666.00	1	82,666.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	120.00	77,040.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	120.00	1,02,000.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	9.00	11,700.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
22	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**20,00,457.77**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,60,082.40**
A				**Total landed Cost (A=A1 + A2)**	**23,60,540.17**
B				Stock, Storage & Insurance i.e 3% of A	70,816.21
C				**Sub Total (A+B)**	**24,31,356.38**
D				Contigency @ 3% of C	72,940.69
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	32,939.42
F				Transportation @ 7.5% of C	1,82,351.73
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	74,451.94
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,352.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**28,10,274.60**
	Civil and Services Works				
1	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	14,475.00	1	14,475.00
2	RMU Plinth	EA	1,71,056.00	1	1,71,056.00
3	Laying, Commissioning & Testing of 11kV, 3Core, 95sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	20	2,200.00
4	Erection of Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
5	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3	16,784.06
6	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	9	34,062.57
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	DTR Plinth	EA	70,988.27	1	70,988.27
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	120	7,200.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	120	8,400.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	16.000	7,364.96
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	16.000	19,639.68
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
19	**Earth work excavation of soil -Route Length**	M			
19.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
22	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
23	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
24	**Fencing**				
a	**GI Chain link**	EA			
b	**Boundary Wall**	EA			
24.1	GI chain link fencing for DSS	RM	4,167.57	25.000	1,04,189.31
24.2	Boundary wall Fencing for DSS	RM	11,173.88	0.000	-
K1				**Total Civil & Services**	**5,42,098.35**
K2				Applicable Taxes to make it Landed Cost @18%	97,577.70
K				**Total landed Cost (K=K1+ K2)**	**6,39,676.05**
L				**Total (J+K)**	34,49,950.65
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**34,49,950.65**
O				CESS 1% of N	34,499.51
P				**Gross Total Material +Services (N+O)**	**34,84,450.15**
Q				Inspection Fee of Transformer (100kVA to 1000KVA)	10,500.00
R				Inspection Fee of LV Cable	375.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**11,625.00**
U				GST @ 18% on Total Inspection Fees (T)	2,092.50
V				Total Inspection Fees including GST (T+U)	13,717.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**34,98,167.65**

Construction of 1 CKM 11kV Line using 100 SQ.MM. -AAA XLPE Conductor and 11 Mtr. WPB pole.

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00

10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,37,342.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,721.67**
A				**Total landed Cost (A=A1 + A2)**	**1,62,064.28**
B				Stock, Storage & Insurance i.e 3% of A	4,861.93
C				**Sub Total (A+B)**	**1,66,926.21**
D				Contigency @ 3% of C	5,007.79
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,989.85
F				Transportation @ 7.5% of C	12,519.47
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,940.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,98,887.96**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,29,164.63**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,29,164.63**
O				CESS 1% of N	2,291.65
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,31,456.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20
F				Transportation @ 7.5% of C	5,128.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,976.40

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**81,583.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**90,032.89**
O	CESS 1% of N				900.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,933.22**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		1		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**61,905.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,143.00**
A	**Total landed Cost (A=A1 + A2)**				**73,048.53**
B	Stock, Storage & Insurance i.e 3% of A				2,191.46
C	**Sub Total (A+B)**				**75,239.99**
D	Contigency @ 3% of C				2,257.20
E	Tools & Plants @ 2% of C (Except HT Stay Set)				1,362.06
F	Transportation @ 7.5% of C				5,643.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,305.71
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**89,560.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**1,00,725.86**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**1,00,725.86**
O	CESS 1% of N				1,007.26
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**1,01,733.12**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			1	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	21	6,05,535.00
2	11 KV V cross Arm(GI)	EA	851.00	21	17,871.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	21	1,701.00
4	Danger Plate	EA	180.00	21	3,780.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	32.34	2,522.52
6	GI barbed wire anticlimbing device	KG	74.00	63.00	4,662.00
7	11 KV pin insulator polymer	EA	140.00	63	8,820.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	63	6,930.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	42	9,240.00
10	Earthing of Support (Coil Type)	EA	164.00	21	3,444.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	28.81	2,132.09
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	4,04,790.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**10,72,777.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,93,099.97**
A				**Total landed Cost (A=A1 + A2)**	**12,65,877.58**
B				Stock, Storage & Insurance i.e 3% of A	37,976.33
C				**Sub Total (A+B)**	**13,03,853.90**
D				Contigency @ 3% of C	39,115.62
E				Tools & Plants @ 2% of C	26,077.08
F				Transportation @ 7.5% of C	97,789.04
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	36,798.36
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	56,788.67
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**15,60,422.67**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.45	62,831.63
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.36	15,707.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	21	17,556.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	21	5,950.14
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**1,12,515.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**20,252.82**
K				**Total landed Cost (K=K1+ K2)**	**1,32,768.50**
L				**Total Material+Services (J+K)**	16,93,191.17
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**16,93,191.17**
O				CESS 1% of N	16,931.91
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**17,10,123.09**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	1,74,602.31
2				Gross Total Material +Services (N+O) for DP With AB Switch	2,31,456.28
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,933.22
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	1,01,733.12
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	17,10,123.09
Q				**Gross Total Material +Services**	**23,08,848.01**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	-
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V				GST @ 18% on Total Inspection Fees (U)	202.50
W				Total Inspection Fees including GST (U+V)	1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**23,10,175.51**

Construction of 11 kV line using 3C, 400sqmm U/G Cable					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***500***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***500***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2000	2,375.00	47,50,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	6	15,950.00	95,700.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	8,260.00	16,520.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1000.00	812.00	8,12,000.00
	Sub Total (Supply Portion) (in Rs.)				**56,80,020.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2000	110.00	2,20,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	10	2,000.00	20,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1000	2,970.00	29,70,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1000.00	195.00	1,95,000.00
	Sub Total (Erection Portion) (in Rs.)				**34,05,000.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	484		
1.1.a	Earth work excavation of **soil**	M3	406.56	716.03	2,91,109.16
1.1.b	Earth work excavation of **hard rock**	M3	174.24	1,759.39	3,06,556.11
1.2	Back filling with excavated soil outside and above the trench	M3	580.8	220.00	1,27,776.00
1.3	Road Repair and restoration charges	KM	0.1	92,94,727.82	9,29,472.78
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	33	1,035.17	34,160.61
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	10,470.00	10,470.00
	Sub Total (Civil Portion) (in Rs.)				**16,99,544.66**
A1	**Sub Total (Supply Portion)**				**56,80,020.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**10,22,403.60**
A	**Total Landed Cost (A=A1 + A2)**				**67,02,423.60**
B	Stock, Storage & Insurance @ 3 % of A				2,01,072.71
C	**Sub Total (A+B)**				**69,03,496.31**
D	Contingency @ 3 % of C				2,07,104.89
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				5,17,762.22
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**76,28,363.42**
I1	Sub Total (Erection Portion + Civil Portion)				51,04,544.66
I2	**Applicable Taxes to make it Landed Cost @18%**				**9,18,818.04**
I	**Total landed Cost (I=I1+ I2)**				**60,23,362.70**
J	**Total Cost (H+I)**				**1,36,51,726.12**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,36,51,726.12**
M	CESS 1% of L				1,36,517.26
N	**Grand Total (L+M)**				**1,37,88,243.38**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				-
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)				202.50
U	Total Inspection Fees including GST (S+T)				1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,37,89,570.88**

Construction of 1 CKM LT line using 9 Mtr. PSC pole and 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) LT AB Cable					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)				1	
Dead End 95-150 sq. mm (9/ KM)				9	
Suspension 95-150 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	9 Mtr. long PSC Pole	EA	3,630.00	30	1,08,900.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	53	4,141.80
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	422.00	1050.00	4,43,100.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	116	13,117.28
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	6	7,800.00
14	Coil Earthing	EA	164.00	24	3,936.00
15	Danger plate (LT)	EA	180.00	30	5,400.00
16	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	15.00	1,110.00
A1	**Total Cost of materials**				**6,49,711.08**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,16,947.99**
A	**Total landed Cost (A=A1 + A2)**				**7,66,659.07**
B	Stock, Storage & Insurance i.e 3% of A				22,999.77
C	**Sub Total (A+B)**				**7,89,658.85**
D	Contigency @ 3% of C				23,689.77
E	Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)				15,154.44
F	Transportation @ 7.5% of C				59,224.41
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				62,536.47
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				26,471.41
J	**Sum of (C to I)**				**9,76,735.35**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	**Total Civil & Services**				**1,62,271.87**
K2	Applicable Taxes to make it Landed Cost @18%				29,208.94
K	**Total landed Cost (K=K1+ K2)**				**1,91,480.80**
L	**Total (J+K)**				**11,68,216.15**
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub-Total (L+M)**				**11,68,216.15**
O	CESS 1% of N				11,682.16
P	**Gross Total Material +Services (N+O) for LT AB Cable Line**				**11,79,898.31**
Q	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.				375.00
R	Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km				-
S	Inspection Fee of Drawing Checking and Approval				750.00
T	**Total Inspection Fees (Q+R+S)**				**1,125.00**
U	GST @ 18% on Total Inspection Fees (T)				202.50
V	Total Inspection Fees including GST (T+U)				1,327.50
W	**Gross Total Material, Services and Inspection Fees (P+V)**				**11,81,225.81**

Construction of LT Line using - LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)				1	
Dead End upto 70 sq. mm (9/ KM)				9	
Suspension upto 70 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	9 Mtr. long PSC Pole	EA	3,630.00	30	1,08,900.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	53	4,141.80
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	311.00	1050.00	3,26,550.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	20	18,400.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	116	13,117.28
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	6	7,800.00
14	Coil Earthing	EA	164.00	24	3,936.00
15	Danger plate (LT)	EA	180.00	30	5,400.00
16	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	15.00	1,110.00
A1	**Total Cost of materials**				**5,33,161.08**
A2	**Applicable Taxes to make it Landed Cost @18%**				**95,968.99**
A	**Total landed Cost (A=A1 + A2)**				**6,29,130.07**
B	Stock, Storage & Insurance i.e 3% of A				18,873.90
C	**Sub Total (A+B)**				**6,48,003.98**
D	Contigency @ 3% of C				19,440.12
E	Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)				12,321.34
F	Transportation @ 7.5% of C				48,600.30
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes				48,370.99
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				26,471.41
J	**Sum of (C to I)**				**8,03,208.13**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	**Total Civil & Services**				**1,62,271.87**
K2	Applicable Taxes to make it Landed Cost @18%				29,208.94
K	**Total landed Cost (K=K1+ K2)**				**1,91,480.80**
L	**Total (J+K)**				**9,94,688.93**
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub-Total (L+M)**				**9,94,688.93**
O	CESS 1% of N				9,946.89
P	**Gross Total Material +Services (N+O) for LT AB Cable Line**				**10,04,635.82**
Q	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.				375.00
R	Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km				-
S	Inspection Fee of Drawing Checking and Approval				750.00
T	**Total Inspection Fees (Q+R+S)**				**1,125.00**
U	GST @ 18% on Total Inspection Fees (T)				202.50
V	Total Inspection Fees including GST (T+U)				1,327.50
W	**Gross Total Material, Services and Inspection Fees (P+V)**				**10,05,963.32**

Augmentation of DTR from 11/0.4 KV, 100 kVA to 250 kVA DTR (Cu) alongwith accessories.
(DTR cost not considered in estimate, Existing DTR to be re-used in swapping)

	No. of Plinth Mounted DSS (Ref. Drawing No.- TPCODL/RMR/SECTION DTR/28)		1		
	MATERIALS FOR PLINTH MOUNTED DSS				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	GI Channel, angle & flat of different size	KG	78.00	100	7,800.00
2	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
3	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	3	720.00
4	EYE hook for XLPE Aerial bunched Cable	EA	75.00	3	225.00
5	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	3	651.00
6	LT Stay set Complete	SET	736.00	1	736.00
7	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
8	LT stay Clamp	EA	350.00	1	350.00
9	LT Stay insulator	EA	19.00	1	19.00
10	250 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	6,19,789.00	1	
11	LT Distribution Box for 250 KVA S/S	EA	55,267.00	1	55,267.00
12	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
13	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	60	38,520.00
14	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable	M	850.00	60	51,000.00
15	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	30	7,830.00
16	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
17	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
18	20 AMP Fuse Link	EA	40.00	3	120.00
19	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
20	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
21	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
22	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
23	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
24	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
25	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**2,05,640.11**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,015.22**
A				**Total landed Cost (A=A1 + A2)**	**2,42,655.33**
B				Stock, Storage & Insurance i.e 3% of A	7,279.66
C				**Sub Total (A+B)**	**2,49,934.99**
D				Contigency @ 3% of C	7,498.05
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	2,456.01
F				Transportation @ 7.5% of C	18,745.12
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	37,664.58
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,838.86
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**3,29,019.99**
	Civil and Services Works				
1	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3.1985	16,784.06
2	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
3	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	LTDB Plinth	EA	11,354.57	1	11,354.57
6	DTR Plinth	EA	70,988.27	1	70,988.27
7	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	30	5,850.00
8	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	60	3,600.00
9	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	60	4,200.00
10	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
11	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	8.000	3,682.48
12	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
13	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	8.000	9,819.84
14	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	3.000	14,760.00
15	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
16	**Earth work excavation of soil-Route Length**	M			
16.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
16.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
16.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
17	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
18	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
19	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
20	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
21	**Fencing**				
a	**GI Chain link**	EA			
b	**Boundary Wall**	EA			
21.1	GI chain link fencing for DSS	RM	4,167.57	10.000	41,675.72
22	Dismantling of existing 11/0.4kV, 100KVA DTR	EA	3,262.64	1.000	3,262.64
23	Transportation of existring DTR	EA	4,313.57	2.000	8,627.14
K1				**Total Civil & Services**	**2,48,033.78**
K2				Applicable Taxes to make it Landed Cost @18%	44,646.08
K				**Total landed Cost (K=K1+ K2)**	**2,92,679.86**
L				**Total (J+K)**	6,21,699.85
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**6,21,699.85**
O				CESS 1% of N	6,217.00
P				**Gross Total Material +Services (N+O)**	**6,27,916.85**
Q				Inspection Fee of Transformer (100kVA to 1000KVA)	10,500.00
R				Inspection Fee of LV Cable	375.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**11,625.00**
U				GST @ 18% on Total Inspection Fees (T)	2,092.50
V				Total Inspection Fees including GST (T+U)	13,717.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**6,41,634.35**

Augmentation of DTR from 11/0.4 KV, 250 kVA to 500 kVA DTR (Cu) alongwith accessories.
(DTR cost not considered in estimate, Existing DTR to be re-used in swapping)

	No. of Plinth Mounted DSS (Drawing Reference.....)	1			
	MATERIALS FOR PLINTH MOUNTED DSS				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	4,14,079.00	1	4,14,079.00
2	Supply of 11kV, 3Core, 95sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA)	M	1,014.00	20	20,280.00
3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	1,830.00	2	3,660.00
4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, HT UG Cable kits	EA	2,060.00	2	4,120.00
5	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
6	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
7	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	4	960.00
8	EYE hook for XLPE Aerial bunched Cable	EA	75.00	4	300.00
9	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	4	868.00
10	LT Stay set Complete	SET	736.00	1	736.00
11	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
12	LT stay Clamp	EA	350.00	1	350.00
13	LT Stay insulator	EA	19.00	1	19.00
14	GI Channel, angle & flat of different size	KG	78.00	352.688	27,509.66
15	500 KVA , 11/ 0.4 KV (Cu) Transformer with Tap Changer BIS Energy Loss level II, Ammendment-4	EA	12,25,143.00	1.00	
16	LT DISTRIBUTION BOX (GI)with for 500 kVA S/S	EA	82,666.00	1	82,666.00
17	1 Cx 630 mm2 LT XLPE Cable(Un-Armoured)	M	642.00	120.00	77,040.00
18	Supply of 1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	120.00	1,02,000.00
19	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	40	10,440.00
20	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	9.00	11,700.00
21	GI Nuts & Bolts of Assorted size	KG	74.00	10	740.00
22	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**7,75,314.77**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,39,556.66**
A				**Total landed Cost (A=A1 + A2)**	**9,14,871.43**
B				Stock, Storage & Insurance i.e 3% of A	27,446.14
C				**Sub Total (A+B)**	**9,42,317.58**
D				Contigency @ 3% of C	28,269.53
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	3,158.65
F				Transportation @ 7.5% of C	70,673.82
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	74,451.94
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,352.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**11,35,105.95**
	Civil and Services Works				
1	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+AUXPT	EA	14,475.00	1	14,475.00
2	RMU Plinth	EA	1,71,056.00	1	1,71,056.00
3	Laying, Commissioning & Testing of 11kV, 3Core, 95sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	20	2,200.00
4	Erection of Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 95sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
5	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	3	16,784.06
6	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	3.1985	9,595.50
7	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	9	34,062.57
8	LTDB Plinth	EA	11,354.57	1	11,354.57
9	DTR Plinth	EA	70,988.27	1	70,988.27
10	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	40	7,800.00
11	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	120	7,200.00
12	Laying of 1.1kV cable from 400 to 1000sqmm	M	70.00	120	8,400.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 630 sq mm cable/conductor	EA	460.31	16.000	7,364.96
15	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	32.000	5,008.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 1C 300-1000 sqmm	EA	1,227.48	16.000	19,639.68
17	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	4.000	19,680.00
18	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	4.000	8,920.00
19	**Earth work excavation of soil -Route Length**	M			
19.i	Earth work excavation of soil	M3	716.03	2.100	1,503.66
19.ii	Earth work excavation of hard rock	M3	1,759.39	0.900	1,583.45
19.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
21	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
22	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
23	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
24	**Fencing**				
a	**GI Chain link**	EA			
b	**Boundary Wall**	EA			
24.1	GI chain link fencing for DSS	RM	4,167.57	25.000	1,04,189.31
25	Dismantling of 250 kVA DTR	EA	4,904.09	1.000	4,904.09
	Transportation of existring DTR	EA	4,905.09	2.000	9,810.18
K1				**Total Civil & Services**	**5,56,812.61**
K2				Applicable Taxes to make it Landed Cost @18%	1,00,226.27
K				**Total landed Cost (K=K1+ K2)**	**6,57,038.89**
L				**Total (J+K)**	17,92,144.83
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**17,92,144.83**
O				CESS 1% of N	17,921.45
P				**Gross Total Material +Services (N+O)**	**18,10,066.28**
Q				Inspection Fee of Transformer (100kVA to 1000KVA)	10,500.00
R				Inspection Fee of LV Cable	375.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**11,625.00**
U				GST @ 18% on Total Inspection Fees (T)	2,092.50
V				Total Inspection Fees including GST (T+U)	13,717.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**18,23,783.78**

Installation of 11/0.4 kV 100 kVA New DSS alongwith accessories.
(DTR cost not considered in estimate, Existing DTR to be re-used in swapping)

	No. of DP Mounted DSS (Ref. Drawing No.- TPCODL/RMR/SECTION DTR/29)	1

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS				
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	533.146	41,585.39
3	9 Mtr. long PSC Pole	EA	3,630.00	1	3,630.00
4	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	2	480.00
5	EYE hook for XLPE Aerial bunched Cable	EA	75.00	2	150.00
6	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	2	434.00
7	LT Stay set Complete	SET	736.00	1	736.00
8	7/12 SWG GI stay wire, Grade -2	KG	79.00	12	948.00
9	LT stay Clamp	EA	350.00	1	350.00
10	LT Stay insulator	EA	19.00	1	19.00
11	100 KVA , 11/ 0.4 KV (AL) Transformer, BIS Energy Loss level II, Ammendment-4	EA	1,89,025.00	1	
12	LT Distribution Box for 100 KVA S/S	EA	31,086.00	1	31,086.00
13	55 SQ.MM. AAAC XLPE Covered Conductor	M	101.00	50	5,050.00
14	4 Cx 150 mm2 LT XLPE Cable(Armoured) - FOR 100 KVA Trf.	M	850.00	15	12,750.00
15	1.1kV, 4Core, 150 sqmm, XLPE insulation armoured -Aluminium UG cable from LTDB to Pole	M	850.00	40	34,000.00
16	HDPE pipe of 110 mm diameter, PE 80- PN8	M	261.00	20	5,220.00
17	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
18	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
19	10 AMP Fuse Link	EA	40.00	3	120.00
20	WEDGE CONNECTOR FOR 55 SQMM.CONDUCTOR	EA	100.00	3	300.00
21	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
22	Disc insulator (B&S)70 KN polymer	EA	150.00	3	450.00
23	H W fitting (B&S)70KN(3bolted)	EA	412.00	3	1,236.00
24	Lightning Arrester(12KV,10KA) Station Class 2	EA	1,960.00	3	5,880.00
25	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
26	HT stay set complete	SET	1,434.00	2	2,868.00
27	HT stay Clamp	EA	260.00	2	520.00
28	HT stay insulator TYPE-C	EA	87.00	2	174.00
29	7/10 SWG GI stay wire, Grade -2	KG	77.00	30	2,310.00
30	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	7	9,100.00
31	GI Nuts & Bolts of Assorted size	KG	74.00	25	1,850.00
32	GI Barbed wire/Anticlimbing device	KG	74.00	6	444.00
33	Danger plate 11kv	EA	180.00	2	360.00
34	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**2,40,374.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**43,267.41**
A				**Total landed Cost (A=A1 + A2)**	**2,83,641.91**
B				Stock, Storage & Insurance i.e 3% of A	8,509.26
C				**Sub Total (A+B)**	**2,92,151.16**
D				Contigency @ 3% of C	8,764.53
E				Tools & Plants @ 2% of C (except Stay/HDPE Pipe/Earthing/Cable)	3,410.25
F				Transportation @ 7.5% of C	21,911.34
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/HDPE Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,600.87
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	882.38
J				**Sum of (C to I)**	**3,40,225.15**
	Civil and Services Works				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.226	1,502.64
3	PCC ratio 1:3:6(M-10 Grade) For DSS Area	M3	5,247.48	1.745	9,156.85
4	Installation, Testing and Commissioning of 11/0.4kV, 100kVA 3-Phase Distribution Transformer	EA	19,400.00	1	19,400.00
5	Installation, Testing & Comissioning of Outdoor Type LT Distribution Box with MCCB for 11/0.4kV,100kVA Three Phase Transformer	EA	800.00	1	800.00
6	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate	M3	3,000.00	1.745	5,235.00
7	Fixing of HT complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
8	Fixing of LT complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
9	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	7	26,493.11
10	LTDB Plinth	EA	11,354.57	1	11,354.57
11	Laying of 110mm dia PE 80-PN8, HDPE pipe inside open trench.	M	195.00	20	3,900.00
12	Laying of 4 Cx 150 mm2 LT XLPE Cable	M	60.00	55	3,300.00
13	Concreting ratio 1:1.5:3(M-20 Grade)-For PSC Pole	M3	6,648.85	0.375	2,493.32
14	SITC of Aluminium Lugs suitable for 150 sq mm cable/conductor	EA	156.50	24.000	3,756.00
15	SITC of termination kit of 1.1kV 3.5C/4C 150-240 sqmm	EA	4,920.00	2.000	9,840.00
16	SITC of double Compression Flameproof Type Glanding for armored Cable 3.5/4C 120-185sqmm	EA	2,230.00	3.000	6,690.00
17	**Earth work excavation of soil -Route Length**	M			
17.i	Earth work excavation of **soil**	M3	716.03	2.100	1,503.66
17.ii	Earth work excavation of **hard rock**	M3	1,759.39	0.900	1,583.45
17.iii	Back filling with excavated soil outside and above the trench	M3	220.00	3.000	660.00
18	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.000	566.68
19	GIS coordinate mapping, drawing preparation and submission of the same for DSS.	EA	1,000.00	1.000	1,000.00
20	SITC of DCP Extinguisher (6KG)	EA	4,500.00	1.000	4,500.00
21	SITC Display Board/Sign Board	EA	3,640.00	1.000	3,640.00
22	**Fencing**				
a	**GI Chain link**	EA			
b	**Boundary Wall**	EA			
22.1	GI chain link fencing for DSS	RM	4,167.57	18.000	75,016.30
K1				**Total Civil & Services**	**2,05,280.12**
K2				Applicable Taxes to make it Landed Cost @18%	36,950.42
K				**Total landed Cost (K=K1+ K2)**	**2,42,230.54**
L				**Total (J+K)**	5,82,455.69
M				Other overheads (Including 6% supervision charges) of L	34,947.34
N				**Sub-Total (L+M)**	**6,17,403.03**
O				CESS 1% of N	6,174.03
P				**Gross Total Material +Services (N+O)**	**6,23,577.06**
Q				Inspection Fee of Transformer (upto 100 KVA)	7,500.00
R				Inspection Fee of LV Cable	375.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**8,625.00**
U				GST @ 18% on Total Inspection Fees (T)	1,552.50
V				Total Inspection Fees including GST (T+U)	10,177.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**6,33,754.56**

Annexure-25

(Strengthening of IT & Technology)

Annexure-25.1

List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
1	10209000008	07-Sep-2020
2	10209000011	28-Aug-2020
3	10209000037	01-Sep-2020
4	10209000040	03-Aug-2020
5	10209000041	03-Aug-2020
6	10209000048	01-Sep-2020
7	10209000050	28-Aug-2020
8	10209000052	28-Aug-2020
9	10209000074	25-Aug-2020
10	10209000094	24-Aug-2020
11	10209000395	27-Aug-2020
12	10209000101	02-Aug-2020
13	10209000102	02-Aug-2020
14	10209000105	22-Aug-2020
15	10209000112	31-Aug-2020
16	10209000113	07-Sep-2020
17	10209000118	03-Aug-2020
18	10209000121	02-Sep-2020
19	10209000124	09-Sep-2020
20	10209000157	09-Sep-2020
21	10209000158	14-Sep-2020
22	10209000159	07-Sep-2020
23	10209000160	07-Sep-2020
24	10209000165	08-Sep-2020
25	10209000167	08-Sep-2020
26	10209000172	02-Sep-2020
27	10209000180	23-Sep-2020
28	10209000181	21-Sep-2020
29	10209000182	18-Sep-2020
30	10209000184	18-Sep-2020
31	10209000185	20-Sep-2020
32	10209000195	16-Oct-2020
33	10209000196	16-Oct-2020
34	10209000197	16-Oct-2020
35	10209000200	12-Oct-2020
36	10209000201	12-Oct-2020
37	10209000203	12-Oct-2020
38	10209000205	12-Oct-2020
39	10209000206	12-Oct-2020
40	10209000207	12-Oct-2020
41	10209000208	12-Oct-2020
42	10209000209	12-Oct-2020
43	10209000211	12-Oct-2020
44	10209000212	12-Oct-2020
45	10209000213	12-Oct-2020
46	10209000214	12-Oct-2020
47	10209000215	12-Oct-2020

Annexure-25.1

List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
48	10209000216	12-Oct-2020
49	10209000220	12-Oct-2020
50	10209000222	12-Oct-2020
51	10209000223	12-Oct-2020
52	10209000224	12-Oct-2020
53	10209000225	12-Oct-2020
54	10209000226	12-Oct-2020
55	10209000227	12-Oct-2020
56	10209000229	17-Oct-2020
57	10209000231	17-Oct-2020
58	10209000232	17-Oct-2020
59	10209000235	19-Oct-2020
60	10209000236	19-Oct-2020
61	10209000237	19-Oct-2020
62	10209000239	22-Oct-2020
63	10209000240	22-Oct-2020
64	10209000241	22-Oct-2020
65	10209000242	22-Oct-2020
66	10209000243	22-Oct-2020
67	10209000244	22-Oct-2020
68	10209000246	22-Oct-2020
69	10209000247	22-Oct-2020
70	10209000250	22-Oct-2020
71	10209000258	22-Oct-2020
72	10209000259	22-Oct-2020
73	10209000260	22-Oct-2020
74	10209000263	22-Oct-2020
75	10209000265	22-Oct-2020
76	10209000266	22-Oct-2020
77	10209000268	22-Oct-2020
78	10209000270	22-Oct-2020
79	10209000271	22-Oct-2020
80	10209000272	22-Oct-2020
81	10209000273	22-Oct-2020
82	10209000274	22-Oct-2020
83	10209000275	22-Oct-2020
84	10209000277	22-Oct-2020
85	10209000279	22-Oct-2020
86	10209000280	22-Oct-2020
87	10209000281	22-Oct-2020
88	10209000282	22-Oct-2020
89	10209000283	22-Oct-2020
90	10209000284	22-Oct-2020
91	10209000285	22-Oct-2020
92	10209000286	22-Oct-2020
93	10209000287	22-Oct-2020
94	10209000289	23-Oct-2020

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
95	10209000292	23-Oct-2020
96	10209000294	23-Oct-2020
97	10209000295	23-Oct-2020
98	10209000297	23-Oct-2020
99	10209000299	23-Oct-2020
100	10209000301	23-Oct-2020
101	10209000302	23-Oct-2020
102	10209000303	23-Oct-2020
103	10209000305	23-Oct-2020
104	10209000306	24-Oct-2020
105	10209000314	24-Oct-2020
106	10209000315	24-Oct-2020
107	10209000317	24-Oct-2020
108	10209000318	24-Oct-2020
109	10209000321	24-Oct-2020
110	10209000323	27-Oct-2020
111	10209000324	27-Oct-2020
112	10209000325	27-Oct-2020
113	10209000327	27-Oct-2020
114	10209000329	27-Oct-2020
115	10209000330	27-Oct-2020
116	10209000331	27-Oct-2020
117	10209000336	28-Oct-2020
118	10209000339	29-Oct-2020
119	10209000341	29-Oct-2020
120	10209000344	29-Oct-2020
121	10209000345	29-Oct-2020
122	10209000346	29-Oct-2020
123	10209000347	29-Oct-2020
124	10209000348	29-Oct-2020
125	10209000351	30-Oct-2020
126	10209000352	31-Oct-2020
127	10209000354	31-Oct-2020
128	10209000355	31-Oct-2020
129	10209000358	02-Nov-2020
130	10209000359	02-Nov-2020
131	10209000360	02-Nov-2020
132	10209000362	12-Apr-2020
133	10209001602	28-Apr-2021
134	10209000399	02-Nov-2020
135	10209000366	02-Nov-2020
136	10209000368	02-Nov-2020
137	10209000369	02-Nov-2020
138	10209000370	02-Nov-2020
139	10209000371	02-Nov-2020
140	10209000374	06-Nov-2020
141	10209000378	06-Nov-2020

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
142	10209000380	04-Nov-2020
143	10209000384	09-Nov-2020
144	10209000385	09-Nov-2020
145	10209000386	09-Nov-2020
146	10209000390	09-Nov-2020
147	10209000391	09-Nov-2020
148	10209000392	09-Nov-2020
149	10209000393	09-Nov-2020
150	10209000436	09-Nov-2020
151	10209000437	09-Nov-2020
152	10209000438	09-Nov-2020
153	10209000439	09-Nov-2020
154	10209000440	09-Nov-2020
155	10209000441	09-Nov-2020
156	10209000442	09-Nov-2020
157	10209000444	09-Nov-2020
158	10209000445	09-Nov-2020
159	10209000446	10-Nov-2020
160	10209000448	11-Nov-2020
161	10209000449	11-Nov-2020
162	10209000452	11-Nov-2020
163	10209000453	11-Nov-2020
164	10209000455	12-Nov-2020
165	10209000456	12-Nov-2020
166	10209000457	12-Nov-2020
167	10209000458	12-Nov-2020
168	10209000459	12-Nov-2020
169	10209000460	12-Nov-2020
170	10209000461	12-Nov-2020
171	10209000469	13-Nov-2020
172	10209000472	13-Nov-2020
173	10209000473	13-Nov-2020
174	10209000476	13-Nov-2020
175	10209000478	13-Nov-2020
176	10209000480	13-Nov-2020
177	10209000483	13-Nov-2020
178	10209000484	13-Nov-2020
179	10209000487	13-Nov-2020
180	10209000489	13-Nov-2020
181	10209000492	16-Nov-2020
182	10209000494	17-Nov-2020
183	10209000497	17-Nov-2020
184	10209000498	18-Nov-2020
185	10209000499	18-Nov-2020
186	10209000500	18-Nov-2020
187	10209000504	19-Nov-2020
188	10209000508	25-Nov-2020

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
189	10209000509	25-Nov-2020
190	10209000510	27-Nov-2020
191	10209000513	27-Nov-2020
192	10209000516	04-Dec-2020
193	10209000522	31-Dec-2020
194	10209000523	31-Dec-2020
195	10209000524	31-Dec-2020
196	10209000525	01-Jan-2021
197	10209000530	14-Jan-2021
198	10209000531	16-Jan-2021
199	10209000533	16-Jan-2021
200	10209000534	16-Jan-2021
201	10209000916	15-Jan-2021
202	10209000917	15-Jan-2021
203	10209000920	15-Jan-2021
204	10209000924	15-Jan-2021
205	10209000925	15-Jan-2021
206	10209000927	15-Jan-2021
207	10209000934	15-Jan-2021
208	10209000938	15-Jan-2021
209	10209000939	16-Jan-2021
210	10209000943	18-Jan-2021
211	10209000945	18-Jan-2021
212	10209000946	15-Jan-2021
213	10209000949	18-Jan-2021
214	10209000950	18-Jan-2021
215	10209000951	18-Jan-2021
216	10209000954	18-Jan-2021
217	10209000957	18-Jan-2021
218	10209000959	18-Jan-2021
219	10209000960	18-Jan-2021
220	10209000962	18-Jan-2021
221	10209000963	18-Jan-2021
222	10209000965	18-Jan-2021
223	10209000966	18-Jan-2021
224	10209000972	18-Jan-2021
225	10209000973	18-Jan-2021
226	10209000976	18-Jan-2021
227	10209000977	18-Jan-2021
228	10209000980	18-Jan-2021
229	10209000984	18-Jan-2021
230	10209000987	18-Jan-2021
231	10209000988	19-Jan-2021
232	10209000991	19-Jan-2021
233	10209000994	19-Jan-2021
234	10209000998	19-Jan-2021
235	10209000999	19-Jan-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
236	10209001002	19-Jan-2021
237	10209001003	19-Jan-2021
238	10209001004	19-Jan-2021
239	10209001005	19-Jan-2021
240	10209001006	19-Jan-2021
241	10209001008	19-Jan-2021
242	10209001009	19-Jan-2021
243	10209001011	06-Mar-2021
244	10209001012	20-Jan-2021
245	10209001017	20-Jan-2021
246	10209001018	20-Jan-2021
247	10209001019	20-Jan-2021
248	10209001023	20-Jan-2021
249	10209001024	21-Jan-2021
250	10209001026	21-Jan-2021
251	10209001027	21-Jan-2021
252	10209001029	21-Jan-2021
253	10209001031	21-Jan-2021
254	10209001036	22-Jan-2021
255	10209001037	22-Jan-2021
256	10209001038	22-Jan-2021
257	10209001039	22-Jan-2021
258	10209001043	23-Jan-2021
259	10209001047	22-Jan-2021
260	10209001050	27-Jan-2021
261	10209001051	27-Jan-2021
262	10209001052	27-Jan-2021
263	10209001057	28-Jan-2021
264	10209001060	28-Jan-2021
265	10209001063	28-Jan-2021
266	10209001067	28-Jan-2021
267	10209001069	28-Jan-2021
268	10209001070	28-Jan-2021
269	10209001071	28-Jan-2021
270	10209001074	28-Jan-2021
271	10209001075	28-Jan-2021
272	10209001078	29-Jan-2021
273	10209001079	29-Jan-2021
274	10209001081	29-Jan-2021
275	10209001082	29-Jan-2021
276	10209001083	29-Jan-2021
277	10209001084	29-Jan-2021
278	10209001085	29-Jan-2021
279	10209001087	29-Jan-2021
280	10209001089	29-Jan-2021
281	10209001090	29-Jan-2021
282	10209001092	29-Jan-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
283	10209001093	29-Jan-2021
284	10209001095	29-Jan-2021
285	10209001097	29-Jan-2021
286	10209001100	30-Jan-2021
287	10209001102	30-Jan-2021
288	10209001106	30-Jan-2021
289	10209001111	01-Feb-2021
290	10209001112	01-Feb-2021
291	10209001115	02-Feb-2021
292	10209001117	29-Jan-2021
293	10209001118	02-Feb-2021
294	10209001120	02-Feb-2021
295	10209001123	02-Feb-2021
296	10209001124	03-Feb-2021
297	10209001126	03-Feb-2021
298	10209001127	03-Feb-2021
299	10209001128	03-Feb-2021
300	10209001129	03-Feb-2021
301	10209001130	03-Feb-2021
302	10209001131	03-Feb-2021
303	10209001132	03-Feb-2021
304	10209001133	03-Feb-2021
305	10209001134	03-Feb-2021
306	10209001135	06-Feb-2021
307	10209001136	09-Feb-2021
308	10209001138	09-Feb-2021
309	10209001140	09-Feb-2021
310	10209001142	09-Feb-2021
311	10209001143	10-Feb-2021
312	10209001144	11-Feb-2021
313	10209001145	17-Feb-2021
314	10209001146	17-Feb-2021
315	10209001147	17-Feb-2021
316	10209001149	17-Feb-2021
317	10209001150	17-Feb-2021
318	10209001152	17-Feb-2021
319	10209001153	18-Feb-2021
320	10209001155	18-Feb-2021
321	10209001156	18-Feb-2021
322	10209001163	19-Feb-2021
323	10209001165	20-Feb-2021
324	10209001167	20-Feb-2021
325	10209001168	22-Feb-2021
326	10209001170	22-Feb-2021
327	10209001171	22-Feb-2021
328	10209001172	22-Feb-2021
329	10209001173	22-Feb-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
330	10209001178	23-Feb-2021
331	10209001183	24-Feb-2021
332	10209001185	24-Feb-2021
333	10209000942	16-Jan-2021
334	10209001188	01-Mar-2021
335	10209001192	03-Apr-2021
336	10209001193	03-Apr-2021
337	10209001194	03-Apr-2021
338	10209001196	31-Mar-2021
339	10209001197	31-Mar-2021
340	10209001198	31-Mar-2021
341	10209001201	02-Apr-2021
342	10209001202	02-Apr-2021
343	10209001203	02-Apr-2021
344	10209001204	02-Apr-2021
345	10209001205	02-Apr-2021
346	10209001206	02-Apr-2021
347	10209001208	02-Apr-2021
348	10209001209	02-Apr-2021
349	10209001210	02-Apr-2021
350	10209001211	02-Apr-2021
351	10209001212	02-Apr-2021
352	10209001214	02-Apr-2021
353	10209001217	02-Apr-2021
354	10209001218	02-Apr-2021
355	10209001219	02-Apr-2021
356	10209001221	02-Apr-2021
357	10209001223	03-Apr-2021
358	10209001225	03-Apr-2021
359	10209001226	05-Apr-2021
360	10209001227	05-Apr-2021
361	10209001229	05-Apr-2021
362	10209001230	05-Apr-2021
363	10209001231	05-Apr-2021
364	10209001232	05-Apr-2021
365	10209001233	05-Apr-2021
366	10209001234	05-Apr-2021
367	10209001236	06-Apr-2021
368	10209001237	06-Apr-2021
369	10209001238	06-Apr-2021
370	10209001239	06-Apr-2021
371	10209001240	06-Apr-2021
372	10209001241	06-Apr-2021
373	10209001242	06-Apr-2021
374	10209001243	06-Apr-2021
375	10209001244	06-Apr-2021
376	10209001245	06-Apr-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
377	10209001246	06-Apr-2021
378	10209001247	06-Apr-2021
379	10209001248	06-Apr-2021
380	10209001249	06-Apr-2021
381	10209001250	06-Apr-2021
382	10209001251	06-Apr-2021
383	10209001252	06-Apr-2021
384	10209001253	06-Apr-2021
385	10209001254	06-Apr-2021
386	10209001256	06-Apr-2021
387	10209001257	06-Apr-2021
388	10209001258	06-Apr-2021
389	10209001259	06-Apr-2021
390	10209001260	06-Apr-2021
391	10209001262	05-Apr-2021
392	10209001263	06-Apr-2021
393	10209001264	07-Apr-2021
394	10209001265	07-Apr-2021
395	10209001266	07-Apr-2021
396	10209001267	07-Apr-2021
397	10209001268	07-Apr-2021
398	10209001269	07-Apr-2021
399	10209001270	07-Apr-2021
400	10209001271	08-Apr-2021
401	10209001272	08-Apr-2021
402	10209001273	08-Apr-2021
403	10209001274	08-Apr-2021
404	10209001275	09-Apr-2021
405	10209001276	09-Apr-2021
406	10209001277	09-Apr-2021
407	10209001278	09-Apr-2021
408	10209001279	09-Apr-2021
409	10209001280	09-Apr-2021
410	10209001281	09-Apr-2021
411	10209001282	09-Apr-2021
412	10209001283	09-Apr-2021
413	10209001284	09-Apr-2021
414	10209001285	09-Apr-2021
415	10209001286	09-Apr-2021
416	10209001287	09-Apr-2021
417	10209001288	09-Apr-2021
418	10209001289	09-Apr-2021
419	10209001290	09-Apr-2021
420	10209001291	09-Apr-2021
421	10209001292	09-Apr-2021
422	10209001293	09-Apr-2021
423	10209001294	09-Apr-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
424	10209001295	09-Apr-2021
425	10209001296	09-Apr-2021
426	10209001297	09-Apr-2021
427	10209001298	09-Apr-2021
428	10209001299	09-Apr-2021
429	10209001300	09-Apr-2021
430	10209001302	09-Apr-2021
431	10209001303	09-Apr-2021
432	10209001304	09-Apr-2021
433	10209001305	09-Apr-2021
434	10209001307	09-Apr-2021
435	10209001308	09-Apr-2021
436	10209001309	09-Apr-2021
437	10209001310	09-Apr-2021
438	10209001311	09-Apr-2021
439	10209001312	09-Apr-2021
440	10209001313	09-Apr-2021
441	10209001316	09-Apr-2021
442	10209001317	09-Apr-2021
443	10209001318	10-Apr-2021
444	10209001320	12-Apr-2021
445	10209001321	12-Apr-2021
446	10209001322	12-Apr-2021
447	10209001323	12-Apr-2021
448	10209001324	12-Apr-2021
449	10209001325	12-Apr-2021
450	10209001326	12-Apr-2021
451	10209001327	12-Apr-2021
452	10209001328	12-Apr-2021
453	10209001329	12-Apr-2021
454	10209001330	12-Apr-2021
455	10209001331	12-Apr-2021
456	10209001333	12-Apr-2021
457	10209001335	13-Apr-2021
458	10209001336	13-Apr-2021
459	10209001337	13-Apr-2021
460	10209001338	13-Apr-2021
461	10209001339	13-Apr-2021
462	10209001340	13-Apr-2021
463	10209001341	13-Apr-2021
464	10209001343	13-Apr-2021
465	10209001344	13-Apr-2021
466	10209001345	14-Apr-2021
467	10209001346	14-Apr-2021
468	10209001347	14-Apr-2021
469	10209001348	14-Apr-2021
470	10209001349	14-Apr-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
471	10209001350	14-Apr-2021
472	10209001351	14-Apr-2021
473	10209001352	15-Apr-2021
474	10209001353	15-Apr-2021
475	10209001354	15-Apr-2021
476	10209001355	15-Apr-2021
477	10209001356	15-Apr-2021
478	10209001358	16-Apr-2021
479	10209001362	17-Apr-2021
480	10209001363	16-Apr-2021
481	10209001364	17-Apr-2021
482	10209001365	17-Apr-2021
483	10209001367	15-Apr-2021
484	10209001368	15-Apr-2021
485	10209001369	13-Apr-2021
486	10209001370	15-Apr-2021
487	10209001371	15-Apr-2021
488	10209001372	16-Apr-2021
489	10209001374	13-Apr-2021
490	10209001375	13-Apr-2021
491	10209001376	13-Apr-2021
492	10209001377	13-Apr-2021
493	10209001381	14-Apr-2021
494	10209001382	13-Apr-2021
495	10209001383	13-Apr-2021
496	10209001384	15-Apr-2021
497	10209001385	15-Apr-2021
498	10209001386	15-Apr-2021
499	10209001387	15-Apr-2021
500	10209001388	15-Apr-2021
501	10209001389	15-Apr-2021
502	10209001390	15-Apr-2021
503	10209001392	17-Apr-2021
504	10209001393	17-Apr-2021
505	10209001394	17-Apr-2021
506	10209001396	15-Apr-2021
507	10209001398	15-Apr-2021
508	10209001399	15-Apr-2021
509	10209001400	15-Apr-2021
510	10209001401	15-Apr-2021
511	10209001402	15-Apr-2021
512	10209001403	15-Apr-2021
513	10209001404	15-Apr-2021
514	10209001405	15-Apr-2021
515	10209001406	15-Apr-2021
516	10209001407	15-Apr-2021
517	10209001408	19-Apr-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
518	10209001410	19-Apr-2021
519	10209001413	20-Apr-2021
520	10209001414	20-Apr-2021
521	10209001415	22-Apr-2021
522	10209001416	22-Apr-2021
523	10209001417	22-Apr-2021
524	10209001418	22-Apr-2021
525	10209001419	22-Apr-2021
526	10209001420	22-Apr-2021
527	10209001421	22-Apr-2021
528	10209001422	22-Apr-2021
529	10209001423	22-Apr-2021
530	10209001424	23-Apr-2021
531	10209001425	23-Apr-2021
532	10209001426	23-Apr-2021
533	10209001427	23-Apr-2021
534	10209001428	23-Apr-2021
535	10209001429	23-Apr-2021
536	10209001430	23-Apr-2021
537	10209001431	23-Apr-2021
538	10209001433	23-Apr-2021
539	10209001434	23-Apr-2021
540	10209001435	23-Apr-2021
541	10209001436	23-Apr-2021
542	10209001438	26-Apr-2021
543	10209001439	26-Apr-2021
544	10209001600	28-Apr-2021
545	10209002531	01-Sep-2021
546	10209002532	01-Sep-2021
547	10209002534	01-Sep-2021
548	10209002535	01-Sep-2021
549	10209002538	01-Sep-2021
550	10209002539	01-Sep-2021
551	10209002540	01-Sep-2021
552	10209002541	01-Sep-2021
553	10209002542	01-Sep-2021
554	10209002543	01-Sep-2021
555	10209002545	01-Sep-2021
556	10209002546	01-Sep-2021
557	10209002547	01-Sep-2021
558	10209002548	01-Sep-2021
559	10209002549	01-Sep-2021
560	10209002550	01-Sep-2021
561	10209002551	01-Sep-2021
562	10209002553	01-Sep-2021
563	10209002554	01-Sep-2021
564	10209002555	01-Sep-2021

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
565	10209002559	01-Sep-2021
566	10209002560	01-Sep-2021
567	10209002561	01-Sep-2021
568	10209002563	01-Sep-2021
569	10209002564	01-Sep-2021
570	10209001220	02-Apr-2021
571	10209000969	18-Jan-2021
572	10209001373	17-Apr-2021
573	10209001151	13-Apr-2021
574	10209001224	03-Apr-2021
575	10209001033	22-Jan-2021
576	10209000083	21-Aug-2020
577	10209001059	28-Jan-2021
578	10209001440	28-Apr-2021
579	10209000337	29-Oct-2020
580	10209001184	24-Feb-2021
581	10209001061	28-Jan-2021
582	10209000166	08-Sep-2020
583	10209000375	06-Nov-2020
584	10209000032	21-Aug-2020
585	10209000018	04-Aug-2020
586	10209001177	22-Feb-2021
587	10209000104	03-Aug-2020
588	10209001076	21-Jan-2021
589	10209000169	07-Sep-2020
590	10209000096	25-Aug-2020
591	10209000400	06-Nov-2020
592	10209000054	17-Aug-2020
593	10209000995	19-Jan-2021
594	10209000014	04-Aug-2020
595	10209000066	13-Aug-2020
596	10209000482	13-Nov-2020
597	10209001020	20-Jan-2021
598	10209000142	04-Sep-2020
599	10209000071	13-Aug-2020
600	10209000967	18-Jan-2021
601	10209000174	08-Apr-2020
602	10209000012	04-Aug-2020
603	10209001030	21-Jan-2021
604	10209001161	19-Feb-2021
605	10209000948	18-Jan-2021
606	10209000304	23-Oct-2020
607	10209001159	17-Feb-2021
608	10209000309	24-Oct-2020
609	10209000016	04-Aug-2020
610	10209000918	15-Jan-2021
611	10209000234	19-Oct-2020

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
612	10209001105	30-Jan-2021
613	10209000940	16-Jan-2021
614	10209001169	22-Feb-2021
615	10209001098	29-Jan-2021
616	10209000512	27-Nov-2020
617	10209001086	29-Jan-2021
618	10209000521	31-Dec-2020
619	10209000019	04-Aug-2020
620	10209000023	04-Aug-2020
621	10209000493	17-Nov-2020
622	10209000132	07-Sep-2020
623	10209000025	04-Aug-2020
624	10209000968	18-Jan-2021
625	10209001180	23-Feb-2021
626	10209001601	28-Apr-2021
627	10209001261	05-Apr-2021
628	10209001222	03-Apr-2021
629	10209000063	12-Aug-2020
630	10209000267	22-Oct-2020
631	10209000528	14-Jan-2021
632	10209000978	18-Jan-2021
633	10209001073	21-Jan-2021
634	10209000230	17-Oct-2020
635	10209001015	20-Jan-2021
636	10209000065	14-Aug-2020
637	10209001014	20-Jan-2021
638	10209000298	23-Oct-2020
639	10209000031	21-Aug-2020
640	10209000396	14-Aug-2020
641	10209000503	19-Nov-2020
642	10209000519	17-Dec-2020
643	10209000130	08-Aug-2020
644	10209000055	13-Aug-2020
645	10209000033	14-Sep-2020
646	10209000129	26-Aug-2020
647	10209000030	27-Aug-2020
648	10209000310	24-Oct-2020
649	10209001062	28-Jan-2021
650	10209000198	12-Oct-2020
651	10209000123	29-Aug-2020
652	10209000067	13-Aug-2020
653	10209000926	15-Jan-2021
654	10209000316	24-Oct-2020
655	10209000149	27-Aug-2020
656	10209000035	01-Sep-2020
657	10209001314	09-Apr-2021
658	10209000219	12-Oct-2020

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
659	10209000057	14-Aug-2020
660	10209000047	22-Aug-2020
661	10209000312	24-Oct-2020
662	10209001166	20-Feb-2021
663	10209000093	24-Aug-2020
664	10209000141	17-Aug-2020
665	10209000944	18-Jan-2021
666	10209001068	28-Jan-2021
667	10209000080	21-Aug-2020
668	10209000029	27-Aug-2020
669	10209000328	27-Oct-2020
670	10209001164	19-Feb-2021
671	10209000293	23-Oct-2020
672	10209000985	18-Jan-2021
673	10209001104	30-Jan-2021
674	10209001025	21-Jan-2021
675	10209000190	15-Sep-2020
676	10209000188	15-Sep-2020
677	10209000990	19-Jan-2021
678	10209001040	22-Jan-2021
679	10209000090	28-Aug-2020
680	10209001035	22-Jan-2021
681	10209000356	31-Oct-2020
682	10209001190	13-Mar-2021
683	10209000103	03-Aug-2020
684	10209001598	28-Apr-2021
685	10209000505	20-Nov-2020
686	10209000015	04-Aug-2020
687	10209001042	22-Jan-2021
688	10209001045	21-Jan-2021
689	10209000474	13-Nov-2020
690	10209000961	18-Jan-2021
691	10209000100	02-Aug-2020
692	10209000468	13-Nov-2020
693	10209000056	14-Aug-2020
694	10209001301	09-Apr-2021
695	10209001103	30-Jan-2021
696	10209001207	02-Apr-2021
697	10209000154	07-Sep-2020
698	10209000010	21-Aug-2020
699	10209000078	21-Aug-2020
700	10209000975	18-Jan-2021
701	10209000381	07-Nov-2020
702	10209000364	02-Nov-2020
703	10209001000	19-Jan-2021
704	10209001315	09-Apr-2021
705	10209000490	13-Nov-2020

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
706	10209001107	30-Jan-2021
707	10209000983	18-Jan-2021
708	10209001187	01-Mar-2021
709	10209001200	31-Mar-2021
710	10209001391	17-Apr-2021
711	10209001139	09-Feb-2021
712	10209000017	04-Aug-2020
713	10209000956	18-Jan-2021
714	10209000095	24-Aug-2020
715	10209000007	24-Aug-2020
716	10209000088	21-Aug-2020
717	10209000443	09-Nov-2020
718	10209000367	02-Nov-2020
719	10209001360	15-Apr-2021
720	10209000454	11-Nov-2020
721	10209000164	08-Sep-2020
722	10209000320	24-Oct-2020
723	10209000308	24-Oct-2020
724	10209000086	21-Aug-2020
725	10209000342	29-Oct-2020
726	10209000077	21-Aug-2020
727	10209001110	01-Feb-2021
728	10209001334	12-Apr-2021
729	10209000070	13-Aug-2020
730	10209000005	07-Sep-2020
731	10209000156	05-Sep-2020
732	10209000126	28-Aug-2020
733	10209000137	24-Aug-2020
734	10209000108	31-Aug-2020
735	10209000170	07-Sep-2020
736	10209000119	03-Sep-2020
737	10209001162	19-Feb-2021
738	10209000955	18-Jan-2021
739	10209001437	26-Apr-2021
740	10209000326	27-Oct-2020
741	10209000087	21-Aug-2020
742	10209000122	22-Aug-2020
743	10209000466	12-Nov-2020
744	10209001099	30-Jan-2021
745	10209001088	29-Jan-2021
746	10209000517	16-Dec-2020
747	10209000338	29-Oct-2020
748	10209001182	24-Feb-2021
749	10209000397	17-Aug-2020
750	10209000993	19-Jan-2021
751	10209001141	09-Feb-2021
752	10209000218	12-Oct-2020

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List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
753	10209000028	14-Aug-2020
754	10209001160	18-Feb-2021
755	10209000520	19-Dec-2020
756	10209001216	02-Apr-2021
757	10209001306	09-Apr-2021
758	10209000136	02-Sep-2020
759	10209001055	28-Jan-2021
760	10209001007	19-Jan-2021
761	10209001022	20-Jan-2021
762	10209001041	22-Jan-2021
763	10209000372	06-Nov-2020
764	10209001101	30-Jan-2021
765	10209001065	28-Jan-2021
766	10209000515	04-Dec-2020
767	10209000127	28-Aug-2020
768	10209000053	17-Aug-2020
769	10209001066	28-Jan-2021
770	10209000343	29-Oct-2020
771	10209000163	08-Sep-2020
772	10209000322	27-Oct-2020
773	10209001010	19-Jan-2021
774	10209001034	22-Jan-2021
775	10209000501	18-Nov-2020
776	10209000979	18-Jan-2021
777	10209000276	22-Oct-2020
778	10209000357	02-Nov-2020
779	10209001599	28-Apr-2021
780	10209001125	03-Feb-2021
781	10209001215	02-Apr-2021
782	10209001411	19-Apr-2021
783	10209000217	12-Oct-2020
784	10209000997	19-Jan-2021
785	10209000191	16-Sep-2020
786	10209000044	05-Sep-2020
787	10209001409	19-Apr-2021
788	10209000996	19-Jan-2021
789	10209000332	27-Oct-2020
790	10209000340	29-Oct-2020
791	10209001113	01-Feb-2021
792	10209000262	22-Oct-2020
793	10209000098	17-Aug-2020
794	10209000039	03-Aug-2020
795	10209001195	03-Apr-2021
796	10209000307	24-Oct-2020
797	10209001359	15-Apr-2021
798	10209000335	28-Oct-2020
799	10209000183	22-Sep-2020

Annexure-25.1

List of Laptops with Asset ID & Installation Date		
Sr No	**Asset ID**	**Installation Date**
800	10209000051	01-Sep-2020
801	10209001186	01-Mar-2021
802	10209000013	04-Aug-2020
803	10209000177	22-Sep-2020
804	10209000221	12-Oct-2020
805	10209000334	27-Oct-2020
806	10209001228	05-Apr-2021
807	10209000082	21-Aug-2020
808	10209000059	21-Aug-2020
809	10209001235	05-Apr-2021
810	10209001179	23-Feb-2021
811	10209000388	09-Nov-2020
812	10209000377	06-Nov-2020
813	10209001154	18-Feb-2021
814	10209000398	08-Oct-2020

Annexure-25.2

List of Desktops with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
1	10209000549	24-Sep-2020
2	10209000547	24-Sep-2020
3	10209000546	24-Sep-2020
4	10209000556	24-Sep-2020
5	10209000553	25-Sep-2020
6	10209000632	04-Nov-2020
7	10209000616	28-Sep-2020
8	10209000613	28-Sep-2020
9	10209000631	04-Nov-2020
10	10209000626	01-Jul-2021
11	10209000630	28-Sep-2020
12	10209000621	28-Sep-2020
13	10209000612	28-Sep-2020
14	10209000611	28-Sep-2020
15	10209000610	28-Sep-2020
16	10209000615	28-Sep-2020
17	10209000614	04-Nov-2020
18	10209000623	28-Sep-2020
19	10209000619	28-Sep-2020
20	10209002029	20-Feb-2021
21	10209000853	02-Apr-2021
22	10209000853-1	02-Apr-2021
23	10209000748	21-Oct-2020
24	10209000747	21-Oct-2020
25	10209000853-2	02-Apr-2021
26	10209000853-3	02-Apr-2021
27	10209000746	21-Oct-2020
28	10209000749	21-Oct-2020
29	10209000757	21-Oct-2020
30	10209000633	28-Sep-2020
31	10209000639	28-Sep-2020
32	10209000636	28-Sep-2020
33	10209000634	28-Sep-2020
34	10209000853-4	25-Aug-2021
35	10209000643	28-Sep-2020
36	10209000640	28-Sep-2020
37	10209000638	28-Sep-2020
38	10209000644	28-Sep-2020
39	10209000635	28-Sep-2020
40	10209000637	28-Sep-2020
41	10209000642	28-Sep-2020
42	10209000641	28-Sep-2020
43	10209000664	30-Sep-2020
44	10209000658	30-Sep-2020
45	10209000662	30-Sep-2020
46	10209000659	30-Sep-2020
47	10209000645	30-Sep-2020

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List of Desktops with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
48	10209000656	30-Sep-2020
49	10209000646	30-Sep-2020
50	10209000660	30-Sep-2020
51	10209000652	30-Sep-2020
52	10209000648	30-Sep-2020
53	10209000649	30-Sep-2020
54	10209000647	30-Sep-2020
55	10209000830	14-Dec-2020
56	10209000832	14-Dec-2020
57	10209000829	14-Dec-2020
58	10209000827	04-Nov-2020
59	10209000601	08-Sep-2020
60	10209000823	04-Nov-2020
61	10209000812	04-Nov-2020
62	10209000821	04-Nov-2020
63	10209000828	14-Dec-2020
64	10209000602	08-Sep-2020
65	10209000813	04-Nov-2020
66	10209000814	04-Nov-2020
67	10209000819	04-Nov-2020
68	10209000811	22-Oct-2020
69	10209000802	22-Oct-2020
70	10209000806	22-Oct-2020
71	10209000803	22-Oct-2020
72	10209000805	22-Oct-2020
73	10209000810	22-Oct-2020
74	10209000807	22-Oct-2020
75	10209000804	21-Oct-2020
76	10209000808	22-Oct-2020
77	10209000725	09-Oct-2020
78	10209000732	09-Oct-2020
79	10209000726	09-Oct-2020
80	10209000731	09-Oct-2020
81	10209000730	09-Oct-2020
82	10209000727	09-Oct-2020
83	10209000603	08-Sep-2020
84	10209000720	09-Oct-2020
85	10209000729	09-Oct-2020
86	10209000722	09-Oct-2020
87	10209000728	09-Oct-2020
88	10209000733	09-Oct-2020
89	10209000853-5	20-Jul-2021
90	10209000853-6	20-Jul-2021
91	10209000853-7	20-Jul-2021
92	10209000721	09-Oct-2020
93	10209000724	09-Oct-2020
94	10209000723	09-Oct-2020

Annexure-25.2

List of Desktops with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
95	10209000792	22-Oct-2020
96	10209000853-8	07-May-2021
97	10209000793	22-Oct-2020
98	10209000789	22-Oct-2020
99	10209000790	22-Oct-2020
100	10209000801	16-Dec-2020
101	10209000788	22-Oct-2020
102	10209000783	22-Oct-2020
103	10209000853-9	07-May-2021
104	10209000798	16-Dec-2020
105	10209000791	22-Oct-2020
106	10209000796	22-Oct-2020
107	10209000794	16-Dec-2020
108	10209000853-10	07-May-2021
109	10209000799	16-Dec-2020
110	10209000738	15-Oct-2020
111	10209000734	15-Oct-2020
112	10209000741	15-Oct-2020
113	10209000739	15-Oct-2020
114	10209000735	15-Oct-2020
115	10209000737	15-Oct-2020
116	10209000742	15-Oct-2020
117	10209000743	15-Oct-2020
118	10209000768	20-Oct-2020
119	10209000770	20-Oct-2020
120	10209000780	20-Oct-2020
121	10209000774	20-Oct-2020
122	10209000766	20-Oct-2020
123	10209000782	20-Oct-2020
124	10209000769	20-Oct-2020
125	10209000779	20-Oct-2020
126	10209000771	20-Oct-2020
127	10209000597	25-Sep-2020
128	10209000587	25-Sep-2020
129	10209000589	25-Sep-2020
130	10209000594	25-Sep-2020
131	10209000592	25-Sep-2020
132	10209000583	25-Sep-2020
133	10209000578	25-Sep-2020
134	10209000575	25-Sep-2020
135	10209000580	25-Sep-2020
136	10209000598	25-Sep-2020
137	10209000574	25-Sep-2020
138	10209000577	25-Sep-2020
139	10209000596	25-Sep-2020
140	10209000586	25-Sep-2020
141	10209000579	25-Sep-2020

Annexure-25.2

List of Desktops with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
142	10209000576	25-Sep-2020
143	10209000584	25-Sep-2020
144	10209000562	25-Sep-2020
145	10209000568	25-Sep-2020
146	10209000566	25-Sep-2020
147	10209000569	25-Sep-2020
148	10209000563	25-Sep-2020
149	10209000571	25-Sep-2020
150	10209000572	25-Sep-2020
151	10209000570	25-Sep-2020
152	10209000573	25-Sep-2020
153	10209000565	25-Sep-2020
154	10209000564	25-Sep-2020
155	10209000676	01-Oct-2020
156	10209000668	01-Oct-2020
157	10209000670	01-Oct-2020
158	10209000672	01-Oct-2020
159	10209000669	01-Oct-2020
160	10209000674	01-Oct-2020
161	10209000683	01-Oct-2020
162	10209000692	01-Oct-2020
163	10209000687	01-Oct-2020
164	10209000685	01-Oct-2020
165	10209000689	01-Oct-2020
166	10209000682	01-Oct-2020
167	10209000686	01-Oct-2020
168	10209000691	01-Oct-2020
169	10209000604	08-Sep-2020
170	10209000609	08-Sep-2020
171	10209000606	08-Sep-2020
172	10209000605	08-Sep-2020
173	10209000784	07-May-2021
174	10209000719	22-Oct-2020
175	10209000718	22-Oct-2020
176	10209000714	22-Oct-2020
177	10209000715	22-Oct-2020
178	10209000548	22-Oct-2020
179	10209000681	22-Oct-2020
180	10209000600	22-Oct-2020
181	10209000607	22-Oct-2020
182	10209000699	22-Oct-2020
183	10209000705	22-Oct-2020
184	10209000707	22-Oct-2020
185	10209000710	22-Oct-2020
186	10209000712	22-Oct-2020

Annexure-25.3

List of Printers with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
1	10209001666	28-Jun-2021
2	10209001658	26-May-2021
3	10400000414	23-Feb-2021
4	10400000415	23-Feb-2021
5	10400000568	24-May-2021
6	10400000360	03-Mar-2021
7	10400000362	03-Mar-2021
8	10400000352	03-Mar-2021
9	10400000357	03-Mar-2021
10	10400000359	03-Mar-2021
11	10400000524	03-Mar-2021
12	10400000523	03-Mar-2021
13	10400000354	03-Mar-2021
14	10400000353	03-Mar-2021
15	10400000364	03-Mar-2021
16	10400000356	03-Mar-2021
17	10400000358	03-Mar-2021
18	10209001661	24-Jun-2021
19	10400000361	03-Mar-2021
20	10400000355	03-Mar-2021
21	10209001663	03-Mar-2021
22	10400000325	15-Mar-2021
23	10400000320	15-Mar-2021
24	10400000313	15-Mar-2021
25	10400000517	15-Mar-2021
26	10400000324	15-Mar-2021
27	10400000326	15-Mar-2021
28	10400000322	15-Mar-2021
29	10400000315	15-Mar-2021
30	10400000514	15-Mar-2021
31	10400000580	15-Mar-2021
32	10400000327	15-Mar-2021
33	10400000318	15-Mar-2021
34	10400000515	15-Mar-2021
35	10400000516	15-Mar-2021
36	10400000319	15-Mar-2021
37	10400000572	10-Jun-2021
38	10400000317	15-Mar-2021
39	10400000314	15-Mar-2021
40	10400000321	15-Mar-2021
41	10400000329	15-Mar-2021
42	10400000330	15-Mar-2021
43	10400000323	15-Mar-2021
44	10400000468	20-Feb-2021
45	10400000559	28-Mar-2021
46	10400000557	28-Mar-2021
47	10400000558	28-Mar-2021

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List of Printers with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
48	10400000562	20-Feb-2021
49	10400000456	28-Mar-2021
50	10209001657	06-Aug-2021
51	10400000470	20-Feb-2021
52	10400000464	20-Feb-2021
53	10400000561	20-Feb-2021
54	10400000457	28-Mar-2021
55	10400000455	28-Mar-2021
56	10400000459	20-Feb-2021
57	10400000465	20-Feb-2021
58	10400000469	20-Feb-2021
59	10400000563	20-Feb-2021
60	10400000467	20-Feb-2021
61	10400000466	20-Feb-2021
62	10400000458	20-Feb-2021
63	10400000556	20-Feb-2021
64	10400000573	10-Jun-2021
65	10400000423	18-Feb-2021
66	10400000420	18-Feb-2021
67	10209001629	13-Aug-2021
68	10400000424	18-Feb-2021
69	10400000422	18-Feb-2021
70	10209001627	13-Aug-2021
71	10400000428	18-Feb-2021
72	10400000419	18-Feb-2021
73	10400000421	18-Feb-2021
74	10209001628	13-Aug-2021
75	10400000555	04-May-2021
76	10400000426	18-Feb-2021
77	10400000554	04-May-2021
78	10209001659	18-Feb-2021
79	10400000737	31-Dec-2020
80	10400000732	31-Dec-2020
81	10400000350	18-Feb-2021
82	10209001662	18-Feb-2021
83	10400000349	18-Feb-2021
84	10400000351	18-Feb-2021
85	10400000733	31-Dec-2020
86	10400000735	31-Dec-2020
87	10400000520	18-Feb-2021
88	10400000740	31-Dec-2020
89	10400000727	31-Dec-2020
90	10400000729	31-Dec-2020
91	10400000739	31-Dec-2020
92	10400000731	31-Dec-2020
93	10400000730	31-Dec-2020
94	10400000578	10-Jun-2021

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List of Printers with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
95	10400000522	18-Feb-2021
96	10209001660	06-Aug-2021
97	10400000736	31-Dec-2020
98	10400000738	31-Dec-2020
99	10400000521	31-Dec-2020
100	10400000728	31-Dec-2020
101	10209001630	16-Aug-2021
102	10209001632	16-Aug-2021
103	10209001631	16-Aug-2021
104	10400000570	07-Jun-2021
105	10400000567	12-Apr-2021
106	10400000723	31-Dec-2020
107	10400000721	14-Dec-2020
108	10400000722	14-Dec-2020
109	10400000412	12-Apr-2021
110	10400000576	10-Jun-2021
111	10400000397	05-Feb-2021
112	10400000407	05-Feb-2021
113	10400000401	05-Feb-2021
114	10400000405	05-Feb-2021
115	10400000410	19-Mar-2021
116	10400000400	05-Feb-2021
117	10400000402	05-Feb-2021
118	10400000406	05-Feb-2021
119	10400000399	19-Mar-2021
120	10400000411	19-Mar-2021
121	10400000403	05-Feb-2021
122	10400000408	19-Mar-2021
123	10400000409	19-Mar-2021
124	10400000398	31-Mar-2021
125	10400000396	05-Feb-2021
126	10400000477	08-Feb-2021
127	10400000574	10-Jun-2021
128	10400000564	17-Mar-2021
129	10400000565	17-Mar-2021
130	10400000472	08-Feb-2021
131	10400000476	08-Feb-2021
132	10400000478	08-Feb-2021
133	10400000474	08-Feb-2021
134	10400000471	08-Feb-2021
135	10400000475	08-Feb-2021
136	10400000304	05-Mar-2021
137	10400000311	12-Mar-2021
138	10400000305	06-Mar-2021
139	10400000309	10-Mar-2021
140	10400000566	15-Apr-2021
141	10400000306	07-Mar-2021

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List of Printers with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
142	10400000510	15-Apr-2021
143	10400000308	09-Mar-2021
144	10400000512	15-Apr-2021
145	10400000513	15-Apr-2021
146	10400000307	08-Mar-2021
147	10400000312	13-Mar-2021
148	10209001621	16-Jul-2021
149	10209001623	16-Jul-2021
150	10209001622	16-Jul-2021
151	10400000511	15-Apr-2021
152	10400000303	04-Mar-2021
153	10400000443	03-Mar-2021
154	10400000553	07-May-2021
155	10400000450	03-Mar-2021
156	10400000445	03-Mar-2021
157	10400000451	03-Mar-2021
158	10400000449	03-Mar-2021
159	10400000447	03-Mar-2021
160	10400000437	03-Mar-2021
161	10400000441	03-Mar-2021
162	10400000549	03-Mar-2021
163	10400000442	03-Mar-2021
164	10400000446	03-Mar-2021
165	10400000452	03-Mar-2021
166	10400000439	03-Mar-2021
167	10400000552	07-May-2021
168	10400000551	07-May-2021
169	10400000448	03-Mar-2021
170	10400000444	03-Mar-2021
171	10400000453	03-Mar-2021
172	10400000550	07-May-2021
173	10400000440	03-Mar-2021
174	10400000534	07-May-2021
175	10400000386	24-Feb-2021
176	10400000388	24-Feb-2021
177	10400000387	24-Feb-2021
178	10400000391	24-Feb-2021
179	10400000392	24-Feb-2021
180	10400000390	24-Feb-2021
181	10400000395	24-Feb-2021
182	10400000536	28-Mar-2021
183	10400000533	28-Mar-2021
184	10209001626	16-Aug-2021
185	10209001624	16-Aug-2021
186	10209001625	16-Aug-2021
187	10400000394	24-Feb-2021
188	10400000535	07-May-2021

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List of Printers with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
189	10400000393	24-Feb-2021
190	10400000581	07-May-2021
191	10400000365	24-Feb-2021
192	10400000375	24-Feb-2021
193	10400000373	24-Feb-2021
194	10400000369	24-Feb-2021
195	10400000525	07-May-2021
196	10400000367	24-Feb-2021
197	10400000368	24-Feb-2021
198	10400000377	24-Feb-2021
199	10400000527	07-May-2021
200	10400000374	24-Feb-2021
201	10209001669	24-Feb-2021
202	10209001670	16-Aug-2021
203	10209001668	16-Aug-2021
204	10400000372	24-Feb-2021
205	10400000376	07-May-2021
206	10400000371	24-Feb-2021
207	10400000528	07-May-2021
208	10209001664	24-Jun-2021
209	10400000462	12-Apr-2021
210	10400000339	04-Mar-2021
211	10400000343	04-Mar-2021
212	10400000348	04-Mar-2021
213	10400000345	04-Mar-2021
214	10400000346	04-Mar-2021
215	10400000473	12-Apr-2021
216	10400000337	04-Mar-2021
217	10400000332	04-Mar-2021
218	10400000519	12-Apr-2021
219	10400000334	04-Mar-2021
220	10400000518	12-Apr-2021
221	10400000335	04-Mar-2021
222	10400000342	04-Mar-2021
223	10400000344	04-Mar-2021
224	10400000347	04-Mar-2021
225	10400000331	04-Mar-2021
226	10400000340	04-Mar-2021
227	10400000341	04-Mar-2021
228	10400000333	04-Mar-2021
229	10400000338	04-Mar-2021
230	10400000336	04-Mar-2021
231	10400000547	17-Apr-2021
232	10400000433	19-Feb-2021
233	10400000435	19-Feb-2021
234	10400000583	17-Apr-2021
235	10400000434	19-Feb-2021

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List of Printers with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
236	10400000548	17-Apr-2021
237	10400000430	19-Feb-2021
238	10400000429	24-Feb-2021
239	10400000431	19-Feb-2021
240	10400000538	12-Mar-2021
241	10400000545	12-Mar-2021
242	10400000540	12-Mar-2021
243	10400000417	12-Mar-2021
244	10400000416	12-Mar-2021
245	10400000539	12-Mar-2021
246	10400000537	12-Mar-2021
247	10400000541	12-Mar-2021
248	10400000418	12-Mar-2021
249	10400000544	12-Mar-2021
250	10400000385	17-Feb-2021
251	10400000380	17-Feb-2021
252	10400000378	17-Feb-2021
253	10400000532	17-Apr-2021
254	10400000582	17-Feb-2021
255	10400000382	17-Feb-2021
256	10400000531	17-Apr-2021
257	10400000383	17-Feb-2021
258	10400000379	17-Feb-2021
259	10400000384	17-Feb-2021
260	10209001651	17-Mar-2021
261	10209001656	17-Mar-2021
262	10400000529	17-Mar-2021
263	10400000316	15-Mar-2021
264	10400000577	15-Mar-2021
265	10400000366	15-Mar-2021
266	10400000645	15-Mar-2021
267	10400000370	15-Mar-2021
268	10400000427	31-Mar-2021
269	10400000328	31-Mar-2021
270	10400000413	31-Mar-2021
271	10400000725	31-Dec-2020
272	10400000571	31-Mar-2021
273	10400000724	31-Dec-2020
274	10400000546	31-Mar-2021
275	10400000575	31-Mar-2021
276	10209001649	31-Mar-2021
277	10209001665	31-Mar-2021
278	10400000569	22-Mar-2021
279	10209001647	22-Mar-2021
280	10209001633	18-Jan-2021
281	10209001637	18-Jan-2021
282	10209001638	18-Jan-2021

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List of Printers with Asset id & Installation date		
Sr No	**Asset ID**	**Installation Date**
283	10209001641	18-Jan-2021
284	10209001643	18-Jan-2021
285	10209001644	18-Jan-2021
286	10209001646	18-Jan-2021
287	10209001648	18-Jan-2021
288	10209001650	18-Jan-2021
289	10209001653	18-Jan-2021
290	10209003608	15-Apr-2021

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List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
1	10400000081	27-Nov-2020
2	10400000613	06-Apr-2021
3	10400000659	17-Jun-2021
4	10209001672	28-Jun-2021
5	10400000782	27-Nov-2020
6	10400000778	27-Nov-2020
7	10400000769	27-Nov-2020
8	10400000768	27-Nov-2020
9	10400000772	27-Nov-2020
10	10400000780	27-Nov-2020
11	10400000773	27-Nov-2020
12	10400000783	27-Nov-2020
13	10400000770	27-Nov-2020
14	10400000779	27-Nov-2020
15	10400000781	27-Nov-2020
16	10400000777	27-Nov-2020
17	10400000771	27-Nov-2020
18	10400000603	04-Mar-2021
19	10400000608	06-Apr-2021
20	10400000611	06-Apr-2021
21	10400000605	06-Apr-2021
22	10400000604	18-Mar-2021
23	10400000612	06-Apr-2021
24	10400000607	06-Apr-2021
25	10400000216	18-Mar-2021
26	10400000602	06-Apr-2021
27	10400000606	06-Apr-2021
28	10400000656	21-Jun-2021
29	10400000204	03-Feb-2021
30	10400000206	03-Feb-2021
31	10400000218	18-Mar-2021
32	10400000213	03-Feb-2021
33	10400000207	03-Feb-2021
34	10400000209	03-Feb-2021
35	10400000210	03-Feb-2021
36	10400000217	18-Mar-2021
37	10400000208	03-Feb-2021
38	10400000212	03-Feb-2021
39	10400000660	17-Jun-2021
40	10400000203	03-Feb-2021
41	10400000202	21-Jan-2021
42	10400000211	03-Feb-2021
43	10400000205	03-Feb-2021

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List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
44	10400000148	03-Mar-2021
45	10400000150	03-Mar-2021
46	10400000140	03-Mar-2021
47	10400000145	03-Mar-2021
48	10400000147	03-Mar-2021
49	10400000154	03-Mar-2021
50	10400000153	03-Mar-2021
51	10400000152	03-Mar-2021
52	10400000142	03-Mar-2021
53	10400000151	03-Mar-2021
54	10400000141	03-Mar-2021
55	10400000144	03-Mar-2021
56	10400000146	03-Mar-2021
57	10209001677	24-Jun-2021
58	10400000149	03-Mar-2021
59	10400000143	03-Mar-2021
60	10209001676	03-Mar-2021
61	10400000091	15-Mar-2021
62	10400000086	15-Mar-2021
63	10400000079	15-Mar-2021
64	10400000100	15-Mar-2021
65	10400000090	15-Mar-2021
66	10400000092	15-Mar-2021
67	10400000088	15-Mar-2021
68	10400000109	15-Mar-2021
69	10400000097	15-Mar-2021
70	10400000093	15-Mar-2021
71	10400000084	15-Mar-2021
72	10400000098	15-Mar-2021
73	10400000099	15-Mar-2021
74	10400000085	15-Mar-2021
75	10400000638	10-Jun-2021
76	10400000083	15-Mar-2021
77	10400000080	15-Mar-2021
78	10400000087	15-Mar-2021
79	10400000095	15-Mar-2021
80	10400000663	03-Mar-2021
81	10400000096	15-Mar-2021
82	10400000089	15-Mar-2021
83	10400000275	20-Feb-2021
84	10400000622	03-Mar-2021
85	10400000270	20-Feb-2021
86	10209001681	06-Aug-2021

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List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
87	10400000284	20-Feb-2021
88	10400000278	20-Feb-2021
89	10400000285	20-Feb-2021
90	10400000271	28-Mar-2021
91	10400000269	28-Mar-2021
92	10400000273	20-Feb-2021
93	10400000279	20-Feb-2021
94	10400000283	20-Feb-2021
95	10400000287	20-Feb-2021
96	10400000281	20-Feb-2021
97	10400000280	20-Feb-2021
98	10400000272	20-Feb-2021
99	10400000277	20-Feb-2021
100	10400000286	20-Feb-2021
101	10400000621	20-Feb-2021
102	10400000282	20-Feb-2021
103	10400000639	10-Jun-2021
104	10400000237	18-Feb-2021
105	10400000234	18-Feb-2021
106	10400000619	04-May-2021
107	10400000620	04-May-2021
108	10209001684	04-May-2021
109	10400000236	18-Feb-2021
110	10400000242	18-Feb-2021
111	10400000233	18-Feb-2021
112	10400000235	18-Feb-2021
113	10400000240	18-Feb-2021
114	10400000239	18-Feb-2021
115	10400000126	18-Feb-2021
116	10400000135	18-Feb-2021
117	10400000130	18-Feb-2021
118	10400000133	18-Feb-2021
119	10400000120	18-Feb-2021
120	10400000127	18-Feb-2021
121	10400000134	18-Feb-2021
122	10400000119	18-Feb-2021
123	10400000131	18-Feb-2021
124	10400000128	18-Feb-2021
125	10209001680	06-Aug-2021
126	10400000136	18-Feb-2021
127	10400000125	18-Feb-2021
128	10400000137	18-Feb-2021
129	10400000139	10-Jun-2021

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List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
130	10400000129	18-Feb-2021
131	10400000121	18-Feb-2021
132	10400000123	18-Feb-2021
133	10400000124	18-Feb-2021
134	10400000138	18-Feb-2021
135	10400000122	18-Feb-2021
136	10400000132	18-Feb-2021
137	10400000666	03-Mar-2021
138	10209001675	24-Jun-2021
139	10400000647	16-Jun-2021
140	10400000651	16-Mar-2021
141	10400000631	16-Mar-2021
142	10400000658	17-Jun-2021
143	10400000652	16-Mar-2021
144	10400000298	16-Mar-2021
145	10400000300	16-Mar-2021
146	10209001685	16-Aug-2021
147	10400000646	08-Jun-2021
148	10400000299	16-Mar-2021
149	10400000297	16-Mar-2021
150	10400000633	07-Jun-2021
151	10400000630	16-Mar-2021
152	10400000654	16-Mar-2021
153	10400000301	31-Mar-2021
154	10400000648	16-Mar-2021
155	10400000634	07-Jun-2021
156	10400000629	12-Apr-2021
157	10400000661	17-Jun-2021
158	10400000625	16-Mar-2021
159	10400000302	31-Mar-2021
160	10400000626	12-Apr-2021
161	10400000635	07-Jun-2021
162	10400000662	17-Jun-2021
163	10400000628	12-Apr-2021
164	10400000187	05-Feb-2021
165	10400000197	31-Mar-2021
166	10400000201	19-Mar-2021
167	10400000191	05-Feb-2021
168	10400000195	12-Mar-2021
169	10400000189	31-Mar-2021
170	10400000190	31-Mar-2021
171	10400000194	05-Feb-2021
172	10400000192	05-Feb-2021

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List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
173	10400000196	05-Feb-2021
174	10400000200	19-Mar-2021
175	10400000642	31-Mar-2021
176	10400000193	05-Feb-2021
177	10400000198	19-Mar-2021
178	10400000199	19-Mar-2021
179	10400000188	31-Mar-2021
180	10400000186	05-Feb-2021
181	10400000294	08-Feb-2021
182	10400000640	10-Jun-2021
183	10400000624	17-Mar-2021
184	10400000296	17-Mar-2021
185	10400000289	08-Feb-2021
186	10400000293	08-Feb-2021
187	10400000295	08-Feb-2021
188	10400000291	08-Feb-2021
189	10400000288	08-Feb-2021
190	10400000292	08-Feb-2021
191	10400000070	05-Mar-2021
192	10400000077	12-Mar-2021
193	10400000071	06-Mar-2021
194	10400000076	11-Mar-2021
195	10400000075	10-Mar-2021
196	10400000072	07-Mar-2021
197	10400000585	15-Apr-2021
198	10400000074	09-Mar-2021
199	10400000587	15-Apr-2021
200	10400000588	15-Apr-2021
201	10400000073	08-Mar-2021
202	10400000078	13-Mar-2021
203	10209001671	16-Jul-2021
204	10400000586	15-Apr-2021
205	10400000069	04-Mar-2021
206	10400000257	03-Mar-2021
207	10400000264	03-Mar-2021
208	10400000259	03-Mar-2021
209	10400000265	03-Mar-2021
210	10400000263	03-Mar-2021
211	10400000261	03-Mar-2021
212	10400000251	03-Mar-2021
213	10400000255	03-Mar-2021
214	10400000616	03-Mar-2021
215	10400000256	03-Mar-2021

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List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
216	10400000260	03-Mar-2021
217	10400000266	31-Mar-2021
218	10400000253	03-Mar-2021
219	10400000617	07-May-2021
220	10400000267	31-Mar-2021
221	10400000262	03-Mar-2021
222	10400000258	03-Mar-2021
223	10400000268	03-Mar-2021
224	10400000250	03-Mar-2021
225	10400000254	03-Mar-2021
226	10400000599	31-Mar-2021
227	10400000176	24-Feb-2021
228	10400000178	24-Feb-2021
229	10400000179	24-Feb-2021
230	10400000181	31-Mar-2021
231	10400000182	24-Feb-2021
232	10400000180	24-Feb-2021
233	10400000185	24-Feb-2021
234	10400000601	07-May-2021
235	10400000598	24-Feb-2021
236	10209001683	31-Mar-2021
237	10400000184	24-Feb-2021
238	10400000600	07-May-2021
239	10400000183	24-Feb-2021
240	10400000664	07-May-2021
241	10400000113	31-Mar-2021
242	10400000165	24-Feb-2021
243	10400000593	07-May-2021
244	10400000163	24-Feb-2021
245	10400000159	24-Feb-2021
246	10400000590	07-May-2021
247	10400000157	24-Feb-2021
248	10400000158	31-Mar-2021
249	10400000167	24-Feb-2021
250	10400000592	07-May-2021
251	10400000164	31-Mar-2021
252	10209001682	16-Aug-2021
253	10400000162	24-Feb-2021
254	10400000166	07-May-2021
255	10400000155	04-Mar-2021
256	10400000161	31-Mar-2021
257	10400000118	04-Mar-2021
258	10400000115	04-Mar-2021

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List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
259	10400000116	04-Mar-2021
260	10400000290	12-Apr-2021
261	10400000107	04-Mar-2021
262	10400000102	04-Mar-2021
263	10400000214	12-Apr-2021
264	10400000104	04-Mar-2021
265	10400000589	12-Apr-2021
266	10400000105	04-Mar-2021
267	10400000112	04-Mar-2021
268	10400000114	04-Mar-2021
269	10400000117	04-Mar-2021
270	10400000101	04-Mar-2021
271	10400000276	12-Apr-2021
272	10400000110	04-Mar-2021
273	10400000111	31-Mar-2021
274	10400000103	04-Mar-2021
275	10400000252	12-Apr-2021
276	10400000108	04-Mar-2021
277	10400000106	04-Mar-2021
278	10400000615	16-Jun-2021
279	10400000246	19-Feb-2021
280	10400000247	31-Mar-2021
281	10400000249	19-Feb-2021
282	10400000665	17-Apr-2021
283	10400000248	19-Feb-2021
284	10400000244	31-Mar-2021
285	10400000243	19-Feb-2021
286	10400000245	19-Feb-2021
287	10400000230	12-Mar-2021
288	10400000222	12-Mar-2021
289	10400000232	31-Mar-2021
290	10400000224	12-Mar-2021
291	10400000226	12-Mar-2021
292	10400000225	12-Mar-2021
293	10400000223	12-Mar-2021
294	10400000229	12-Mar-2021
295	10400000221	12-Mar-2021
296	10400000228	12-Mar-2021
297	10400000227	12-Mar-2021
298	10400000231	31-Mar-2021
299	10400000595	17-Apr-2021
300	10400000175	17-Feb-2021
301	10400000170	17-Feb-2021

Annexure-25.4

List of Scanners with Asset id & Installation date

Sr No	Asset ID	Installation Date
302	10400000168	17-Feb-2021
303	10400000171	17-Feb-2021
304	10400000172	17-Feb-2021
305	10400000596	17-Apr-2021
306	10400000173	17-Feb-2021
307	10400000169	17-Feb-2021
308	10400000174	17-Mar-2021
309	10400000679	17-Mar-2021
310	10400000594	18-Feb-2021
311	10209001679	20-Jul-2021
312	10400000610	31-Mar-2021
313	10209001673	31-Mar-2021
314	10400000653	31-Mar-2021
315	10400000655	31-Mar-2021
316	10400000082	15-Mar-2021
317	10400000177	31-Mar-2021
318	10400000643	31-Mar-2021
319	10400000623	31-Mar-2021
320	10400000597	17-Apr-2021
321	10400000650	31-Mar-2021
322	10400000156	31-Mar-2021
323	10400000678	31-Mar-2021
324	10400000649	31-Mar-2021
325	10209001678	31-Mar-2021
326	10400000579	31-Mar-2021
327	10400000657	31-Mar-2021
328	10400000636	31-Mar-2021
329	10400000627	31-Mar-2021
330	10400000160	31-Mar-2021
331	10400000241	31-Mar-2021
332	10400000094	15-Mar-2021
333	10400000774	27-Nov-2020
334	10400000668	31-Mar-2021
335	10400000614	31-Mar-2021
336	10400000644	31-Mar-2021
337	10209001674	31-Mar-2021
338	10400000785	27-Nov-2020
339	10400000637	31-Mar-2021
340	10400000641	31-Mar-2021
341	10400000632	22-Mar-2021

Annexure - 26

Civil Infrastructure

Annexure -26.1

BOQ for Proposed Construction of Engineering & Contracts Office at Bhubaneswar.					
Sr. No.	**Short Text**	**UOM**	**Total Qty**	**Rate**	**Total Amt**
1	River Sand	M3	150.000	1,480.000	2,22,000.000
2	CC 1:2:4 (coarse sand)-20mm	M3	52.500	6,235.000	3,27,337.500
3	RCC 1:1:2 above Plinth Level	M3	450.000	7,950.000	35,77,500.000
4	Steel reinforcement for R.C.C	KG	43000.000	108.000	46,44,000.000
5	B/W in CM 1:6	M3	300.000	5,450.000	16,35,000.000
6	18 mm cement plaster(1:4)coarse sand	M2	2100.000	272.000	5,71,200.000
7	12 mm cement plaster(1:4)coarse sand	M2	1500.000	238.000	3,57,000.000
8	6 mm cement plaster	M2	900.000	230.000	2,07,000.000
9	Premium Acrylic Smooth exterior paint wi	M2	2400.000	129.000	3,09,600.000
10	Premium acrylic emulsion Paint-2 Coats	M2	2400.000	96.000	2,30,400.000
11	Vitrified tiles in floor with cement mor	M2	645.000	1,235.000	7,96,575.000
12	Non-skid ceramic tile	M2	60.000	1,057.000	63,420.000
13	Vitrified tiles in Skirting,Riser of ste	M2	60.000	1,204.000	72,240.000
14	18mm Granite	M2	75.000	3,400.000	2,55,000.000
15	Flat back Full stall Urinal	EA	6.000	5,000.000	30,000.000
16	Modular partition for EWC	EA	7.000	27,000.000	1,89,000.000
17	Urinal Separations	EA	4.000	2,625.000	10,500.000
18	P&F CPJet Spray-12 mm dia	EA	9.000	950.000	8,550.000
19	Mirrior-550 mm dia round shaped	EA	9.000	1,298.000	11,682.000
20	Wash Basin, Oval Type	EA	9.000	4,000.000	36,000.000
21	European WC	EA	9.000	6,000.000	54,000.000
22	C.P Toilet paper holder 200x150 mm	EA	9.000	1,100.000	9,900.000
23	Kitchen sink	EA	2.000	3,280.000	6,560.000
24	Nahani Trap	EA	12.000	249.150	2,989.800
25	CPVC pipe 20 mm Concealed work	M	37.500	430.000	16,125.000
26	CPVC pipe 25 mm External work	M	145.500	318.000	46,269.000
27	PVC pipe 40 mm	M	85.500	360.000	30,780.000
28	Ball valve 25mm	EA	15.000	500.000	7,500.000
29	PVC Ball valve-50 mm dia	EA	12.000	200.000	2,400.000
30	CI Manhole Cover 300X300 mm	EA	4.000	2,500.000	10,000.000
31	C.I Manhole cover-600mmx600mm	EA	4.000	2,500.000	10,000.000
32	C.I Manhole cover-900mmx900mm	EA	4.000	2,500.000	10,000.000
33	Pillar cock -Pressamatic type: Providing and fixing Pillar cock - Pressamatic type.	EA	9.000	800.000	7,200.000
34	Angle cock	EA	15.000	992.000	14,880.000
35	PVC Soap Dispenser: Providing and fixing PVC soap dispenser of standard size .	EA	6.000	489.070	2,934.420
36	PVC Pipe 100mm	M	282.000	650.000	1,83,300.000
37	S&F of Stainless steel of 304 grade for hand railing	Kg	750.000	685.000	5,13,750.000
38	Toughened Glass for Door/Partition	M2	20.621	6,187.000	1,27,579.126
39	Aluminium framed glazed 2 track sliding	M2	62.869	3,800.000	2,38,900.680
40	Aluminium framed glazed Fixed Window	M2	30.710	3,800.000	1,16,696.100
41	Aluminium framed glazed Glass louvered	M2	0.801	3,800.000	3,043.800
42	Flush Door with TW frame	M2	15.120	5,000.000	75,600.000
43	WIRING:SHORT POINT(GroupA)	EA	75.000	749.000	56,175.000
44	WIRING:SHORT POINT(GroupB)	EA	108.000	801.000	86,508.000
45	Cu conducter-3X 2.5 Sqmm	M	928.500	195.000	1,81,057.500
46	Cu conducter-3X6 Sqmm	M	1038.000	311.000	3,22,818.000
47	PVC CONDUIT: (25 mm)	M	2527.500	108.000	2,72,970.000
48	S.P 5/6 amps, two way modular switch	EA	41.000	125.000	5,125.000
49	S.P 15/16 amps, one way modular switch	EA	8.000	150.000	1,200.000
50	3 pin 5/6 amps, modular socket outlet	EA	41.000	138.000	5,658.000
51	6 pin 15/16 amps, modular socket outlet	EA	11.000	240.000	2,640.000
52	SWITHCHED SOCKET OUTLETS (6 A)	SET	68.000	640.000	43,520.000
53	FAN REGULATOR	EA	27.000	353.000	9,531.000
54	INDUSTRIAL SOCKET OUTLETS (25/32A DPMCB)	EA	42.000	780.000	32,760.000
55	MCB-Single pole	EA	72.000	275.000	19,800.000
56	63 MCB 4 Pole	EA	3.000	2,462.000	7,386.000
57	TP&N MCB distribution board-6way (4+18)	EA	3.000	1,900.000	5,700.000
58	GI Pipe earthing	EA	6.000	7,500.000	45,000.000
59	Exhaust fan of 305 mm dia heavy duty M.S body at 1400 RPM	EA	5.000	2,180.000	10,900.000
60	Providing and Fixing fan hook	EA	39.000	215.780	8,415.420

Sr. No.	Short Text	UOM	Total Qty	Rate	Total Amt
61	Ceramic Glazed Wall Tile-Designer	M2	127.224	1,066.000	1,35,620.784
62	White cement putty 3.0kg/10sqm	M2	2402.467	84.000	2,01,807.251
63	Mortice Latch & Lock without pair of han	EA	9	840.000	7,560.000
64	Carpentry- wall panels	M2	37.500	4,950.000	1,85,625.000
65	WPC solid door-Frame size 50 x 100 mm	M	27.000	740.000	19,980.000
66	Providing & Fixing WPC door shutter	M2	9.000	3,022.000	27,198.000
67	MS Pipe/Cuplock scaffolding	M2	150.000	495.000	74,250.000
68	St. Steel, Single Section	KG	1020.000	104.000	1,06,080.000
69	Steel work in Built up Hollow Sections	KG	300.000	134.000	40,200.000
70	Synthetic Enamel Paint (New work)	M2	58.500	87.000	5,089.500
71	Carpentry work- Cabinets/Counters	M2	22.500	6,700.000	1,50,750.000
72	Ceiling Hung 40 Watt LED Light	EA	90.000	2,030.000	1,82,700.000
73	15 Watt Round Surface/Recess Light	EA	66.000	1,530.000	1,00,980.000
74	Copper earth strip	M	129.000	340.000	43,860.000
75	False Ceiling of Gypsum fire resistant board	M2	70.500	1,230.000	86,715.000
76	False ceiling tiles-Ultima Armstrong 600	M2	51.000	1,800.000	91,800.000
77	Supply and Fixing of pwder coated MS steel door	M2	3.780	18,951.000	71,634.780
78	Sintex water tank	L	3000.000	14.300	42,900.000
79	2 to 3 mm thick SS plates of size 300 X300	EA	5.000	520.000	2,600.000
80	150 mm wide GI perforated cable tray	M	150.000	716.000	1,07,400.000
81	300 mm wide GI perforated cable tray	M	150.000	963.000	1,44,450.000
82	H- Type SS Handle	EA	18.000	1,100.000	19,800.000
83	Double action hydraulic floor spring	EA	5.000	7,000.000	35,000.000
84	Die Cast Hydraulic Door Closer	EA	14.000	1,730.000	24,220.000
85	SS Door stopper	EA	14.000	129.000	1,806.000
86	S S tower bolt-200mm	EA	5.000	155.000	775.000
87	Premium Door Tower Bolt	EA	9.000	963.000	8,667.000
88	Modular base & cover plate 1-2 Module	EA	81.000	99.000	8,019.000
89	Neat cement punning	M2	160.035	45.000	7,201.575
90	Construction of granular sub-base: Grade-II	M3	225.000	2,914.000	6,55,650.000
91	Boring for Rain water	M	90.000	750.000	67,500.000
92	uPVC Casing pipe 100 mm	M	90.000	630.000	56,700.000
93	RCC ring water tank	L	5,100.000	6.900	35,190.000
94	Supplying and Spreading of Gravel	M3	2.040	2,470.000	5,038.800
95	80mm Th Interlocking Paver Block	M2	1,500.000	780.000	11,70,000.000
96	Kerb stones of strength M25	M3	6.000	7,300.000	43,800.000
97	Full height Ply partition	M2	73.032	6000.000	4,38,193.800
98	Supply and Laying of 25 mm 4 core LT copper cable	M	67.500	2607.000	1,75,972.500
99	Submersible Monoblock 2 HP Pump	EA	1.000	26950.000	26,950.000
100	Supply and Fixing of pvc casing	M	150.000	916.670	1,37,500.500
101	Supply and Fixing of Sandwitched Glass in Conference room with white color	M2	6.480	6000.000	38,880.000
102	Lock Patch	EA	4.000	4523.000	18,092.000
103	Top Patch	EA	4.000	9748.000	38,992.000
104	Bottom Patch	EA	4.000	1415.000	5,660.000
105	Supply and Installation of Electrical Panel	EA	1.000	180323.000	1,80,323.000
106	Roller Blinds wirh pelmet	M2	75.000	1916	1,43,700.000
107	12 mm thk. POP mirror smooth	M2	15.000	450	6,750.000
108	GFRC Jaali for Parition work	M2	150.000	5471	8,20,650.000
109	signage printed on vinyl sticker	Sqft	150.000	58	8,700.000
110	S&I Of Open Cell ceiling	M2	75.000	3500	2,62,500.000
111	S&I of Passenger Lift	EA	1.500	2000000	30,00,000.000
	Total				**2,54,33,007.836**
	Total(Including GST)				**3,00,10,949.247**

Annexure -26.2

BOQ for Proposed Construction of Division Office at Marshaghai					
Sr. No.	**Short Text**	**UOM**	**Total Qty**	**Rate**	**Total Amt**
1	River Sand	M3	150.000	1,480.000	2,22,000.000
2	CC 1:2:4 (coarse sand)-20mm	M3	52.500	6,235.000	3,27,337.500
3	RCC 1:1:2 above Plinth Level	M3	450.000	7,950.000	35,77,500.000
4	Steel reinforcement for R.C.C	KG	43000.000	108.000	46,44,000.000
5	B/W in CM 1:6	M3	300.000	5,450.000	16,35,000.000
6	18 mm cement plaster(1:4)coarse sand	M2	2100.000	272.000	5,71,200.000
7	12 mm cement plaster(1:4)coarse sand	M2	1500.000	238.000	3,57,000.000
8	6 mm cement plaster	M2	900.000	230.000	2,07,000.000
9	Premium Acrylic Smooth exterior paint wi	M2	2400.000	129.000	3,09,600.000
10	Premium acrylic emulsion Paint-2 Coats	M2	2400.000	96.000	2,30,400.000
11	Vitrified tiles in floor with cement mor	M2	645.000	1,235.000	7,96,575.000
12	Non-skid ceramic tile	M2	60.000	1,057.000	63,420.000
13	Vitrified tiles in Skirting,Riser of ste	M2	60.000	1,204.000	72,240.000
14	18mm Granite	M2	75.000	3,400.000	2,55,000.000
15	Flat back Full stall Urinal	EA	6.000	5,000.000	30,000.000
16	Modular partition for EWC	EA	7.000	27,000.000	1,89,000.000
17	Urinal Separations	EA	4.000	2,625.000	10,500.000
18	P&F CPJet Spray-12 mm dia	EA	9.000	950.000	8,550.000
19	Mirrior-550 mm dia round shaped	EA	9.000	1,298.000	11,682.000
20	Wash Basin, Oval Type	EA	9.000	4,000.000	36,000.000
21	European WC	EA	9.000	6,000.000	54,000.000
22	C.P Toilet paper holder 200x150 mm	EA	9.000	1,100.000	9,900.000
23	Kitchen sink	EA	2.000	3,280.000	6,560.000
24	Nahani Trap	EA	12.000	249.150	2,989.800
25	CPVC pipe 20 mm Concealed work	M	37.500	430.000	16,125.000
26	CPVC pipe 25 mm External work	M	145.500	318.000	46,269.000
27	PVC pipe 40 mm	M	85.500	360.000	30,780.000
28	Ball valve 25mm	EA	15.000	500.000	7,500.000
29	PVC Ball valve-50 mm dia	EA	12.000	200.000	2,400.000
30	CI Manhole Cover 300X300 mm	EA	4.000	2,500.000	10,000.000
31	C.I Manhole cover-600mmx600mm	EA	4.000	2,500.000	10,000.000
32	C.I Manhole cover-900mmx900mm	EA	4.000	2,500.000	10,000.000
33	Pillar cock -Pressamatic type: Providing and fixing Pillar cock -Pressamatic type.	EA	9.000	800.000	7,200.000
34	Angle cock	EA	15.000	992.000	14,880.000
35	PVC Soap Dispenser: Providing and fixing PVC soap dispenser of standard size .	EA	6.000	489.070	2,934.420
36	PVC Pipe 100mm	M	282.000	650.000	1,83,300.000
37	S&F of Stainless steel of 304 grade for hand railing	Kg	750.000	685.000	5,13,750.000
38	Toughened Glass for Door/Partition	M2	20.621	6,187.000	1,27,579.126
39	Aluminium framed glazed 2 track sliding	M2	62.869	3,800.000	2,38,900.680
40	Aluminium framed glazed Fixed Window	M2	30.710	3,800.000	1,16,696.100
41	Aluminium framed glazed Glass louvered	M2	0.801	3,800.000	3,043.800
42	Flush Door with TW frame	M2	15.120	5,000.000	75,600.000
43	WIRING:SHORT POINT(GroupA)	EA	75.000	749.000	56,175.000
44	WIRING:SHORT POINT(GroupB)	EA	108.000	801.000	86,508.000
45	Cu conducter-3X 2.5 Sqmm	M	928.500	195.000	1,81,057.500
46	Cu conducter-3X6 Sqmm	M	1038.000	311.000	3,22,818.000
47	PVC CONDUIT: (25 mm)	M	2527.500	108.000	2,72,970.000
48	S.P 5/6 amps, two way modular switch	EA	41.000	125.000	5,125.000
49	S.P 15/16 amps, one way modular switch	EA	8.000	150.000	1,200.000
50	3 pin 5/6 amps, modular socket outlet	EA	41.000	138.000	5,658.000
51	6 pin 15/16 amps, modular socket outlet	EA	11.000	240.000	2,640.000
52	SWITHCHED SOCKET OUTLETS (6 A)	SET	68.000	640.000	43,520.000
53	FAN REGULATOR	EA	27.000	353.000	9,531.000
54	INDUSTRIAL SOCKET OUTLETS (25/32A DPMCB)	EA	42.000	780.000	32,760.000
55	MCB-Single pole	EA	72.000	275.000	19,800.000
56	63 MCB 4 Pole	EA	3.000	2,462.000	7,386.000
57	TP&N MCB distribution board-6way (4+18)	EA	3.000	1,900.000	5,700.000
58	GI Pipe earthing	EA	6.000	7,500.000	45,000.000
59	Exhaust fan of 305 mm dia heavy duty M.S body at 1400 RPM	EA	5.000	2,180.000	10,900.000
60	Providing and Fixing fan hook	EA	39.000	215.780	8,415.420
61	Ceramic Glazed Wall Tile-Designer	M2	127.224	1,066.000	1,35,620.784
62	White cement putty 3.0kg/10sqm	M2	2402.467	84.000	2,01,807.251
63	Mortice Latch & Lock without pair of han	EA	9	840.000	7,560.000

Sr. No.	Short Text	UOM	Total Qty	Rate	Total Amt
64	Carpentry- wall panels	M2	37.500	4,950.000	1,85,625.000
65	WPC solid door-Frame size 50 x 100 mm	M	27.000	740.000	19,980.000
66	Providing & Fixing WPC door shutter	M2	9.000	3,022.000	27,198.000
67	MS Pipe/Cuplock scaffolding	M2	150.000	495.000	74,250.000
68	St. Steel, Single Section	KG	1020.000	104.000	1,06,080.000
69	Steel work in Built up Hollow Sections	KG	300.000	134.000	40,200.000
70	Synthetic Enamel Paint (New work)	M2	58.500	87.000	5,089.500
71	Carpentry work- Cabinets/Counters	M2	22.500	6,700.000	1,50,750.000
72	Ceiling Hung 40 Watt LED Light	EA	90.000	2,030.000	1,82,700.000
73	15 Watt Round Surface/Recess Light	EA	66.000	1,530.000	1,00,980.000
74	Copper earth strip	M	129.000	340.000	43,860.000
75	False Ceiling of Gypsum fire resistant board	M2	70.500	1,230.000	86,715.000
76	False ceiling tiles-Ultima Armstrong 600	M2	51.000	1,800.000	91,800.000
77	Supply and Fixing of pwder coated MS steel door	M2	3.780	18,951.000	71,634.780
78	Sintex water tank	L	3000.000	14.300	42,900.000
79	2 to 3 mm thick SS plates of size 300 X300	EA	5.000	520.000	2,600.000
80	150 mm wide GI perforated cable tray	M	150.000	716.000	1,07,400.000
81	300 mm wide GI perforated cable tray	M	150.000	963.000	1,44,450.000
82	H- Type SS Handle	EA	18.000	1,100.000	19,800.000
83	Double action hydraulic floor spring	EA	5.000	7,000.000	35,000.000
84	Die Cast Hydraulic Door Closer	EA	14.000	1,730.000	24,220.000
85	SS Door stopper	EA	14.000	129.000	1,806.000
86	S S tower bolt-200mm	EA	5.000	155.000	775.000
87	Premium Door Tower Bolt	EA	9.000	963.000	8,667.000
88	Modular base & cover plate 1-2 Module	EA	81.000	99.000	8,019.000
89	Neat cement punning	M2	160.035	45.000	7,201.575
90	Construction of granular sub-base: Grade-II	M3	225.000	2,914.000	6,55,650.000
91	Boring for Rain water	M	90.000	750.000	67,500.000
92	uPVC Casing pipe 100 mm	M	90.000	630.000	56,700.000
93	RCC ring water tank	L	5,100.000	6.900	35,190.000
94	Supplying and Spreading of Gravel	M3	2.040	2,470.000	5,038.800
95	80mm Th Interlocking Paver Block	M2	1,500.000	780.000	11,70,000.000
96	Kerb stones of strength M25	M3	6.000	7,300.000	43,800.000
97	Full height Ply partition	M2	73.032	6000.000	4,38,193.800
98	Supply and Laying of 25 mm 4 core LT copper cable	M	67.500	2607.000	1,75,972.500
99	Submersible Monoblock 2 HP Pump	EA	1.000	26950.000	26,950.000
100	Supply and Fixing of pvc casing	M	150.000	916.670	1,37,500.500
101	Supply and Fixing of Sandwitched Glass in Conference room with white color	M2	6.480	6000.000	38,880.000
102	Lock Patch	EA	4.000	4523.000	18,092.000
103	Top Patch	EA	4.000	9748.000	38,992.000
104	Bottom Patch	EA	4.000	1415.000	5,660.000
105	Supply and Installation of Electrical Panel	EA	1.000	180323.000	1,80,323.000
106	Roller Blinds wirh pelmet	M2	75.000	1916	1,43,700.000
107	12 mm thk. POP mirror smooth	M2	15.000	450	6,750.000
108	GFRC Jaali for Parition work	M2	150.000	5471	8,20,650.000
109	signage printed on vinyl sticker	Sqft	150.000	58	8,700.000
110	S&I Of Open Cell ceiling	M2	75.000	3500	2,62,500.000
111	S&I of Passenger Lift	EA	1.500	2000000	30,00,000.000
	Total				**2,54,33,007.836**
	Total(Including GST)				**3,00,10,949.247**

Annexure -26.3

BOQ For Proposed Construction of Sub Division office.					
Sr. No.	**Short Text**	**UOM**	**Total Qty**	**Rate**	**Total Amt**
1	Earth work Excavation- (upto1.5m)	M3	30.000	232.000	6,960.000
2	Filling Available Excavated earth	M3	20.000	300.000	6,000.000
3	Clearing vegetation	M2	50.000	8.900	445.000
4	P & L 225 or 300 mmthk dry rubble soling	M3	15.000	1,905.000	28,575.000
5	Pre Constructional Anti Termite	M2	80.000	150.000	12,000.000
6	Applying residual petroleum bitumen	M2	20.000	105.000	2,100.000
7	River Sand	M3	100.000	1,480.000	1,48,000.000
8	Plinth Protection	M2	20.000	600.000	12,000.000
9	CC 1:2:4 (coarse sand)-20mm	M3	13.500	6,235.000	84,172.500
10	RCC 1:1:2 upto Plinth Level	M3	40.000	7,741.000	3,09,640.000
11	RCC 1:1:2 above Plinth Level	M3	40.000	7,950.000	3,18,000.000
12	Steel reinforcement for R.C.C	KG	9000.000	108.000	9,72,000.000
13	B/W in CM 1:6	M3	80.000	5,480.000	4,38,400.000
14	Die Cast Hydraulic Door Closer	EA	2.000	1,730.000	3,460.000
15	Mortice Latch & Lock without pair of han	EA	2.000	840.000	1,680.000
16	WPC solid door-Frame size 50 x 100 mm	M	8.000	740.000	5,920.000
17	Providing & Fixing WPC door shutter	M2	3.960	3,022.000	11,967.120
18	Aluminium handles-250mm	EA	6.000	148.000	888.000
19	SS Door stopper	EA	3.000	129.000	387.000
20	St. Steel, Single Section	KG	300.000	104.000	31,200.000
21	Steel work in Built up Hollow Sections	KG	50.000	134.000	6,700.000
22	2mm MS/GI sheet	KG	50.000	100.000	5,000.000
23	Vitrified tiles in Skirting,Riser of ste	M2	8	1,204.000	9,632.000
24	Vitrified tiles in floor with cement mor	M2	80	1,235.000	98,800.000
25	Ceramic Glazed Wall Tile-Designer	M2	24	1,066.000	25,584.000
26	Non-skid ceramic tile	M2	7	1,057.000	7,399.000
27	ACP Sheet	M2	3	1,580.000	4,740.000
28	Roller Blind	M2	5	1,067.800	5,339.000
29	12 mm cement plaster(1:4)coarse sand	M2	400	238.000	95,200.000
30	18 mm cement plaster(1:4)coarse sand	M2	200	272.000	54,400.000
31	6 mm cement plaster	M2	100	230.000	23,000.000
32	Neat cement punning	M2	100	45.000	4,500.000
33	Premium Acrylic Smooth exterior paint wi	M2	200	129.000	25,800.000
34	Synthetic Enamel Paint (New work)	M2	30	87.000	2,610.000
35	White cement putty 3.0kg/10sqm	M2	500	84.000	42,000.000
36	Demolishing CC-1:4:8	M3	1	976.000	976.000
37	Demolishing R.C.C.	M3	6	2,270.000	13,620.000
38	Demolishing B/W	M3	20	790.000	15,800.000
39	Dismantling & taking out doors upto 3m2	EA	3	154.000	462.000
40	Disposal of building rubbish/malba	M3	35	190.000	6,650.000
41	80mm Th Interlocking Paver Block	M2	40	780.000	31,200.000
42	Kerb stones of strength M25	M3	1	7,300.000	7,300.000
43	Orrisa pan WC	EA	1	2,840.000	2,840.000
44	European WC	EA	1	2,730.000	2,730.000
45	PVC Flushing Cistern	EA	2	1,356.000	2,712.000
46	PVC Waste Pipe for sink or WB-32mm	EA	2	100.000	200.000
47	Health Faucet	EA	1	950.000	950.000
48	CP Bottle Trap	EA	2	1,275.000	2,550.000
49	CP Pillar Cock	EA	2	990.000	1,980.000
50	CPVC pipe 15 mm Concealed work	M	15	390.000	5,850.000
51	CPVC pipe 20 mm Concealed work	M	15	430.000	6,450.000
52	CPVC pipe 25 mm External work	M	50	318.000	15,900.000
53	Bib Cock 19mm Dia	EA	1	1,040.000	1,040.000
54	2- Way Bib Cock	EA	1	1,379.000	1,379.000
55	PVC pipe 50 mm	M	10	400.000	4,000.000
56	PVC Pipe 75mm	M	10	520.000	5,200.000
57	PVC Pipe 100mm	M	10	950.000	9,500.000
58	CP Jali	EA	2	120.000	240.000
59	Gully Trap	EA	2	550.000	1,100.000
60	Nahani Trap	EA	2	249.150	498.300
61	Angle cock	EA	2	992.000	1,984.000
62	Glazing in Aluminium works-5.0mm	M2	9	1,280.000	11,520.000
63	Glazing in Aluminium works-8.0mm	M2	2	1,830.000	3,660.000
64	Aluminium hinges upto 150 mm	EA	9	150.000	1,350.000
65	Powder coated Aluminium Work(fixed porti	KG	20	631.000	12,620.000
66	Powder coated Aluminium Work(Shutters)	KG	25	640.000	16,000.000
67	Aluminium American handle 200mm	EA	4	236.000	944.000
68	Prunning Tree Branches	EA	2	445.000	890.000
69	River Sand	M3	20	1,480.000	29,600.000
70	JCB on Hire	SHF	2	11,000.000	22,000.000

Sr. No.	Short Text	UOM	Total Qty	Rate	Total Amt
71	RCC ring water tank	L	4,200	6.900	28,980.000
72	Sintex water tank	L	1,500	14.300	21,450.000
73	WIRING:SHORT POINT(GroupC)	P	35	930.000	32,550.000
74	Cu conducter-3X 1.5 Sqmm	M	200	160.000	32,000.000
75	Cu conducter-3X 2.5 Sqmm	M	120	195.000	23,400.000
76	Cu conducter-3X 4 Sqmm	M	45	250.000	11,250.000
77	Cu conducter-3X6 Sqmm	M	15	311.000	4,665.000
78	PVC CONDUIT: (25 mm)	M	80	108.000	8,640.000
79	S.P 15/16 amps, one way modular switch	EA	4	150.000	600.000
80	6 pin 15/16 amps, modular socket outlet	EA	4	240.000	960.000
81	SWITCH & SOCKET (6A)	EA	25	276.000	6,900.000
82	FAN REGULATOR	EA	3	353.000	1,059.000
83	Single pole blanking plate	EA	10	25.000	250.000
84	MCB-Single pole	EA	6	275.000	1,650.000
85	MCB-Triple pole	EA	1	1,400.000	1,400.000
86	TP&N MCB distribution board-6way (4+18)	EA	1	1,900.000	1,900.000
87	Earthing with copper earth plate	SET	1	9,000.000	9,000.000
88	LED out door light fitting	EA	2	3,000.000	6,000.000
89	1x 18 Watt LED wall light	EA	13	950.000	12,350.000
90	1x 9 Watt LED wall light	EA	3	530.000	1,590.000
91	Exhaust fan with louvers and bird-450 mm	EA	2	4,386.000	8,772.000
92	Finishing walls with waterproofing cemen	M2	45	74.000	3,330.000
93	Supply & filling malba under floor	M3	15	1,100.000	16,500.000
94	S/L of good earth	M3	15	430.000	6,450.000
95	P & L 225 or 300 mmthk dry rubble soling	M3	12	1,905.000	22,860.000
96	CC 1:1.5:3 (coarse sand)	M3	14	6,700.000	93,800.000
	Total				**34,04,499.920**
	Total(Including GST)				**40,17,309.906**
	Cost for 5 Locations				**2,00,86,549.528**

Annexure -26.4

BOQ For Proposed Construction of Section office					
Sr. No.	**Short Text**	**UOM**	**Total Qty**	**Rate**	**Total Amt**
1	Earth work Excavation- (upto1.5m)	M3	30.000	232.000	6,960.000
2	Filling Available Excavated earth	M3	20.000	300.000	6,000.000
3	Clearing vegetation	M2	50.000	8.900	445.000
4	P & L 225 or 300 mmthk dry rubble soling	M3	15.000	1,905.000	28,575.000
5	Pre Constructional Anti Termite	M2	80.000	150.000	12,000.000
6	Applying residual petroleum bitumen	M2	20.000	105.000	2,100.000
7	River Sand	M3	100.000	1,480.000	1,48,000.000
8	Plinth Protection	M2	20.000	600.000	12,000.000
9	CC 1:2:4 (coarse sand)-20mm	M3	13.500	6,235.000	84,172.500
10	RCC 1:1:2 upto Plinth Level	M3	40.000	7,741.000	3,09,640.000
11	RCC 1:1:2 above Plinth Level	M3	40.000	7,950.000	3,18,000.000
12	Steel reinforcement for R.C.C	KG	9000.000	108.000	9,72,000.000
13	B/W in CM 1:6	M3	80.000	5,480.000	4,38,400.000
14	Die Cast Hydraulic Door Closer	EA	2.000	1,730.000	3,460.000
15	Mortice Latch & Lock without pair of han	EA	2.000	840.000	1,680.000
16	WPC solid door-Frame size 50 x 100 mm	M	8.000	740.000	5,920.000
17	Providing & Fixing WPC door shutter	M2	3.960	3,022.000	11,967.120
18	Aluminium handles-250mm	EA	6.000	148.000	888.000
19	SS Door stopper	EA	3.000	129.000	387.000
20	St. Steel, Single Section	KG	300.000	104.000	31,200.000
21	Steel work in Built up Hollow Sections	KG	50.000	134.000	6,700.000
22	2mm MS/GI sheet	KG	50.000	100.000	5,000.000
23	Vitrified tiles in Skirting,Riser of ste	M2	8	1,204.000	9,632.000
24	Vitrified tiles in floor with cement mor	M2	80	1,235.000	98,800.000
25	Ceramic Glazed Wall Tile-Designer	M2	24	1,066.000	25,584.000
26	Non-skid ceramic tile	M2	7	1,057.000	7,399.000
27	ACP Sheet	M2	3	1,580.000	4,740.000
28	Roller Blind	M2	5	1,067.800	5,339.000
29	12 mm cement plaster(1:4)coarse sand	M2	400	238.000	95,200.000
30	18 mm cement plaster(1:4)coarse sand	M2	200	272.000	54,400.000
31	6 mm cement plaster	M2	100	230.000	23,000.000
32	Neat cement punning	M2	100	45.000	4,500.000
33	Premium Acrylic Smooth exterior paint wi	M2	200	129.000	25,800.000
34	Synthetic Enamel Paint (New work)	M2	30	87.000	2,610.000
35	White cement putty 3.0kg/10sqm	M2	500	84.000	42,000.000
36	Demolishing CC-1:4:8	M3	1	976.000	976.000
37	Demolishing R.C.C.	M3	6	2,270.000	13,620.000
38	Demolishing B/W	M3	20	790.000	15,800.000
39	Dismantling & taking out doors upto 3m2	EA	3	154.000	462.000
40	Disposal of building rubbish/malba	M3	35	190.000	6,650.000
41	80mm Th Interlocking Paver Block	M2	40	780.000	31,200.000
42	Kerb stones of strength M25	M3	1	7,300.000	7,300.000
43	Orrisa pan WC	EA	1	2,840.000	2,840.000
44	European WC	EA	1	2,730.000	2,730.000
45	PVC Flushing Cistern	EA	2	1,356.000	2,712.000
46	PVC Waste Pipe for sink or WB-32mm	EA	2	100.000	200.000
47	Health Faucet	EA	1	950.000	950.000
48	CP Bottle Trap	EA	2	1,275.000	2,550.000
49	CP Pillar Cock	EA	2	990.000	1,980.000
50	CPVC pipe 15 mm Concealed work	M	15	390.000	5,850.000
51	CPVC pipe 20 mm Concealed work	M	15	430.000	6,450.000
52	CPVC pipe 25 mm External work	M	50	318.000	15,900.000
53	Bib Cock 19mm Dia	EA	1	1,040.000	1,040.000
54	2- Way Bib Cock	EA	1	1,379.000	1,379.000
55	PVC pipe 50 mm	M	10	400.000	4,000.000
56	PVC Pipe 75mm	M	10	520.000	5,200.000
57	PVC Pipe 100mm	M	10	950.000	9,500.000
58	CP Jali	EA	2	120.000	240.000
59	Gully Trap	EA	2	550.000	1,100.000
60	Nahani Trap	EA	2	249.150	498.300
61	Angle cock	EA	2	992.000	1,984.000
62	Glazing in Aluminium works-5.0mm	M2	9	1,280.000	11,520.000
63	Glazing in Aluminium works-8.0mm	M2	2	1,830.000	3,660.000
64	Aluminium hinges upto 150 mm	EA	9	150.000	1,350.000
65	Powder coated Aluminium Work(fixed porti	KG	20	631.000	12,620.000
66	Powder coated Aluminium Work(Shutters)	KG	25	640.000	16,000.000
67	Aluminium American handle 200mm	EA	4	236.000	944.000
68	Prunning Tree Branches	EA	2	445.000	890.000
69	River Sand	M3	20	1,480.000	29,600.000
70	JCB on Hire	SHF	2	11,000.000	22,000.000
71	RCC ring water tank	L	4,200	6.900	28,980.000
72	Sintex water tank	L	1,500	14.300	21,450.000
73	WIRING:SHORT POINT(GroupC)	P	35	930.000	32,550.000
74	Cu conducter-3X 1.5 Sqmm	M	200	160.000	32,000.000
75	Cu conducter-3X 2.5 Sqmm	M	120	195.000	23,400.000

Sr. No.	Short Text	UOM	Total Qty	Rate	Total Amt
76	Cu conducter-3X 4 Sqmm	M	45	250.000	11,250.000
77	Cu conducter-3X6 Sqmm	M	15	311.000	4,665.000
78	PVC CONDUIT: (25 mm)	M	80	108.000	8,640.000
79	S.P 15/16 amps, one way modular switch	EA	4	150.000	600.000
80	6 pin 15/16 amps, modular socket outlet	EA	4	240.000	960.000
81	SWITCH & SOCKET (6A)	EA	25	276.000	6,900.000
82	FAN REGULATOR	EA	3	353.000	1,059.000
83	Single pole blanking plate	EA	10	25.000	250.000
84	MCB-Single pole	EA	6	275.000	1,650.000
85	MCB-Triple pole	EA	1	1,400.000	1,400.000
86	TP&N MCB distribution board-6way (4+18)	EA	1	1,900.000	1,900.000
87	Earthing with copper earth plate	SET	1	9,000.000	9,000.000
88	LED out door light fitting	EA	2	3,000.000	6,000.000
89	1x 18 Watt LED wall light	EA	13	950.000	12,350.000
90	1x 9 Watt LED wall light	EA	3	530.000	1,590.000
91	Exhaust fan with louvers and bird-450 mm	EA	2	4,386.000	8,772.000
92	Finishing walls with waterproofing cemen	M2	45	74.000	3,330.000
93	Supply & filling malba under floor	M3	15	1,100.000	16,500.000
94	S/L of good earth	M3	15	430.000	6,450.000
95	P & L 225 or 300 mmthk dry rubble soling	M3	12	1,905.000	22,860.000
96	CC 1:1.5:3 (coarse sand)	M3	14	6,700.000	93,800.000
	Total				**34,04,499.920**
	Total(Including GST)				**40,17,309.906**
	Cost for 15 Locations				**6,02,59,648.584**

Annexure -26.5

BOQ For Proposed Construction of Section store					
Sl. No	**SAP Text**	**Unit**	**Quanity**	**Rate (Excl. GST)**	**Amount**
1	Earth work Excavation- Soft soil	M3	25.00	232.00	5800.00
2	Filling Available Excavated earth	M3	25.00	289.50	7237.50
3	Clearing Jungle	M2	50.00	8.47	423.50
4	Pre Constructional Anti Termite	M2	25.00	150.50	3762.50
5	CC 1:2:4 (coarse sand)	M3	3.00	6283.83	18851.49
6	CC 1:3:6 (coarse sand)	M3	2.00	5084.75	10169.50
7	Plinth Protection	M2	5.00	577.67	2888.35
8	Applying residual petroleum bitumen	M2	25.00	100.85	2521.25
9	RCC 1:1.5:3 upto Plinth Level	M3	7.00	7457.63	52203.41
10	RCC 1:1.5:3 in Beams, suspended floors a	M3	9.00	7500.00	67500.00
11	Centring and Shuttering Foundations	M2	30.00	233.05	6991.50
12	Centring and Shuttering (Lintels, etc)	M2	35.00	288.14	10084.90
13	Centring and Shuttering (Columns, pillar	M2	14.00	415.25	5813.50
14	Steel reinforcement for R.C.C-upto plint	KG	600.00	100.00	60000.00
15	Steel reinforcement for R.C.C-above plinth	KG	800.00	103.39	82712.00
16	B/W in CC 1:4 upto plinth	M3	3.00	5491.53	16474.59
17	B/W in CC 1:4 in superstructure	M3	22.00	5466.10	120254.20
18	Brick bat filling as flooring cushion	M3	3.00	1228.81	3686.43
19	30 mm Flush Door Shutters	M2	4.50	2627.12	11822.04
20	MS Grills with welding	KG	72.00	135.72	9771.84
21	Die Cast Hydraulic Door Closer	EA	1.00	1694.92	1694.92
22	WPC solid door-Frame size 50 x 100 mm	M	11.50	722.88	8313.12
23	S S tower bolt-200mm	EA	2.00	152.54	305.08
24	SS Door stopper	EA	1.00	127.12	127.12
25	SS Door Aldrop 250mm	EA	1.00	619.66	619.66
26	S S door handle -150 mm	EA	2.00	103.66	207.32
27	St. Steel, Single Section	KG	1800.00	103.39	186102.00
28	St. Steel, Built up Section	KG	500.00	110.17	55085.00
29	Vitrified tiles in Skirting,Riser of ste	M2	2.00	1180.00	2360.00
30	Vitrified tiles in floor with cement mor	M2	21.00	1,228.81	25805.01
31	12 mm cement plaster(1:4)coarse sand	M2	100.00	236.25	23625.00
32	15 mm cement plaster(1:4)coarse sand	M2	150.00	262.71	39406.50
33	6 mm cement plaster	M2	25.00	228.81	5720.25
34	Premium Acrylic Smooth exterior paint wi	M2	150.00	128.81	19321.50
35	Synthetic Enamel Paint (New work)	M2	80.00	84.49	6759.20
36	Premium acrylic emulsion Paint-2 Coats	M2	100.00	91.53	9153.00
37	White cement putty 3.0kg/10sqm	M2	100.00	83.95	8395.00
38	60mm Th Interlocking Paver Block	M2	60.00	766.50	45990.00
39	Kerb stones of strength M25	M3	2.00	7,299.61	14599.22
40	Powder coated Aluminium Work(fixed portion)	Kg	20.00	601.80	12036.00
41	Powder coated Aluminium Work(Shutters)	Kg	30.00	610.17	18305.10
42	Glazing in Aluminium works-5.0mm	M2	5.00	1271.19	6355.95
43	River Sand	M3	8.00	1500.00	12000.00
44	Prunning Tree Branches	EA	5.00	431.36	2156.80
45	JCB on Hire	SHF	2.00	10593.22	21186.44
46	WIRING:SHORT POINT(GroupA)	P	6.00	713.56	4281.36
47	WIRING:SHORT POINT(GroupB)	P	1.00	805.08	805.08
48	Cu conducter-3X 2.5 Sqmm	M	20.00	186.44	3728.80
49	Cu conducter-3X6 Sqmm	M	5.00	296.61	1483.05
50	S.P 5/6 amps, one way modular switch	EA	2.00	73.65	147.30
51	3 pin 5/6 amps, modular socket outlet	EA	2.00	137.32	274.64
52	SWITHCHED SOCKET OUTLETS (6 A)	SET	1.00	635.59	635.59
53	MCB-Single pole	EA	4.00	266.15	1064.60
54	63 MCB 4 Pole	EA	1.00	2345.29	2345.29
55	TP&N MCB distribution board-8way (4+24)	EA	1.00	3220.34	3220.34

Sl. No	SAP Text	Unit	Quanity	Rate (Excl. GST)	Amount
56	1x 18 Watt LED wall light	EA	5.00	945.00	4725.00
57	Providing and Fixing fan hook	EA	2.00	205.51	411.02
58	FAN REGULATOR	EA	2.00	336.54	673.08
59	GI Pipe earthing	SET	1.00	7203.39	7203.39
60	Philips Out door type BVP161 30 watt LED	EA	2.00	3572.88	7145.76
	Total				**10,62,741.990**
	Total(Including GST)				**12,54,035.548**
	Cost for 16 Locations				**2,00,64,568.768**

Annexure -26.6

BOQ For Proposed Construction of Bidyut Seva Kendra (Annexure-6)					
Sl. No	**SAP Text**	**Unit**	**Quanity**	**Rate (Excl. GST)**	**Amount**
1	Earth work Excavation- Soft soil	M3	24.00	232.00	5568.00
2	Filling Available Excavated earth	M3	24.00	289.50	6948.00
3	Clearing Jungle	M2	36.00	8.47	304.92
4	Pre Constructional Anti Termite	M2	24.00	150.50	3612.00
5	CC 1:2:4 (coarse sand)	M3	3.00	6283.83	18851.49
6	CC 1:3:6 (coarse sand)	M3	2.40	5084.75	12203.40
7	Plinth Protection	M2	14.40	577.67	8318.45
8	Applying residual petroleum bitumen	M2	24.00	100.85	2420.40
9	RCC 1:1.5:3 upto Plinth Level	M3	8.00	7457.63	59661.04
10	RCC 1:1.5:3 in Beams, suspended floors a	M3	10.00	7500.00	75000.00
11	Centring and Shuttering Foundations	M2	36.00	233.05	8389.80
12	Centring and Shuttering (Lintels, etc)	M2	42.00	288.14	12101.88
13	Centring and Shuttering (Columns, pillar	M2	16.80	415.25	6976.20
14	Steel reinforcement for R.C.C-upto plint	KG	700.00	100.00	70000.00
15	Steel reinforcement for R.C.C-above plinth	KG	900.00	103.39	93051.00
16	B/W in CC 1:4 upto plinth	M3	3.60	5491.53	19769.51
17	B/W in CC 1:4 in superstructure	M3	21.60	5466.10	118067.76
18	Brick bat filling as flooring cushion	M3	3.60	1228.81	4423.72
19	30 mm Flush Door Shutters	M2	5.40	2627.12	14186.45
20	MS Grills with welding	KG	86.40	135.72	11726.21
21	Die Cast Hydraulic Door Closer	EA	1.00	1694.92	1694.92
22	WPC solid door-Frame size 50 x 100 mm	M	13.80	722.88	9975.74
23	S S tower bolt-200mm	EA	2.00	152.54	305.08
24	SS Door stopper	EA	1.00	127.12	127.12
25	SS Door Aldrop 250mm	EA	2.00	619.66	1239.32
26	S S door handle -150 mm	EA	4.00	103.66	414.64
27	St. Steel, Single Section	KG	300.00	103.39	31017.00
28	Vitrified tiles in Skirting,Riser of ste	M2	2.40	1180.00	2832.00
29	Vitrified tiles in floor with cement mor	M2	25.20	1,228.81	30966.01
30	Ceramic Glazed Wall Tile-Designer	M2	13.20	1,072.84	14161.49
31	Non-skid ceramic tile	M2	4.80	1,059.32	5084.74
32	12 mm cement plaster(1:4)coarse sand	M2	84.00	236.25	19845.00
33	15 mm cement plaster(1:4)coarse sand	M2	150.00	262.71	39406.50
34	6 mm cement plaster	M2	30.00	228.81	6864.30
35	Premium Acrylic Smooth exterior paint wi	M2	150.00	128.81	19321.50
36	Synthetic Enamel Paint (New work)	M2	7.20	84.49	608.33
37	Premium acrylic emulsion Paint-2 Coats	M2	114.00	91.53	10434.42
38	White cement putty 3.0kg/10sqm	M2	114.00	83.95	9570.30
39	60mm Th Interlocking Paver Block	M2	60.00	766.50	45990.00
40	Kerb stones of strength M25	M3	2.40	7,299.61	17519.06
41	Single Half stall Urinal	EA	1.00	6,397.52	6397.52
42	Wash Basin, Oval Type	EA	1.00	5,084.75	5084.75
43	W.C. wall mounted (Make Hindware, Cat N	EA	1.00	5,805.08	5805.08
44	Jet Spray	EA	1.00	915.25	915.25
45	CPVC pipe 20 mm Concealed work	M	12.00	435.38	5224.56
46	CPVC pipe 25 mm External work	M	72.00	314.11	22615.92

Sl. No	SAP Text	Unit	Quanity	Rate (Excl. GST)	Amount
47	PVC Pipe 75mm	M	6.00	520.00	3120.00
48	PVC Pipe 100mm	M	19.20	949.11	18222.91
49	2- Way Bib Cock	EA	1.00	1,313.56	1313.56
50	Ball valve 25mm	EA	2.00	500.00	1000.00
51	25mm UPVC Pipe	M	30.00	226.03	6780.90
52	Monoblock pump 1.00 HP	EA	1.00	8925.00	8925.00
53	CP Jali	EA	2.00	118.64	237.28
54	Powder coated Aluminium Work(fixed portion)	Kg	12.00	601.80	7221.60
55	Powder coated Aluminium Work(Shutters)	Kg	18.00	610.17	10983.06
56	Glazing in Aluminium works-5.0mm	M2	4.80	1271.19	6101.71
57	River Sand	M3	9.60	1500.00	14400.00
58	Prunning Tree Branches	EA	6.00	431.36	2588.16
59	JCB on Hire	SHF	3.00	10593.22	31779.66
60	RCC ring water tank	Ltr	2400.00	6.78	16272.00
61	Sintex water tank	Ltr	1200.00	13.65	16380.00
62	Looking mirror-modiguard AC sheet base	M2	1.00	1,322.88	1322.88
63	WIRING:SHORT POINT(GroupA)	P	9.00	713.56	6422.04
64	WIRING:SHORT POINT(GroupB)	P	2.00	805.08	1610.16
65	Cu conducter-3X 2.5 Sqmm	M	24.00	186.44	4474.56
66	Cu conducter-3X6 Sqmm	M	6.00	296.61	1779.66
67	S.P 5/6 amps, one way modular switch	EA	3.00	73.65	220.95
68	3 pin 5/6 amps, modular socket outlet	EA	3.00	137.32	411.96
69	SWITHCHED SOCKET OUTLETS (6 A)	SET	2.00	635.59	1271.18
70	INDUSTRIAL SOCKET OUTLETS (25/32A DPMCB)	EA	1.00	769.55	769.55
71	MCB-Single pole	EA	6.00	266.15	1596.90
72	63 MCB 4 Pole	EA	1.00	2345.29	2345.29
73	TP&N MCB distribution board-8way (4+24)	EA	1.00	3220.34	3220.34
74	1x 18 Watt LED wall light	EA	6.00	945.00	5670.00
75	Providing and Fixing fan hook	EA	1.00	205.51	205.51
76	FAN REGULATOR	EA	1.00	336.54	336.54
77	Exhaust fan of 250 mm dia PVC body at 1400 RPM	EA	1.00	1,525.42	1525.42
78	GI Pipe earthing	SET	2.00	7203.39	14406.78
79	Philips Out door type BVP161 30 watt LED	EA	2.00	3572.88	7145.76
	Total				**10,65,062.094**
	Total(Including GST)				**12,56,773.271**
	Cost for 16 Locations				**2,01,08,372.328**

Annexure -26.7

BOQ For Office Furniture					
Sl. No	**SAP Text**	**Unit**	**Quanity**	**Rate (Excl. GST)**	**Amount**
1	Medium Back Chairs	EA	297	3740.00	1110780.00
2	High Back Chair	EA	8	5940.00	47520.00
3	L- shaped Work station (5'x5')	EA	180	12800.00	2304000.00
4	Linear shaped Workstation (5'x2')	EA	29	11000.00	319000.00
5	Cabin Table L-shaped (5'x2.5'x2.5')	EA	34	17000.00	578000.00
6	Cabin Table L-shaped (6'x2.5'x2.5')	EA	1	22000.00	22000.00
7	Storage Unit	EA	160	8200.00	1312000.00
8	Pedestal units	EA	215	3805.00	818075.00
9	Conference room table 16 seater	EA	1	38000.00	38000.00
10	Carpentry work- stoarge Cabinets	Sqm	76	10100.00	767600.00
11	SS waiting chairs 03 seaters	EA	32	11900.00	380800.00
12	S/F in position - 8mm Privacy glass panel	Sqm	208	3700.00	769600.00
13	Sofa 3 Seater	EA	2	11700.00	23400.00
	Total				**84,90,775.000**
	Total(Including GST)				**1,00,19,114.500**
	Cost for 205 nos seating Spaces				**1,00,19,114.500**

Annexure -26.8

BOQ for Proposed Construction of Finance Excellence Centre Office at Bhubaneswar.

Sr. No.	Short Text	Total Qty	Rate	Total Amt
1	Earth work Excavation- (upto1.5m)	422.00	232.00	97904.00
2	Excavation in all types of hard rock	360.30	848.00	305534.40
3	Filling Available earth	780.00	300.00	234000.00
4	Applying residual petroleum bitumen	631.91	105.00	66350.55
5	Clearing vegetation	2500.00	8.90	22250.00
6	Pre Constructional Anti Termite	900.00	149.00	134100.00
7	CC 1:2:4 (coarse sand)-20mm	65.14	6235.00	406141.67
8	RCC 1:1:2 upto Plinth Level	400.00	7741.00	3096400.00
9	RCC 1:1:2 in Beams, suspended floors, roof	700.00	7950.00	5565000.00
10	Centring and Shuttering Foundations	282.96	240.00	67910.40
11	Centring and Shuttering (Lintels, etc)	3958.47	290.00	1147956.30
12	Centring and Shuttering (Columns, pillar	1228.88	420.00	516127.50
13	Steel reinforcement for R.C.C-upto plinth	19370.50	102.00	1975791.00
14	Steel reinforcement for R.C.C-above plinth	106872.00	108.00	11542176.00
15	B/W in CM 1:6 upto plinth	10.00	5450.00	54500.00
16	B/W in CM 1:6 in superstructure	395.68	5480.00	2168322.88
17	12 mm cement plaster(1:4)coarse sand	1737.01	238.00	413409.53
18	18 mm cement plaster(1:4)coarse sand	2312.72	272.00	629060.39
19	6MM Plastering	1934.85	230.00	445014.50
20	White cement putty 3.0kg/10sqm	3671.86	84.00	308436.28
21	Premium acrylic emulsion Paint-2 Coats	3671.86	96.00	352498.61
22	Premium Acrylic Smooth exterior paint wi	2313.00	129.00	298377.00
23	Vitrified tiles in floor with cement mor	2358.94	1235.00	2913288.00
24	Vitrified tiles in Skirting,Riser of ste	60.00	1204.00	72240.00
25	Non-skid ceramic tile	123.00	1057.00	130011.00
26	Ceramic Glazed Wall Tile-Designer	445.44	1057.00	470830.08
27	Single Half stall Urinal	12.00	6420.00	77040.00
28	European WC	15.00	2730.00	40950.00
29	PVC Flushing Cistern	15.00	1356.00	20340.00
30	Urinal partition glass Type	9.00	3200.00	28800.00
31	Wash Basin, Oval Type	21.00	5338.00	112098.00
32	Kitchen sink	3.00	3280.00	9840.00
33	Health Faucet	9.00	950.00	8550.00
34	CPVC pipe 20 mm Internal work	150.00	290.00	43500.00
35	CPVC pipe 25 mm External work	150.00	318.00	47700.00
36	Concealed bib cock 19mm	24.00	1488.00	35712.00
37	PVC Pipe 100mm	225.00	950.00	213750.00
38	S/I submersible pump-1.50HP	1.00	25600.00	25600.00
39	Starter-1.50HP	1.00	5000.00	5000.00
40	Soak Pit	1.00	22700.00	22700.00
41	Glazing in Aluminium works-8.0mm	37.50	1830.00	68625.00
42	Toughened glass door with 12mm thick	37.50	6910.00	259125.00
43	Powder coated Aluminium Work(fixed portion)	135.00	631.00	85185.00
44	Powder coated Aluminium Work(Shutters)	135.00	640.00	86400.00
45	River Sand	282.70	1480.00	418396.00
46	Sintex water tank	2000.00	14.30	28600.00
47	CC 1:1.5:3 (coarse sand)	35.34	6700.00	236778.00
48	Toughened glass door with 12mm thick	69.12	6910.00	477619.20
49	WPC solid door-Frame size 45 x 85 mm	85.95	725.00	62313.75
50	30 mm Flush Door Shutters	33.48	2645.00	88554.60
51	High pressure laminated sheet -1.00mm th	33.48	660.00	22096.80
52	Butt Hinges-125x65x2.12 mm	45.00	150.00	6750.00
53	MS Tower Bolts-150x10 mm	15.00	165.00	2475.00
54	WIRING:SHORT POINT(GroupA)	168.00	749.00	125832.00
55	WIRING:SHORT POINT(GroupB)	225.00	801.00	180225.00
56	Cu conducter-1X 1.5 Sqmm	1950.00	40.00	78000.00
57	Cu conducter-3X 2.5 Sqmm	1950.00	195.00	380250.00
58	Cu conducter-3X6 Sqmm	2400.00	311.00	746400.00
59	PVC CONDUIT: (25 mm)	5100.00	108.00	550800.00
60	S.P 5/6 amps, one way modular switch	270.00	77.00	20790.00
61	6 pin 15/16 amps, modular socket outlet	270.00	240.00	64800.00

Sr. No.	Short Text	Total Qty	Rate	Total Amt
62	INDUSTRIAL SOCKET OUTLETS (25/32A DPMCB)	90.00	780.00	70200.00
63	MCB-Single pole	90.00	275.00	24750.00
64	RCCB-63 amp	12.00	4500.00	54000.00
65	TP&N MCB distribution board-8way (4+24)	6.00	3350.00	20100.00
66	GI Pipe earthing	6.00	7500.00	45000.00
67	Exhaust fan of 305 mm dia heavy duty M.S body at 1400 RPM	12.00	2180.00	26160.00
68	Electrical main panel	1.50	50400.00	75600.00
69	1x 18 Watt LED wall light	180.00	950.00	171000.00
70	Providing and Fixing fan hook	45.00	215.78	9710.10
71	FAN REGULATOR	45.00	353.00	15885.00
72	Demolishing R.C.C.	212.51	2270.00	482395.43
73	Demolishing B/W	349.25	790.00	275905.13
74	Dismantling & taking out doors upto 3m2	25.00	154.00	3850.00
75	Dismantling Steelwork	5000.00	11.00	55000.00
76	Dismantling Asbestos/GI Roofing	74.55	70.00	5218.50
77	Disposal of building rubbish/malba	352.00	190.00	66880.00
78	Dismantling damaged wash basin/WC/Urinal	3.00	300.00	900.00
79	Demolishing CC-1:4:8	15.36	976.00	14992.82
80	Synthetic Enamel Paint (New work)	750.00	87.00	65250.00
81	stainless steel Railings	165.00	677.00	111705.00
82	Construction of granular sub-base: Grade-II	240.00	2914.00	699360.00
83	80mm Th Interlocking Paver Block	1600.00	780.00	1248000.00
84	S&I of RCC precast cwall (M-30 Grade)	200.00	5755.00	1151000.00
	Total			**42808087.41**
	Total(Including GST)			**50513543.14**

Annexure -26.9

BOQ for Proposed Construction of Commercial Excellence Centre Office at Bhubaneswar.

Sr. No.	Short Text	Total Qty	Rate	Total Amt
1	Earth work Excavation- (upto1.5m)	422.00	232.00	97904.00
2	Excavation in all types of hard rock	360.30	848.00	305534.40
3	Filling Available earth	780.00	300.00	234000.00
4	Applying residual petroleum bitumen	631.91	105.00	66350.55
5	Clearing vegetation	2500.00	8.90	22250.00
6	Pre Constructional Anti Termite	900.00	149.00	134100.00
7	CC 1:2:4 (coarse sand)-20mm	65.14	6235.00	406141.67
8	RCC 1:1:2 upto Plinth Level	400.00	7741.00	3096400.00
9	RCC 1:1:2 in Beams, suspended floors, roof	700.00	7950.00	5565000.00
10	Centring and Shuttering Foundations	282.96	240.00	67910.40
11	Centring and Shuttering (Lintels, etc)	3958.47	290.00	1147956.30
12	Centring and Shuttering (Columns, pillar	1228.88	420.00	516127.50
13	Steel reinforcement for R.C.C-upto plinth	19370.50	102.00	1975791.00
14	Steel reinforcement for R.C.C-above plinth	106872.00	108.00	11542176.00
15	B/W in CM 1:6 upto plinth	10.00	5450.00	54500.00
16	B/W in CM 1:6 in superstructure	395.68	5480.00	2168322.88
17	12 mm cement plaster(1:4)coarse sand	1737.01	238.00	413409.53
18	18 mm cement plaster(1:4)coarse sand	2312.72	272.00	629060.39
19	6MM Plastering	1934.85	230.00	445014.50
20	White cement putty 3.0kg/10sqm	3671.86	84.00	308436.28
21	Premium acrylic emulsion Paint-2 Coats	3671.86	96.00	352498.61
22	Premium Acrylic Smooth exterior paint wi	2313.00	129.00	298377.00
23	Vitrified tiles in floor with cement mor	2358.94	1235.00	2913288.00
24	Vitrified tiles in Skirting,Riser of ste	60.00	1204.00	72240.00
25	Non-skid ceramic tile	123.00	1057.00	130011.00
26	Ceramic Glazed Wall Tile-Designer	445.44	1057.00	470830.08
27	Single Half stall Urinal	12.00	6420.00	77040.00
28	European WC	15.00	2730.00	40950.00
29	PVC Flushing Cistern	15.00	1356.00	20340.00
30	Urinal partition glass Type	9.00	3200.00	28800.00
31	Wash Basin, Oval Type	21.00	5338.00	112098.00
32	Kitchen sink	3.00	3280.00	9840.00
33	Health Faucet	9.00	950.00	8550.00
34	CPVC pipe 20 mm Internal work	150.00	290.00	43500.00
35	CPVC pipe 25 mm External work	150.00	318.00	47700.00
36	Concealed bib cock 19mm	24.00	1488.00	35712.00
37	PVC Pipe 100mm	225.00	950.00	213750.00
38	S/I submersible pump-1.50HP	1.00	25600.00	25600.00
39	Starter-1.50HP	1.00	5000.00	5000.00
40	Soak Pit	1.00	22700.00	22700.00
41	Glazing in Aluminium works-8.0mm	37.50	1830.00	68625.00
42	Toughened glass door with 12mm thick	37.50	6910.00	259125.00
43	Powder coated Aluminium Work(fixed portion)	135.00	631.00	85185.00
44	Powder coated Aluminium Work(Shutters)	135.00	640.00	86400.00
45	River Sand	282.70	1480.00	418396.00
46	Sintex water tank	2000.00	14.30	28600.00
47	CC 1:1.5:3 (coarse sand)	35.34	6700.00	236778.00
48	Toughened glass door with 12mm thick	69.12	6910.00	477619.20
49	WPC solid door-Frame size 45 x 85 mm	85.95	725.00	62313.75
50	30 mm Flush Door Shutters	33.48	2645.00	88554.60
51	High pressure laminated sheet -1.00mm th	33.48	660.00	22096.80
52	Butt Hinges-125x65x2.12 mm	45.00	150.00	6750.00
53	MS Tower Bolts-150x10 mm	15.00	165.00	2475.00
54	WIRING:SHORT POINT(GroupA)	168.00	749.00	125832.00
55	WIRING:SHORT POINT(GroupB)	225.00	801.00	180225.00
56	Cu conducter-1X 1.5 Sqmm	1950.00	40.00	78000.00
57	Cu conducter-3X 2.5 Sqmm	1950.00	195.00	380250.00
58	Cu conducter-3X6 Sqmm	2400.00	311.00	746400.00
59	PVC CONDUIT: (25 mm)	5100.00	108.00	550800.00
60	S.P 5/6 amps, one way modular switch	270.00	77.00	20790.00
61	6 pin 15/16 amps, modular socket outlet	270.00	240.00	64800.00
62	INDUSTRIAL SOCKET OUTLETS (25/32A DPMCB)	90.00	780.00	70200.00

Sr. No.	Short Text	Total Qty	Rate	Total Amt
63	MCB-Single pole	90.00	275.00	24750.00
64	RCCB-63 amp	12.00	4500.00	54000.00
65	TP&N MCB distribution board-8way (4+24)	6.00	3350.00	20100.00
66	GI Pipe earthing	6.00	7500.00	45000.00
67	Exhaust fan of 305 mm dia heavy duty M.S body at 1400 RPM	12.00	2180.00	26160.00
68	Electrical main panel	1.50	50400.00	75600.00
69	1x 18 Watt LED wall light	180.00	950.00	171000.00
70	Providing and Fixing fan hook	45.00	215.78	9710.10
71	FAN REGULATOR	45.00	353.00	15885.00
72	Demolishing R.C.C.	212.51	2270.00	482395.43
73	Demolishing B/W	349.25	790.00	275905.13
74	Dismantling & taking out doors upto 3m2	25.00	154.00	3850.00
75	Dismantling Steelwork	5000.00	11.00	55000.00
76	Dismantling Asbestos/GI Roofing	74.55	70.00	5218.50
77	Disposal of building rubbish/malba	352.00	190.00	66880.00
78	Dismantling damaged wash basin/WC/Urinal	3.00	300.00	900.00
79	Demolishing CC-1:4:8	15.36	976.00	14992.82
80	Synthetic Enamel Paint (New work)	750.00	87.00	65250.00
81	stainless steel Railings	165.00	677.00	111705.00
82	Construction of granular sub-base: Grade-II	240.00	2914.00	699360.00
83	80mm Th Interlocking Paver Block	1600.00	780.00	1248000.00
84	S&I of RCC precast cwall (M-30 Grade)	200.00	5755.00	1151000.00
	Total			**42808087.41**
	Total(Including GST)			**50513543.14**

Annexure -26.10

BOQ for Proposed Construction of Integrated Call Centre Office at Bhubaneswar.(Annexure-10)

Sr. No.	Short Text	Total Qty	Rate	Total Amt
1	Earth work Excavation- (upto1.5m)	422.00	232.00	97904.00
2	Excavation in all types of hard rock	360.30	848.00	305534.40
3	Filling Available earth	780.00	300.00	234000.00
4	Applying residual petroleum bitumen	631.91	105.00	66350.55
5	Clearing vegetation	2500.00	8.90	22250.00
6	Pre Constructional Anti Termite	900.00	149.00	134100.00
7	CC 1:2:4 (coarse sand)-20mm	65.14	6235.00	406141.67
8	RCC 1:1:2 upto Plinth Level	400.00	7741.00	3096400.00
9	RCC 1:1:2 in Beams, suspended floors, roof	700.00	7950.00	5565000.00
10	Centring and Shuttering Foundations	282.96	240.00	67910.40
11	Centring and Shuttering (Lintels, etc)	3958.47	290.00	1147956.30
12	Centring and Shuttering (Columns, pillar	1228.88	420.00	516127.50
13	Steel reinforcement for R.C.C-upto plinth	19370.50	102.00	1975791.00
14	Steel reinforcement for R.C.C-above plinth	106872.00	108.00	11542176.00
15	B/W in CM 1:6 upto plinth	10.00	5450.00	54500.00
16	B/W in CM 1:6 in superstructure	395.68	5480.00	2168322.88
17	12 mm cement plaster(1:4)coarse sand	1737.01	238.00	413409.53
18	18 mm cement plaster(1:4)coarse sand	2312.72	272.00	629060.39
19	6MM Plastering	1934.85	230.00	445014.50
20	White cement putty 3.0kg/10sqm	3671.86	84.00	308436.28
21	Premium acrylic emulsion Paint-2 Coats	3671.86	96.00	352498.61
22	Premium Acrylic Smooth exterior paint wi	2313.00	129.00	298377.00
23	Vitrified tiles in floor with cement mor	2358.94	1235.00	2913288.00
24	Vitrified tiles in Skirting,Riser of ste	60.00	1204.00	72240.00
25	Non-skid ceramic tile	123.00	1057.00	130011.00
26	Ceramic Glazed Wall Tile-Designer	445.44	1057.00	470830.08
27	Single Half stall Urinal	12.00	6420.00	77040.00
28	European WC	15.00	2730.00	40950.00
29	PVC Flushing Cistern	15.00	1356.00	20340.00
30	Urinal partition glass Type	9.00	3200.00	28800.00
31	Wash Basin, Oval Type	21.00	5338.00	112098.00
32	Kitchen sink	3.00	3280.00	9840.00
33	Health Faucet	9.00	950.00	8550.00
34	CPVC pipe 20 mm Internal work	150.00	290.00	43500.00
35	CPVC pipe 25 mm External work	150.00	318.00	47700.00
36	Concealed bib cock 19mm	24.00	1488.00	35712.00
37	PVC Pipe 100mm	225.00	950.00	213750.00
38	S/I submersible pump-1.50HP	1.00	25600.00	25600.00
39	Starter-1.50HP	1.00	5000.00	5000.00
40	Soak Pit	1.00	22700.00	22700.00
41	Glazing in Aluminium works-8.0mm	37.50	1830.00	68625.00
42	Toughened glass door with 12mm thick	37.50	6910.00	259125.00
43	Powder coated Aluminium Work(fixed portion)	135.00	631.00	85185.00
44	Powder coated Aluminium Work(Shutters)	135.00	640.00	86400.00
45	River Sand	282.70	1480.00	418396.00
46	Sintex water tank	2000.00	14.30	28600.00
47	CC 1:1.5:3 (coarse sand)	35.34	6700.00	236778.00
48	Toughened glass door with 12mm thick	69.12	6910.00	477619.20
49	WPC solid door-Frame size 45 x 85 mm	85.95	725.00	62313.75
50	30 mm Flush Door Shutters	33.48	2645.00	88554.60
51	High pressure laminated sheet -1.00mm th	33.48	660.00	22096.80
52	Butt Hinges-125x65x2.12 mm	45.00	150.00	6750.00
53	MS Tower Bolts-150x10 mm	15.00	165.00	2475.00
54	WIRING:SHORT POINT(GroupA)	168.00	749.00	125832.00
55	WIRING:SHORT POINT(GroupB)	225.00	801.00	180225.00
56	Cu conducter-1X 1.5 Sqmm	1950.00	40.00	78000.00
57	Cu conducter-3X 2.5 Sqmm	1950.00	195.00	380250.00
58	Cu conducter-3X6 Sqmm	2400.00	311.00	746400.00
59	PVC CONDUIT: (25 mm)	5100.00	108.00	550800.00
60	S.P 5/6 amps, one way modular switch	270.00	77.00	20790.00
61	6 pin 15/16 amps, modular socket outlet	270.00	240.00	64800.00
62	INDUSTRIAL SOCKET OUTLETS (25/32A DPMCB)	90.00	780.00	70200.00

Sr. No.	Short Text	Total Qty	Rate	Total Amt
63	MCB-Single pole	90.00	275.00	24750.00
64	RCCB-63 amp	12.00	4500.00	54000.00
65	TP&N MCB distribution board-8way (4+24)	6.00	3350.00	20100.00
66	GI Pipe earthing	6.00	7500.00	45000.00
67	Exhaust fan of 305 mm dia heavy duty M.S body at 1400 RPM	12.00	2180.00	26160.00
68	Electrical main panel	1.50	50400.00	75600.00
69	1x 18 Watt LED wall light	180.00	950.00	171000.00
70	Providing and Fixing fan hook	45.00	215.78	9710.10
71	FAN REGULATOR	45.00	353.00	15885.00
72	Demolishing R.C.C.	212.51	2270.00	482395.43
73	Demolishing B/W	349.25	790.00	275905.13
74	Dismantling & taking out doors upto 3m2	25.00	154.00	3850.00
75	Dismantling Steelwork	5000.00	11.00	55000.00
76	Dismantling Asbestos/GI Roofing	74.55	70.00	5218.50
77	Disposal of building rubbish/malba	352.00	190.00	66880.00
78	Dismantling damaged wash basin/WC/Urinal	3.00	300.00	900.00
79	Demolishing CC-1:4:8	15.36	976.00	14992.82
80	Synthetic Enamel Paint (New work)	750.00	87.00	65250.00
81	stainless steel Railings	165.00	677.00	111705.00
82	Construction of granular sub-base: Grade-II	240.00	2914.00	699360.00
83	80mm Th Interlocking Paver Block	1600.00	780.00	1248000.00
84	S&I of RCC precast cwall (M-30 Grade)	200.00	5755.00	1151000.00
	Total			**42808087.41**
	Total(Including GST)			**50513543.14**

Annexure- 27

ABSTRACT OF ESTIMATE		
CONSTRUCTION OF PROPOSED TPCODL RESIDENTIAL TRAINING		
	DESCRIPTION	**AMOUNT**
A	**CIVIL WORK**	
A.1	*CIVIL & STRUCTURE*	Rs. 18,99,18,002.54
A.2	*COVERED DRAIN*	Rs. 35,66,525.24
A.3	*PLINTH PROTECTION*	Rs. 8,98,139.43
A.4	*FIRE DOOR*	Rs. 82,55,000.00
	TOTAL CIVIL WORK	**Rs. 20,26,37,667.20**
B	**PH WORK**	
B.1	*WATER SUPPLY & SANITARY WORKS*	Rs. 95,17,104.79
B.2	*BORE WELL - 1NOS*	Rs. 3,82,289.00
B.3	*STP 30KLD*	Rs. 17,00,000.00
	TOTAL PH WORK	**Rs. 1,15,99,393.79**
C	**ELECTRICAL WORK**	
C.1	*INTERNAL ELECTRIFICATION WORK*	Rs. 1,84,36,296.43
C.2	*15 PASSENGER LIFT (2 NOS)*	Rs. 37,00,000.00
C.3	*FIRE FIGHTING SYSTEM*	Rs. 1,20,93,075.00
C.4	AV (AUDIO VISUAL)SOLUCTION(CONFERENCE,60 & 120 SEATED TRAINING CENTER)	Rs. 1,06,28,554.64
C.5	*CCTV & DATA NETWORK*	Rs. 19,99,090.00
C.6	*HVAC SYSTEM(236 HP)*	Rs. 1,65,61,380.00
C.7	*ON GRID SOLAR SYSTEM 25KW*	Rs. 14,22,625.36
C.8	*TRANSFORMER 500 KVA*	Rs. 25,00,000.00
C.9	*250 KVA (2 X 125 KVA DG) OPTPRIME DG SET*	Rs. 25,00,000.00
C.10	*EXTERNAL ILLUMINIOUS LIGHT*	Rs. 17,17,287.53
	TOTAL ELECTRICAL WORK	**Rs. 7,15,58,308.97**
D	**GRAND TOTAL A+B+C**	**Rs. 28,57,95,369.95**
E	**Contigency 1% on D**	**Rs. 28,57,953.70**
F	**ADD GST @18% on D+E**	**Rs. 5,19,57,598.26**
	Total Construction Cost	**Rs. 34,06,10,921.91**
	Architectural Consultancy	**Rs. 87,75,000.00**
	Final Cost	**Rs. 34,93,85,921.91**
	SAY	**35 Cr**
	RUPEES THIRTY FIVE CRORE ONLY	

Part- II

(Annexures- 6,12,15,22)

ANNEXURE-6

Feeder Loss Reduction Proposals

Summary of Proposal Details for Feeder Loss Reduction								
Sl. No	***Circle***	***Division***	***GSS Name***	***33kV Feeder Name***	***Proposals***	***Estimated Cost (In Cr)***	***Loss Saving with LLF***	***Annexure***
1	BBSR-I	NED	Upcoming Nua Betanda GSS	Proposed Betanda Feeder and Astaranga feeder	Proposal for construction of 2 Nos. 33 kV Feeders from Upcoming OPTCL Betanda GSS to Betenda PSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement	₹ 2.94	709.30	Annexure-6.1
2	BBSR-I	BCDD-2	Nayapalli	Nayapalli-3 Feeder	Construction of New 33 kV AIS Switchgear Panel at Nayapalli PSS along with AIS Panel Board and New Underground Feeders for Interconnection of ESIC PSS and RRL PSS.	₹ 6.14	71.26	Annexure-6.2
3	BBSR-II	KHD	Upcoming Hatabasta	Proposed Hatabasta Feeder	Proposal for construction of a New 33 kV Feeder from Upcoming OPTCL Hatabasta GSS to Binodpada for Power Evacuation, Ring Connectivity, Technical Loss Reduction, and Network Reliability Improvement	₹ 6.23	392.71	Annexure-6.3
4	CTC	CED	Upcoming Nua Betanda GSS	Proposed Kulakapasi Feeder	Proposal for construction of 1No 33 kV Feeders from Upcoming OPTCL Betanda GSS to Kulakapasi PSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement	₹ 4.15	368.14	Annexure-6.4
5	DKL	ANED	Upcoming Chhendipada	Proposed Chhendipada Feeder	Proposal for construction of 1No 33 kV Feeders from Upcoming OPTCL Chhendipada GSS to Chhendipada PSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement	₹ 5.54	555.68	Annexure-6.5
Total						**₹ 25.00**	**2097.09**	

1.0 Proposal for technical loss reduction of 33kV Kakatpur Feeder and 33kV Bangurigaon feeder

Proposal:

Proposal for construction of 2 Nos. 33 kV Feeders from Upcoming OPTCL Betanda GSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement

Requirement/ Need of the proposal:

Objective:

To ensure network loss reduction, through length reduction and load bifurcation of 33kV Kakatpur feeder.

Existing Scenario:

- At present, 33kV Kakatpur feeder is emanating from Dighalo GSS and feeding power to Charichhaka, Jogeswarpur, Kakatpur, Astaranga, Patalda and Betanda PSS. The feeder having length of 57Ckm with conductor size of 232/100 sq.mm and the peak load demand at summer'26 is 23.77MVA.
- The Feeder is interlinked with 33kV Bangurigaon Feeder emanating from Konark GSS at Kakatpur PSS.
- 33kV Kakatpur feeder is lengthy, considering present scenario the feeder is overload and the voltage experienced at some PSS is below the permissible limit of -9% of 33kV i.e.; 30.03kV.
- With 2Yrs load growth @13% per each year the feeder will be overloaded.
- Since the feeder is having optimally loaded and having higher the feeder is facing low voltage issue at tail end as well as high technical losses.

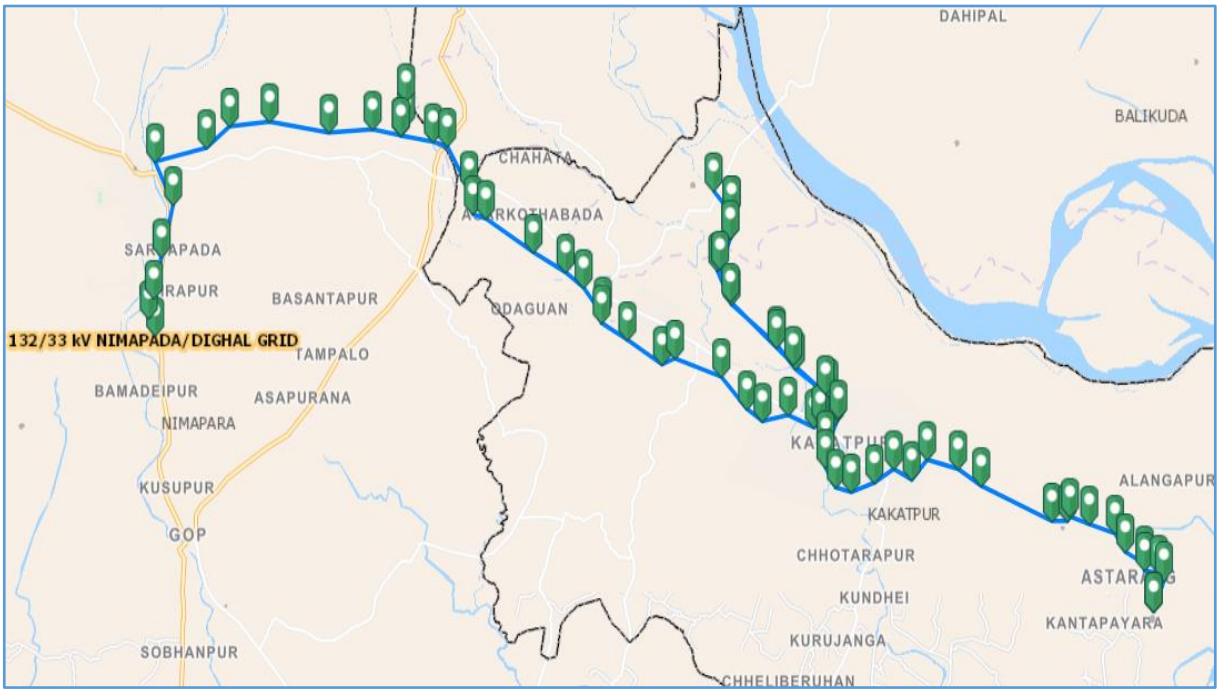
Existing Summer'26 Loading and projected load at 33kV Feeder:

Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**	**Loss Summer'28 (kW)**
Dighalo	Kakatpur	26.51	23.80	90%	OK	29	109%	Overload	3316
Konark	Bangurigaon	17.49	8.50	49%	OK	10	59%	OK	718
Total Loss (kW)									**4034**

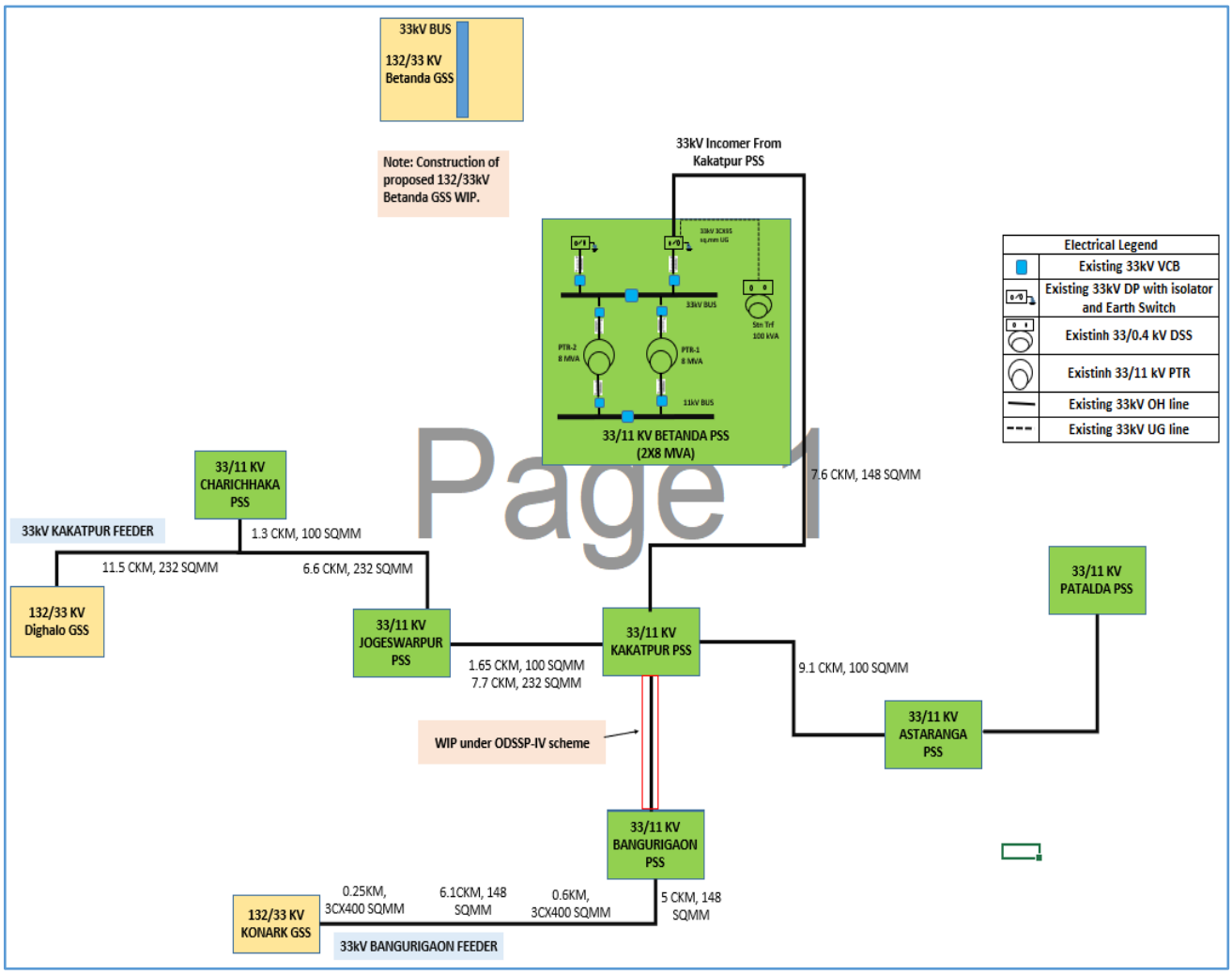
Existing Summer'26 voltage and projected voltage at PSS end:

33/11kV PSS Name	Voltage in kV in Summer '26	Projected Voltage with 2YR LG in kV in Summer '28 (Before Proposal)
Kakatpur	27.5	26.5
Betanda	29.6	28.6
Astarang	28.5	28
Patalda	28.4	27.8

GIS Map:

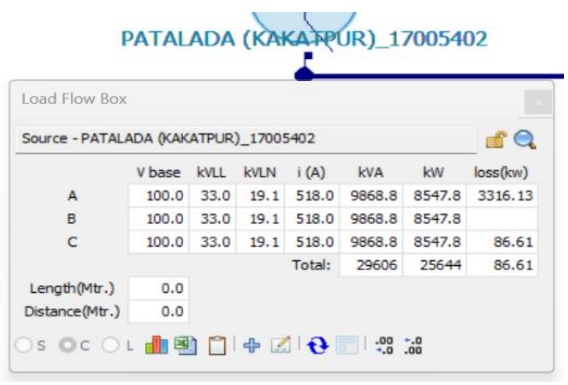


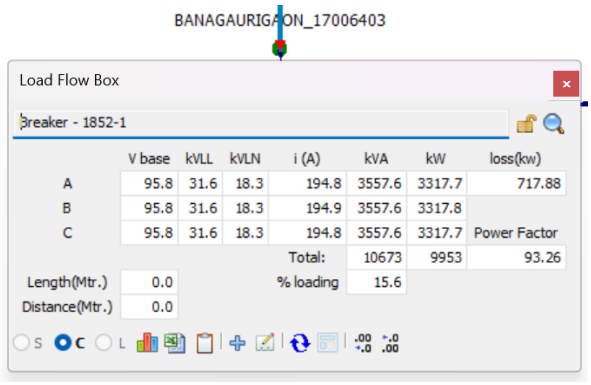
Existing SLD:



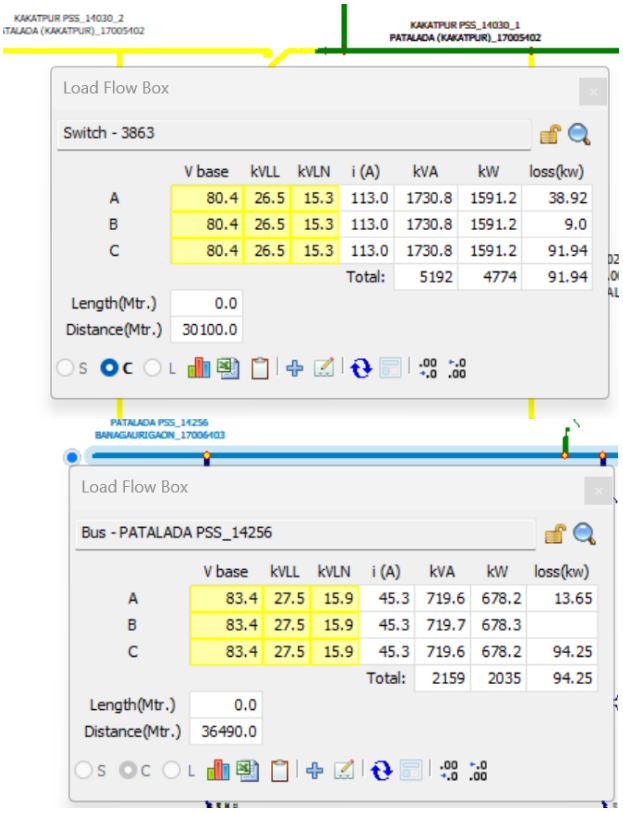
Load flow details with 2YR load growth without proposal:

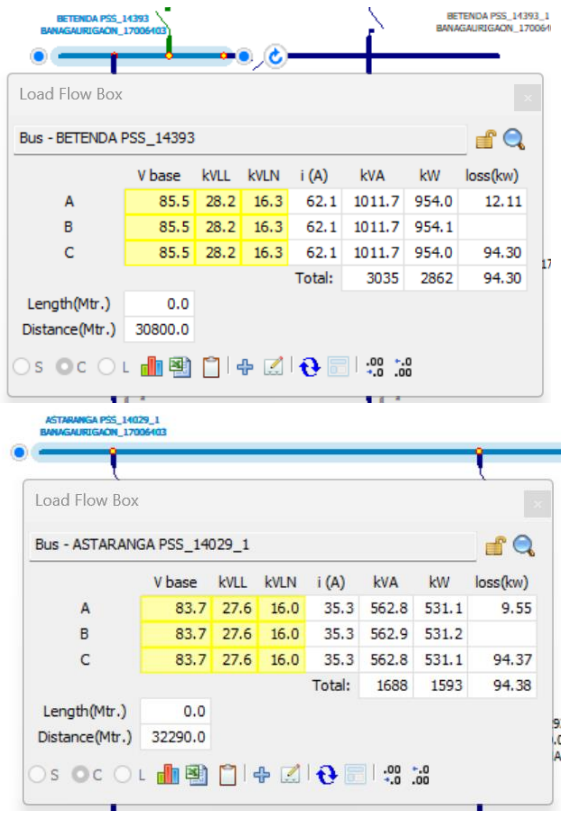
Loading details at GSS end:





Voltage details at PSS end:





Priority and Timeline of the Project:

Priority: Since at present, the 33kV Kakatpur feeder emanating from Dighalo GSS are serving 47050nos. consumers through existing network , frequent faults are being observed due to feeder lengthy and passes through dense vegetation , affecting the reliability of power supply. The no. of tripping's during the last year was 104 nos. In the absence of reliability enhancement measures, consumers connected

to the feeder will continue to face frequent and prolonged power supply interruptions. Moreover, the feeder is also facing severe low voltage issue and high technical losses due to lengthy.

Proposed Scenario:

- New 2 nos. 33kV feeders is proposed from upcoming Betanda GSS to Betanda PSS, to evacuate power from upcoming Betanda GSS.
- Proposed 33kV New Betanda feeder emanating from OPTCL Betanda GSS will feed Betanda PSS and 33kV Astaranga Feeder will feed Astaranga and Patalda PSS.
- Betanda PSS will have dual sources.

Proposed loading in Summer'28 after execution of proposals:

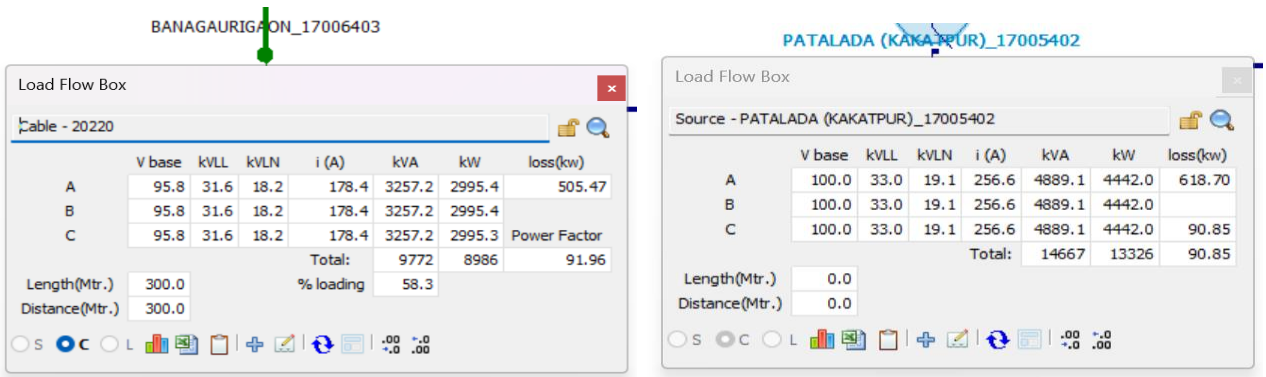
Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'27 (kW)**
Dighalo	Kakatpur	26.51	14.00	53%	OK	619
Konark	Bangurigaon	17.49	9.00	51%	OK	506
Betanda	Betanda	17.49	3.00	17%	OK	13
Betanda	Astarang	17.49	14.00	80%	OK	846
Total Loss (kW)						**1984**

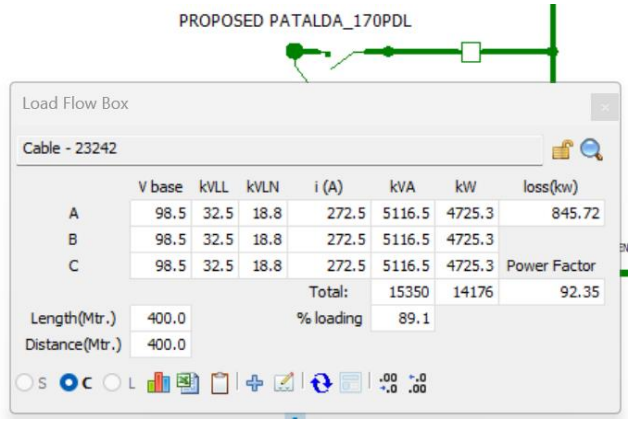
Proposed Voltage at the PSS end after execution of proposal in Summer'28 with 2YR LG

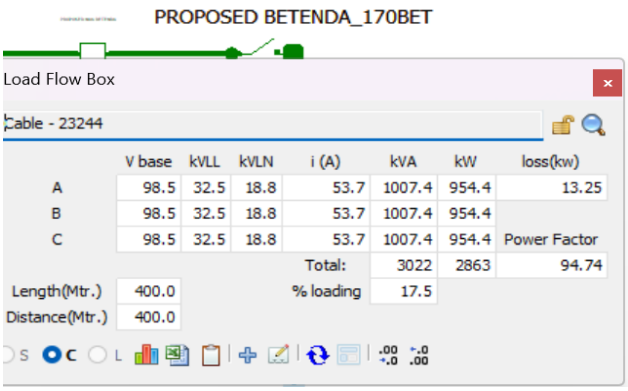
33/11kV PSS Name	Projected Voltage with 2YR LG in kV in Summer '28 (After Proposal)
Kakatpur	31
Betanda	32.5
Astarang	29.8
Patalda	29.6

Load flow details with 2YR load growth with proposal:

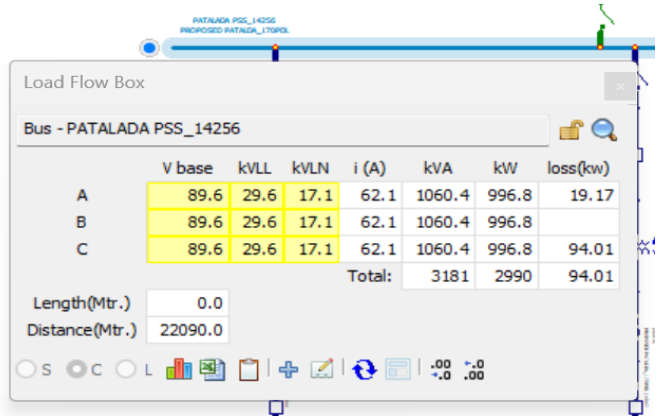
Loading details at GSS end:

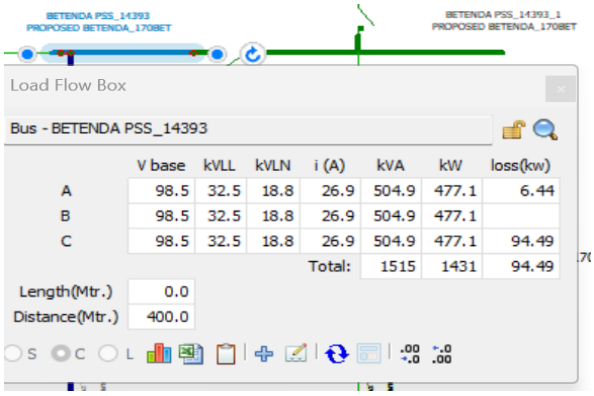


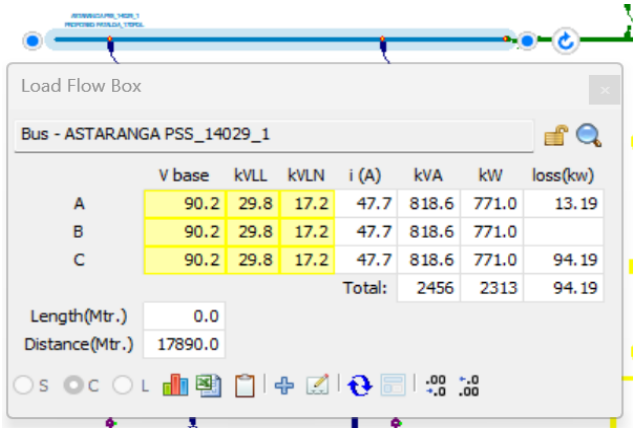


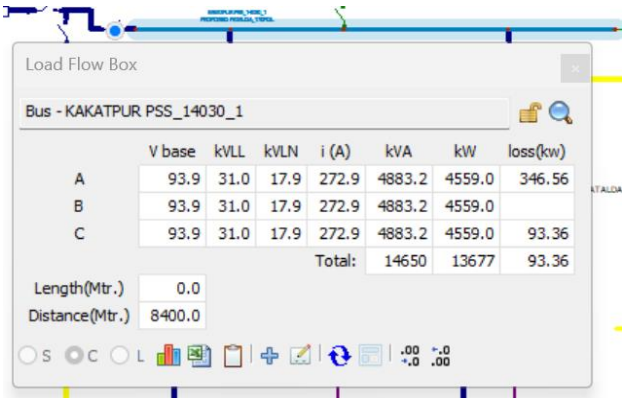


<u>Voltage details at PSS end after execution of proposal:</u>

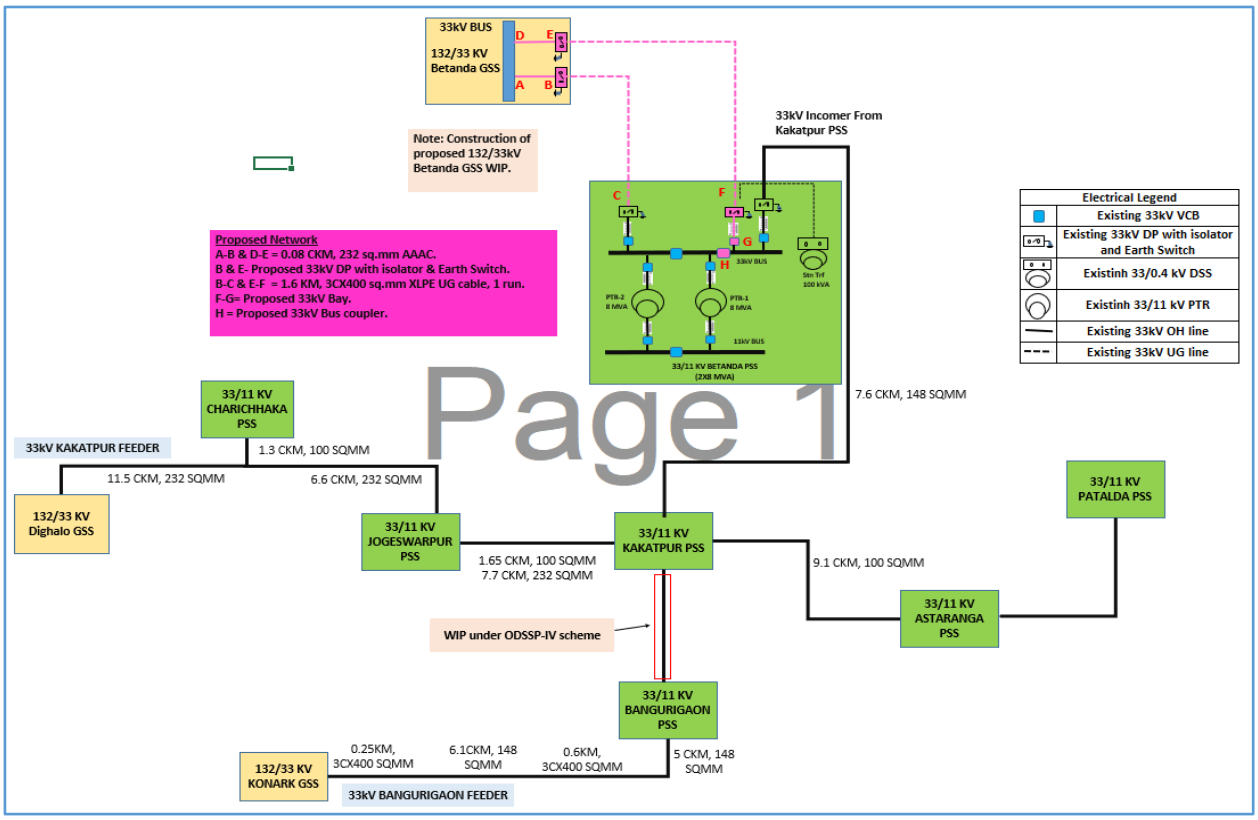








Proposed SLD:



Page 1

Scope of Work:

1. Laying of 2Nos. 33kV feeder from OPTCL Betanda GSS to Betanda PSS.
2. Construction of 2 Nos. 33kV indoor bay along with necessary accessories at Betanda PSS.
3. Supply & laying of 33kV,3CX400 Sq.mm. XLPE U/G cable- 1.6km for 2 nos. of feeders.

Proposed Cost with Estimate Break-up:

ANNEXURE- 6.1			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
	Name of the Division :-	**NED**	
	Name of the Sub-Division : -	Kakatpur	
	Name of the Work :-	Construction of 2 Nos. New 33kV feeder for power evacuation from proposed Betanda GSS.	
	Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 3Nos. 33kV DP with Isolator & earth switch.	₹ 21,01,912.10
2	B	PART B: Supply & laying of 33kV, 3CX400 sq.mm XLPE UG Cable length = 1.6 kM without spare run.	₹ 1,89,95,290.83
3	C	PPART C: Extension of 33kV Bay using buscoupler & construction of one new 33kV Bay.	₹ 76,46,977.05

4	D	PART D: Supply & Laying of 33kV 1CX400 sq.mm XLPE UG Cable of length = 0.08 kM , 3 Run.	₹ 6,85,007.06
		Total Amount	**₹ 2,94,29,187.04**
		Total Amount (In Cr)	**2.94**
Total estimated cost is Rs. 2.94 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹2.94Cr. (For detailed BoQ refer Annexure-6.1)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	2.94	RS Cr
B	Additional load due to load growth	-	7700.00	kVA
C	Total kW due to load growth	BXPF(power factor)	7315.00	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	6407940	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	1.53	RS Cr
I	Revenue owing to tech. loss reduction	From Technical Loss Calculation	2.21	RS Cr
J	Net Revenue Collected	H+I	3.74	RS Cr
K	% revenue return	(J/A)X100	127.0	%
L	Pay Back Period	100/K	0.79	Years

Benefit to the system and consumers:

- Reduction in feeder length and technical loss of 33kV network.
- Improve the voltage profile of the 33kV network.
- Enable ring connectivity with N-1 for 33 Kakatpur feeder.
- Ensure reliable & safe power supply to the consumers of Betanda and Kakatpur Area.
- Avg. technical loss savings after execution of this proposal will be 709 kW.

2.0 Proposal for Loss reduction of Nayapalli Area and Mitigation of load from 33kv Xavier-Nayapalli feeders and 33kV Nayapalli-1,2,3 feeder

Proposal:

Construction of New 33 kV AIS Switchgear Panel at Nayapally PSS along with AIS Panel Board and New Underground Feeders for Interconnection of ESIC PSS and RRL PSS.

Requirement/ Need of the proposal:

Objective:

To enable reliable power supply by providing second source connectivity with underground cable and power supply from other GSS to BBSR City Urban Area.

Existing Scenario:

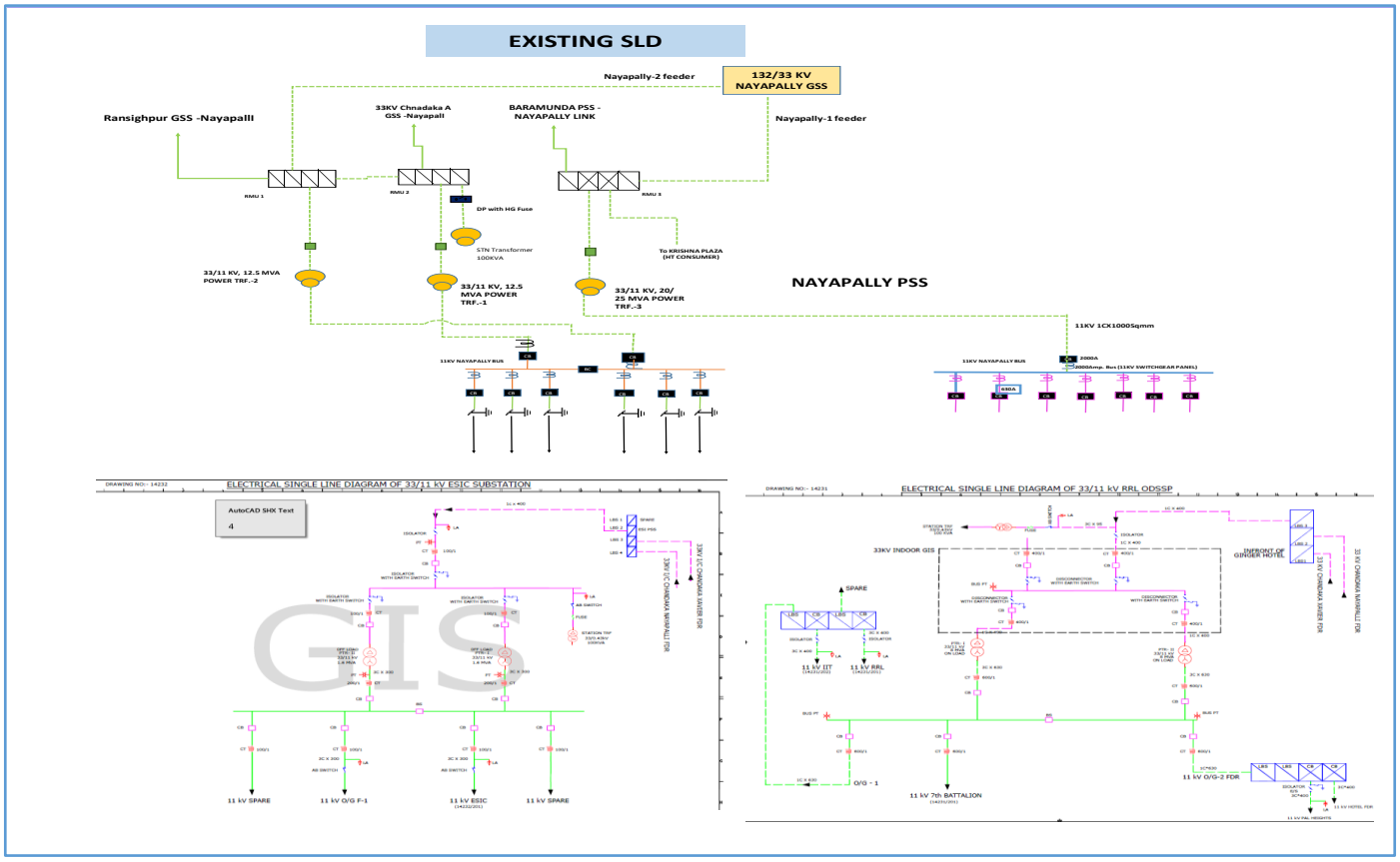
- At present, Nayapally PSS is getting power supply from 3 different OPTCL grids i.e., Ransinghpur , Chandaka-A and Nayapalli GSS through 5 different feeders i.e., Ranasinghpur – Nayapalli feeder, Chandaka- Nayapally feeder, Nayapally -1 and Nayapally-2 feeder and Link line of Nayapally - Baramunda. The O/H network is not reliable during inclined whether like Kalbaisakhi and cyclone.
- 33 kV bay are proposed from Nayapalli GSS; however, no additional 33 kV bay is available at the existing Nayapalli GSS for accommodating the proposed feeder. However, no spare/additional 33 kV bay is presently available at Nayapalli GSS, and due to space constraints within the existing GSS premises, construction of a new additional 33 kV bay is not feasible. The existing arrangement therefore limits the provision of additional 33 kV feeder connectivity and associated protection infrastructure from the GSS.
- At present, the 33 kV feeder at Nayapalli PSS is protected through existing 33 kV RMU arrangement. In view of the constraints at Nayapalli GSS and the requirement for a reliable and comprehensive protection arrangement for the 33 kV feeder, it is proposed to replace the existing 33 kV RMU with a new 33 kV Indoor AIS Switchgear Panel at Nayapalli PSS, equipped with a breaker and Protection Relay.
- While this arrangement serves immediate operational requirements, it is not a sustainable long-term solution for a strategically important urban substation catering to critical loads and major public events.
- 33/11kV ESIC PSS is getting supply from 33kv Nayapally and Xavier feeder emanating from Chandaka-A grid. The Nayapally and Xavier feeders are running on same NBLS Tower. During maintenance on either feeder, supply is hampered to ESIC PSS as both circuits needed to be shut down. The ESIC being critical hospital remains without supply during maintenance in NBLS towers.

- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- During any breakdown of feeder, the PSS shuts down thereby power failure to all the consumers on the feeder.
- 33 kV bay are proposed from Nayapalli GSS; however, no additional 33 kV bay is available at the existing Nayapalli GSS for accommodating the proposed feeder. However, no spare/additional 33 kV bay is presently available at Nayapalli GSS, and due to space constraints within the existing GSS premises, construction of a new additional 33 kV bay is not feasible. The existing arrangement therefore limits the provision of additional 33 kV feeder connectivity and associated protection infrastructure from the GSS.

Existing Summer'26 Loading and projected load at 33kV Nimapada Feeder:

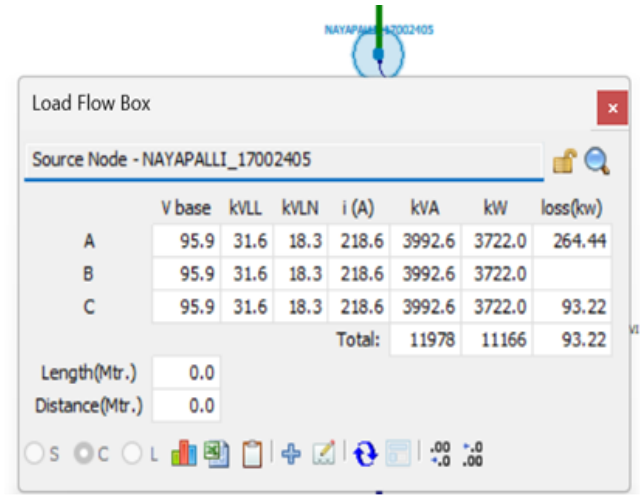
Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'27**	**Loss Summer'28 (kW)**
Chandaka	Nayapalli	26.64	8.70	33%	OK	11.00	41%	OK	265
Nayapally	Nayapalli-1	25.71	18.30	71%	OK	24.20	94%	OK	178
Nayapally	Nayapalli-2	25.71	10.70	42%	OK	14.15	55%	OK	90
Nayapally	Nayapalli-3	25.71	0.00	0%	OK	3.60	14%	OK	1
Nayapally	Baramunda U/G	25.71	16.00	62%	OK	21.16	82%	OK	476
Total Loss (kW)									**1010**

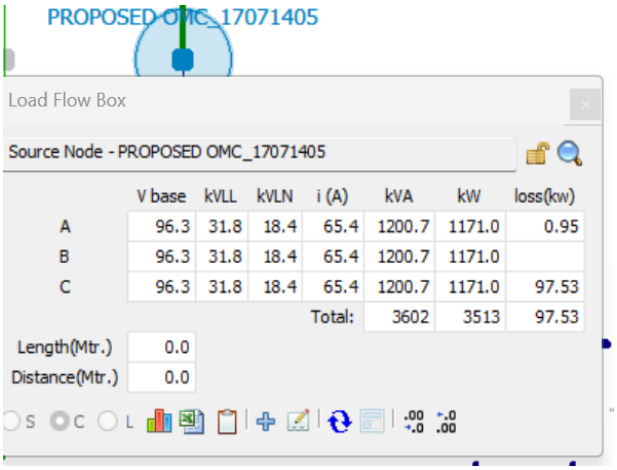
Existing SLD:

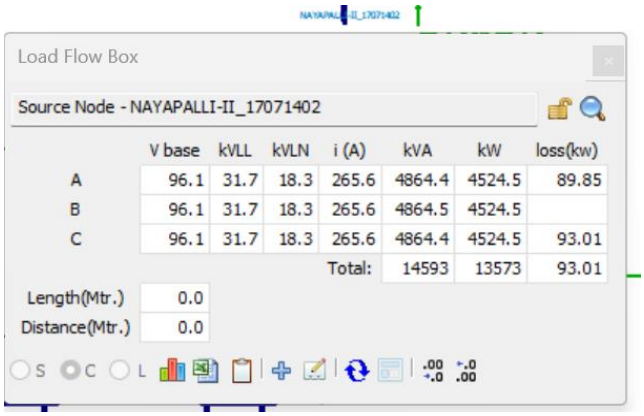


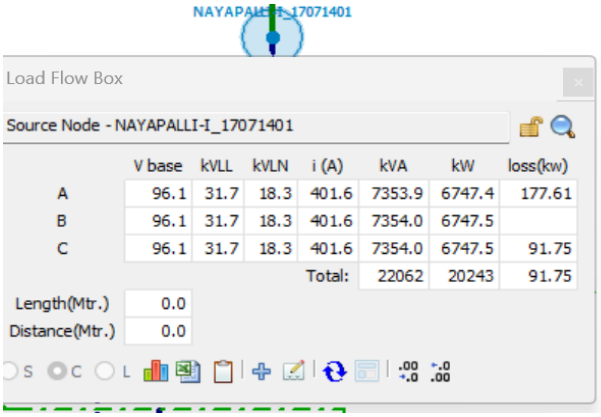
Load flow details with 2YR load growth without Proposal:

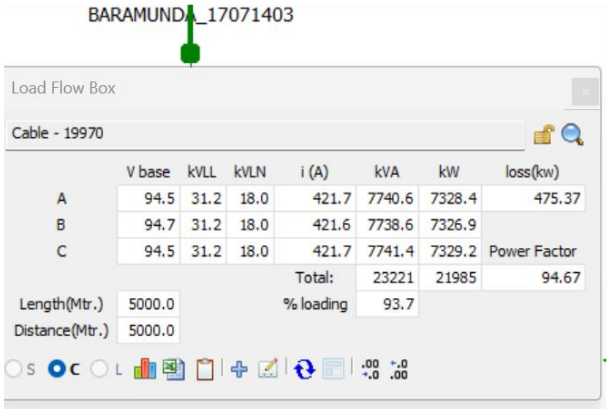
Loading details at GSS end:











Priority and Timeline of the Project:

Priority: Since at present, the 33kV feeders emanating from Nayapally GSS are serving 22093 nos. consumers through existing network having mixed conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of tripping's during the last year was 179 nos. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions. In existing scenario RRL & ESIC PSS are getting

power supply from 33 kV Xavier & Nayapalli feeder. Both these feeders are constructed on single NBLS tower with double circuit arrangement. In case of any fault on any of the line both the feeder shutdown is required to address the defect. To address this challenge one 33 kV feeder is proposed from Nayapalli PSS to RRL PSS via ESIC to maintain uninterrupted and reliable power supply.

Proposed Scenario:

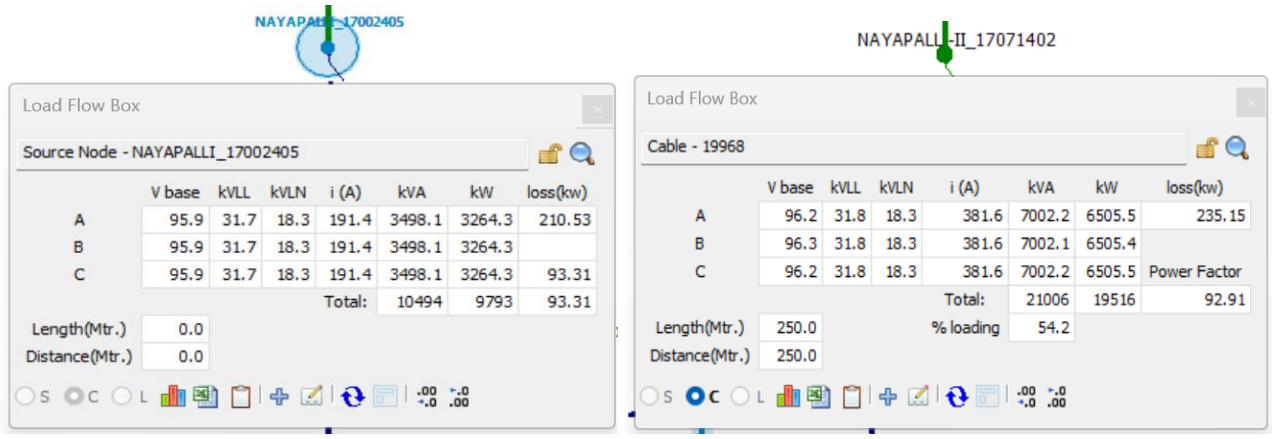
The proposed Indoor AIS Switchgear Panel will provide enhanced and selective protection, improved protection coordination, reliable fault isolation, greater operational flexibility, and ease of maintenance compared to the existing RMU arrangement. Further, the numerical protection system will facilitate advanced monitoring, event and fault recording, flexibility in protection settings, and future SCADA integration. The proposed arrangement will therefore improve the overall safety, reliability, maintainability, and operational performance of the 33 kV distribution network. Existing 33 kV Nayapalli-1 & 2 feeders will be augmented from 630 Sq.mm. to 1000 Sq.mm. cable to cater the future load growth in Nayapalli area. Apart to augmentation of these feeders one additional feeder is proposed from Nayapalli GSS to Nayapalli PSS.

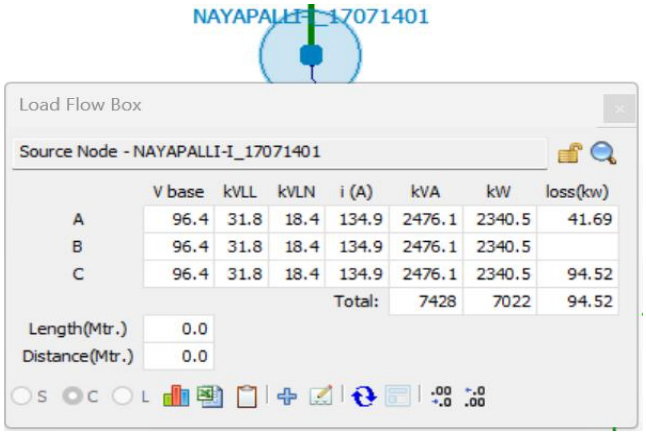
Proposed loading in Summer'28 after execution of proposals:

Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'27 (kW)**
Chandaka	Nayapalli	26.64	10.00	38%	OK	211
Nayapally	Nayapalli-1	40.23	8.00	20%	OK	42
Nayapally	Nayapalli-2	40.23	21.00	52%	OK	235
Nayapally	Nayapally-3	40.23	25.60	64%	OK	179
Nayapally	Baramunda U/G	25.71	10.50	41%	OK	137
Total Loss (kW)						**804**

Load flow details with 2YR load growth with Proposal:

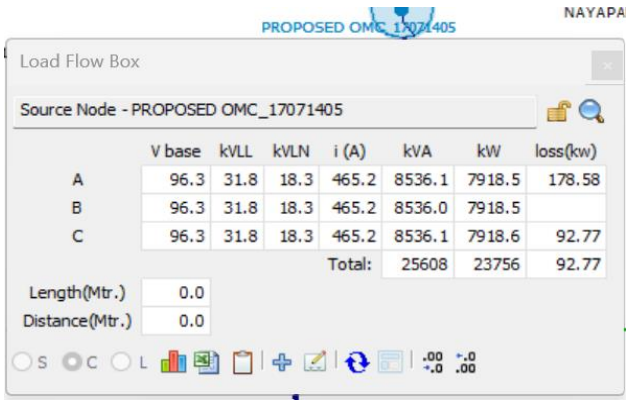
Loading details at GSS end:





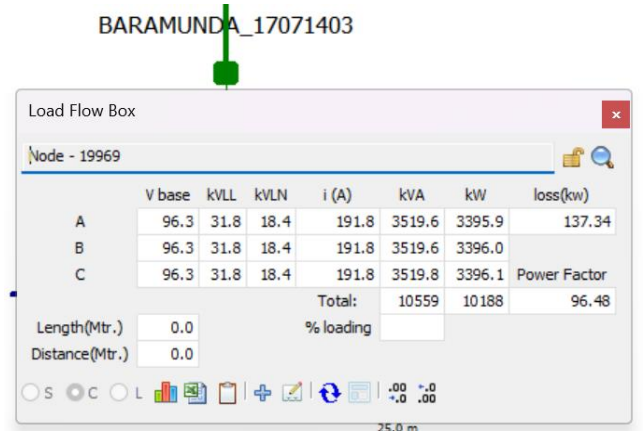
	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	96.4	31.8	18.4	134.9	2476.1	2340.5	41.69
B	96.4	31.8	18.4	134.9	2476.1	2340.5	
C	96.4	31.8	18.4	134.9	2476.1	2340.5	94.52
				Total:	7428	7022	94.52

Length(Mtr.)	0.0
Distance(Mtr.)	0.0



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	96.3	31.8	18.3	465.2	8536.1	7918.5	178.58
B	96.3	31.8	18.3	465.2	8536.0	7918.5	
C	96.3	31.8	18.3	465.2	8536.1	7918.6	92.77
				Total:	25608	23756	92.77

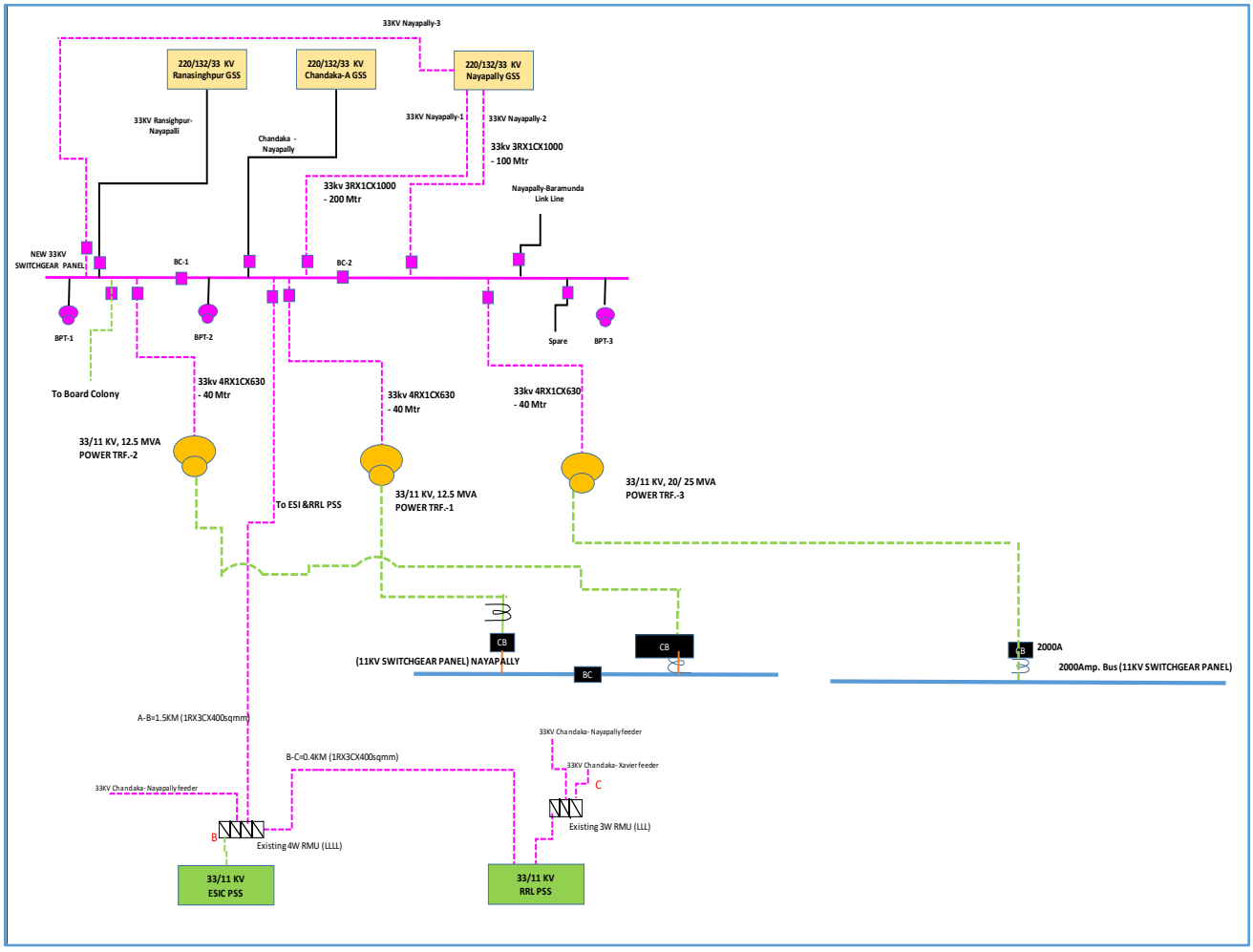
Length(Mtr.)	0.0
Distance(Mtr.)	0.0



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	96.3	31.8	18.4	191.8	3519.6	3395.9	137.34
B	96.3	31.8	18.4	191.8	3519.6	3396.0	
C	96.3	31.8	18.4	191.8	3519.8	3396.1	Power Factor
				Total:	10559	10188	96.48
				% loading			

Length(Mtr.)	0.0
Distance(Mtr.)	0.0

Proposed SLD:



Scope of Work:

- Part-A : Construction of 33 kV Indoor AIS Switchgear Panel at Nayapally PSS
- It is proposed to upgrade existing Nayapalli -1 & 2 feeder from 630 Sq.mm. to 1000 Sq.mm. cable and additional 33 kV feeder(Nayapalli-3) is proposed from Nayapalli GSS to Nayapalli PSS.
- Part-A : 1. Supply and laying of 33kv 1CX1000sqmm from Nayapally Grid GSS for 33kv Nayapally -1 and Nayapally -2 feeder upto 33kV New Switchgear Panel- (Length 200 mtr -3runX1CX1000sqmm)
- Supply and laying of 33kv 1CX630sqmm from 33kV Switchgear panel to Trf. Primary side.- (Length 40 mtr X3). Supply and laying of 33kv 1CX630sqmm from 33kv I/C to 33kv Panel . (Length - 40 mtr X 5)
- Construction of 33kv interlinking line- 1.9KM with 3CX400 sq.mm. from Nayapally PSS to ESIC PSS and RRL PSS.

Proposed Cost with Estimate Break-up:

ANNEXURE-6.2			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-2 (BBSR-I)**	
Name of the Work :-		***Reliability Improvement of BBSR City Area by installation of new 33kv Switchgear Panel at Nayapally PSS***	
Scope of work:-		1. Construction of 33 kV Indoor AIS Switchgear Panel at Nayapally PSS 2. Construction of 33kv interlinking line- 1.8KM with 3CX400sqmm without spare from Nayapally GSS to ESIC PSS and RRL PSS.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A : Construction of 33 kV Indoor AIS Switchgear Panel at Nayapally PSS	₹ 2,60,16,822.48
2	B	Part-B : 1. Supply and laying of 33kv 1CX1000sqmm from Nayapally Grid GSS for 33kv Nayapally -1 and Nayapally-2 feeder upto 33kv New Switchgear Panel- (Length 200 mtr -3runX1CX1000sqmm)	₹ 53,30,170.12
3	C	Part-C : 1. Supply and laying of 33kv 1CX630sqmm from 33kv Switchgear panel to Trf Primary side.- (Length 40 mtr X3) 2. Supply and laying of 33kv 1CX630sqmm from 33kv I/C to 33kv Panel . (Length - 40 mtr X 5)	₹ 37,57,276.98
4	D	Part-D Construction of 33kv interlinking line- 1.8KM with 3CX400sqmm without spare from Nayapally GSS to ESIC PSS and RRL PSS.	₹ 2,58,82,361.04
5	E	Part-E -Dismantling of Materials	₹ 4,18,534.18
		Total Amount	**₹ 6,14,05,164.80**
		Total Amount (In Cr)	**₹ 6.14**
Total estimated cost is Rs. 6.14 Crore. (On TPCODL CAPEX Scheme)			

Cost Estimate: ₹ 6.14 Cr. (For detailed BoQ refer Annexure-6.2).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sl. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	6.14	RS Cr
B	Additional load due to load growth	-	20412.50	kVA
C	Total kW due to load growth	BXPF (power factor)	19391.88	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	16987283	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	4.06	RS Cr
I	Revenue owing to tech. loss reduction	From Technical Loss Calculation	0.22	RS Cr
J	Net Revenue Collected	H+I	4.28	RS Cr
K	% revenue return	(J/A)X100	69.7	%
L	Pay Back Period	100/K	1.43	Years

Benefit to the system and consumers:

- Overloading mitigation of 33kV Nayapally-1,2,3 Feeder with higher capacity cables.
- Provide additional source for 33/11kV RRL and ESIC PSS.
- Reduction in technical loss of network and improve the voltage profile.
- Ensure reliable & safe power supply to the consumers at Nayapalli Area.
- Avg. technical loss savings after execution of this proposal will be 71.26 kW.

3.0 Proposal for loss reduction of 33kV Binodpada Feeder:

Proposal:

Proposal for construction of a New 33 kV Feeder from Upcoming OPTCL Hatabasta GSS for Power Evacuation, Ring Connectivity, Technical Loss Reduction, and Network Reliability Improvement

Requirement/ Need of the proposal:

Objective:

To ensure network loss reduction, through length reduction and load bifurcation of 33kV Binodpada feeder.

Existing Scenario:

- At present, 33kV Binodpada feeder is emanating from Nayagarh GSS and feeding power to Itamati, Bolagarh and Hatabasta PSS. The feeder is radial, having length of 55 Ckm with conductor size of 100/ 80 sq.mm and the peak load demand at summer'26 is 18.29MVA.
- The Feeder is interlinked with 33kV Baghamari-2 Feeder emanating from Atri GSS at Binodpada PSS.
- 33kV Binodpada feeder is lengthy, considering present scenario the feeder is overload and the voltage experienced at some PSS is below the permissible limit of -9% of 33kV i.e.; 30.03kV.
- With 2Yrs load growth @13% per each year the feeder will be overloaded.
- Since the feeder is having optimally loaded and having higher the feeder is facing low voltage issue at tail end as well as high technical losses.

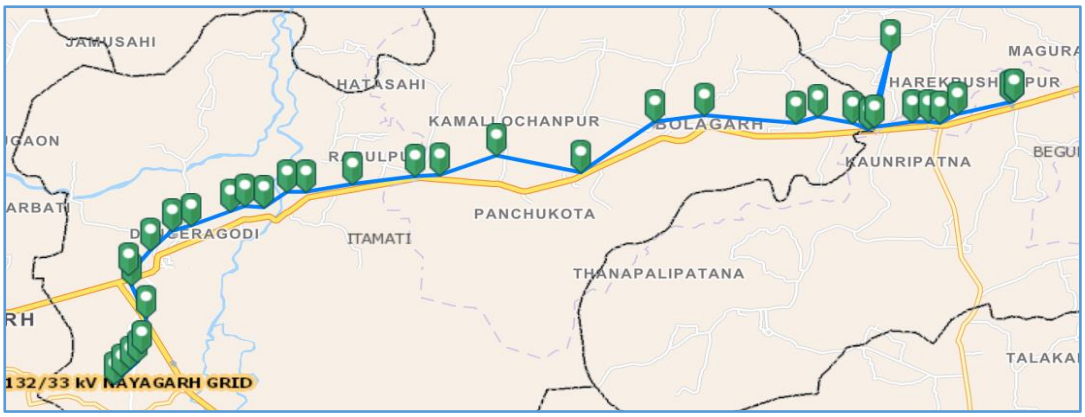
Existing Summer'26 Loading and projected load at 33kV Feeder:

Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**	**Loss Summer'28 (kW)**
Atri	Baghmari-I	15.54	17.50	113%	Overload	10	64%	OK	486
Nayagarh	Binodpada	15.54	18.20	117%	Overload	18	116%	Overload	1291
Atri	Atri-Binodpada	26.51		0%	OK	17	63%	OK	1220
Total Loss (kW)									**2997**

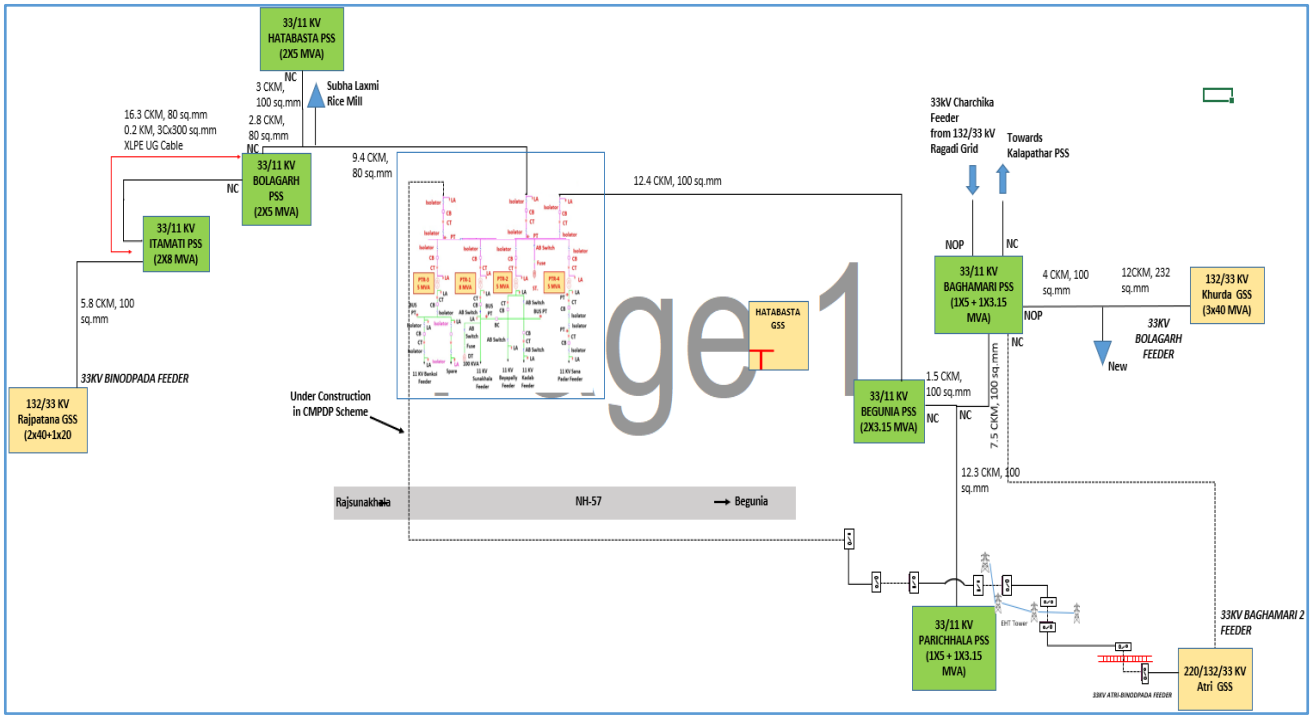
Existing Summer'26 voltage and projected voltage at PSS end:

33/11kV PSS Name	Voltage in kV in Summer '26	Projected Voltage with 2YR LG in kV in Summer '28 (Before Proposal)
Binodpada	28.3	28.5
Hatabasta	26.7	28.1
Parichala	29.3	29.5

GIS Map:

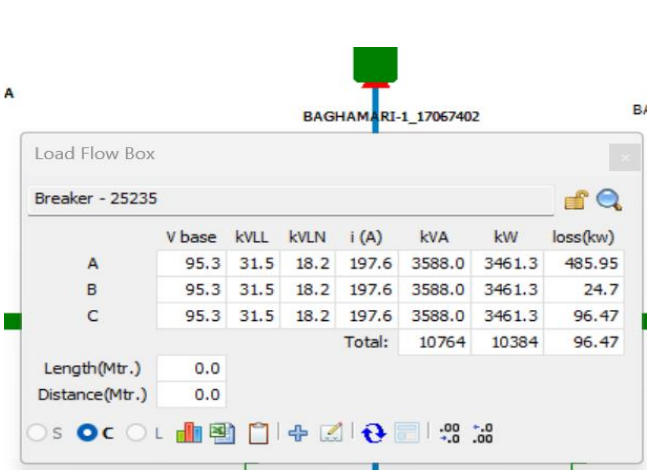


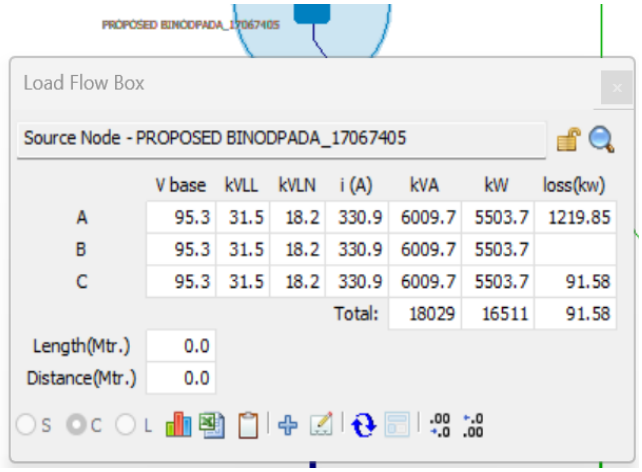
Existing SLD:

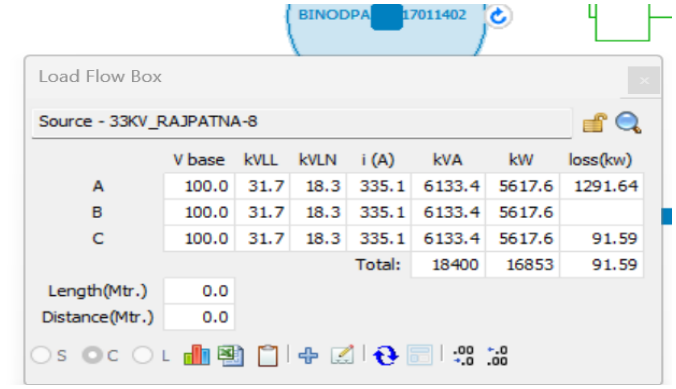


Load flow details with 2YR load growth without Proposal:

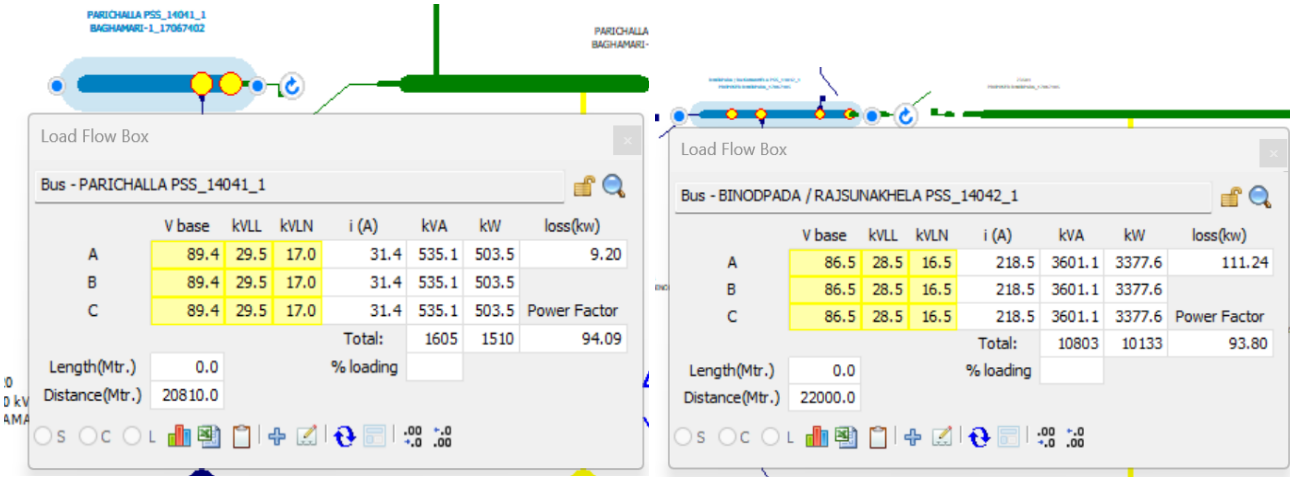
Loading details at GSS end:

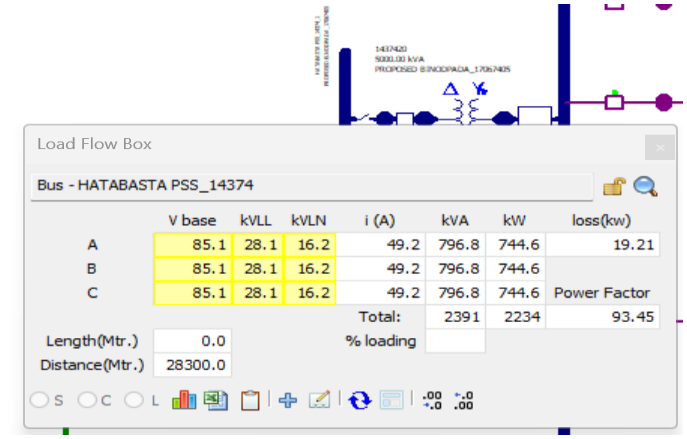






Voltage details at PSS end:





Priority and Timeline of the Project:

Priority: Since at present, the 33kV Binodpada feeder emanating from Rajpatna GSS are serving 45873 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of tripping's during the last year was 31 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and

prolonged power supply interruptions. Moreover, the feeder is also facing severe low voltage issue and high technical losses due to lengthy.

Proposed Scenario:

- One New 33kV feeder is proposed from upcoming Hatabasta GSS to Binodpada PSS, to evacuate power from upcoming OPTCL Hatabasta GSS.
- Proposed 33kV New Hatabasta feeder emanating from OPTCL Hatabasta GSS will feed Binodpada PSS and Hatabasta PSS. Existing 33kV Binodpada PSS will feed to Itamati PSS and Bolagarh PSS.

Proposed loading in Summer'28 after execution of proposals:

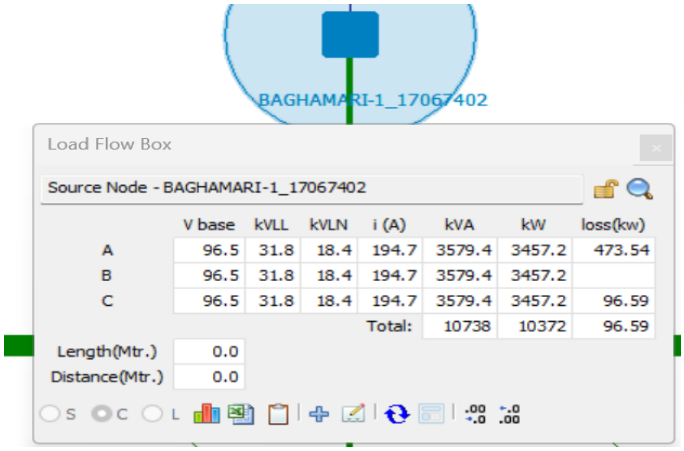
Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'27 (kW)**
Atri	Baghmari-I	15.54	10.00	64%	OK	474
Nayagarh	Binodpada	26.51	18.00	68%	OK	864
Atri	Atri-Binodpada	26.51	9.20	35%	OK	383
Hatabasta	Hatabasta	17.49	7.80	45%	OK	141
Total Loss (kW)						**1862**

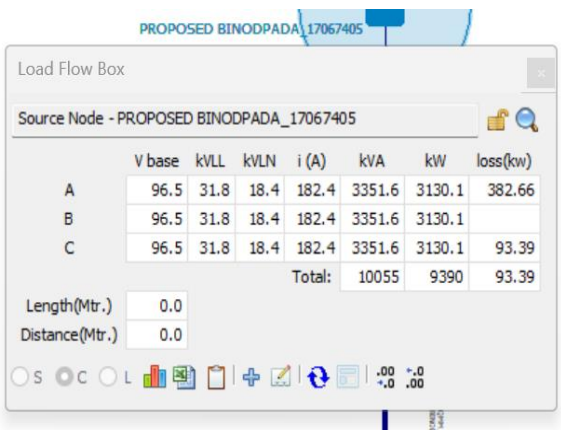
Proposed Voltage at the PSS end after execution of proposal in Summer'28 with 2YR LG

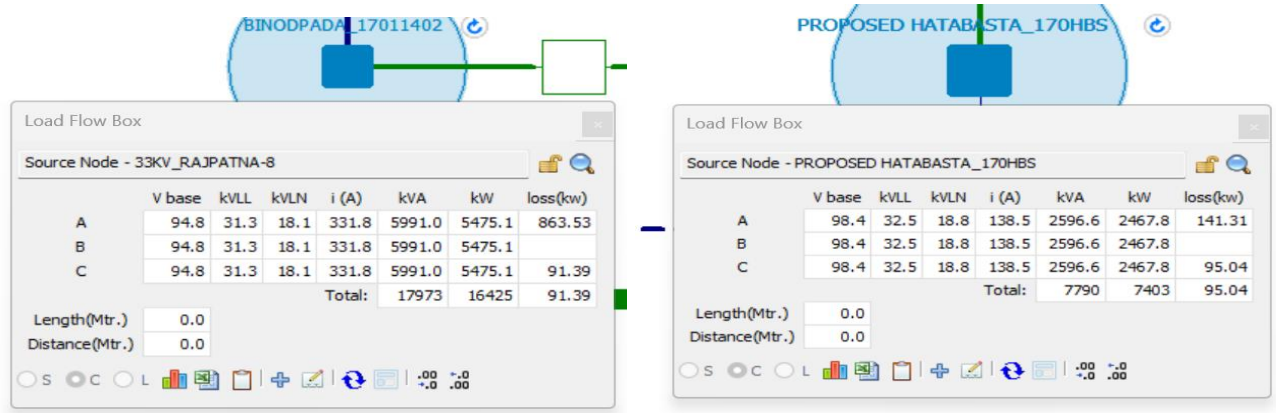
33/11kV PSS Name	Projected Voltage with 2YR LG in kV in Summer '28 (After Proposal)
Binodpada	30.3
Hatabasta	31.8
Parichala	29.9

Load flow details with 2YR load growth with Proposal:

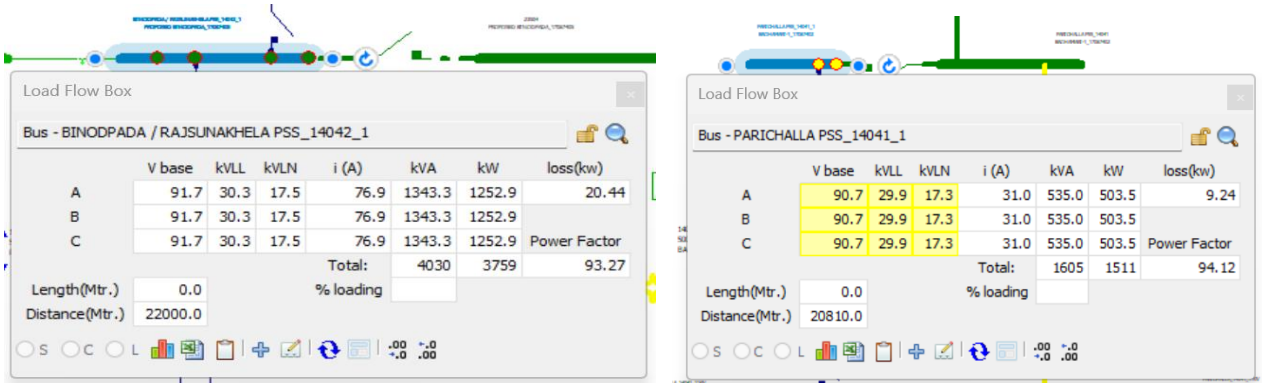
Loading details at GSS end:

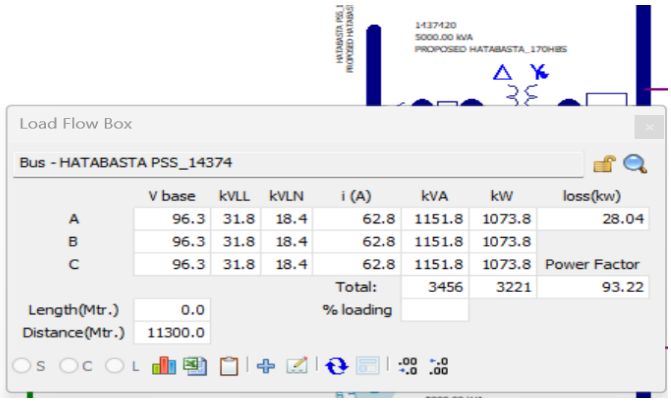




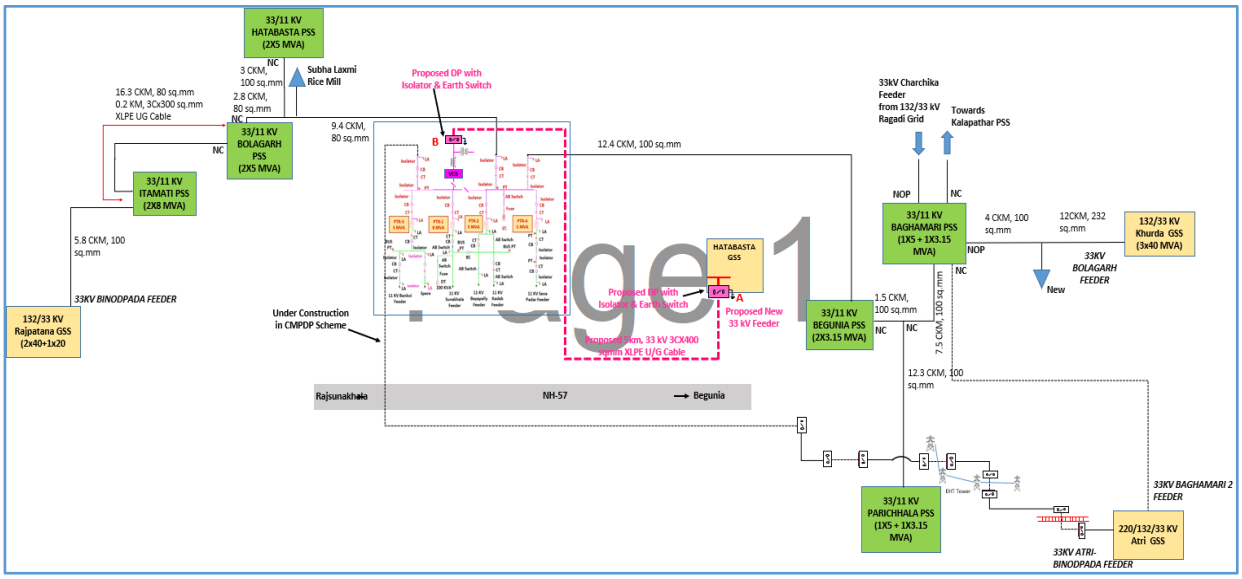


Voltage details at PSS end:





Proposed SLD:



Scope of Work:

1. Laying of one 33kV feeder from OPTCL Hatabasta GSS to Binodpada PSS.
2. Construction of one 33kV outdoor bay along with necessary accessories at Binodpada PSS.
3. Supply & laying of 33kV,3CX400 Sq.mm. XLPE U/G cable- 5 km.

Proposed Cost with Estimate Break-up:

ANNEXURE- 6.3			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**Khurdha (BBSR-II)**	
Name of the Work :-		***Loss reduction of 33kV Binodpada feeder by New 33kV Feeder from Hatabasta GSS :*** New 33kV feeder for power evacuation from Upcoming Hatabasta GSS, to enabling ring connectivity for 33kV Binodpada feeder which will provide 2nd 33kV source to PSS on existing feeder, improve network reliability by improve voltage profile, reduction in feeder length and reduction technical loss of network.	
Scope of work:-		PART A: Construction of 1 no. of 33 KV Outdoor Bay at Binodpada PSS. (Line Bay) PART B: Modification and extension of Control room at Binodpada PSS. PART C: Supply & Laying of 5 km 33kV 3CX400sqmm U/G Cable without spare run. PART D: Construction of 2 nos. 33 KV DP With Isolator and Earth Switch for U/G Cable Raising.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 1 no. of 33 KV Outdoor Bay at Binodpada PSS. (Line Bay)	₹ 43,43,623.19
2	B	PART B: Modification and extension of Control room at Binodpada PSS.	₹ 48,88,250.00
3	C	PART C: Supply & Laying of 5 km 33kV 3CX400sqmm U/G Cable without spare run. (Refer PSLD point A-B)	₹ 5,22,15,454.84
4	D	PART D: Construction of 2 nos. 33 KV DP With Isolator and Earth Switch for U/G Cable Raising. (Refer PSLD point A & B)	₹ 8,44,316.39
		Total Amount	**₹ 6,22,91,644.41**
		Total Amount (In Cr)	**₹ 6.23**
Total estimated cost is Rs. 6.23 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹6.23Cr. (For detailed BoQ refer Annexure- 6.3).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	6.23	RS Cr
B	Additional load due to load growth	-	9300.00	kVA
C	Total kW due to load growth	BXPF(power factor)	8835.00	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	7739460	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	1.85	RS Cr
I	Revenue owing to tech. loss reduction	from Technical Loss Calculation	1.22	RS Cr
J	Net Revenue Collected	H+I	3.07	RS Cr
K	% revenue return	(J/A)X100	49.3	%
L	Pay Back Period	100/K	2.03	Years

Benefit to the system and consumers:

- Reduction in feeder length and technical loss of 33kV network.
- Improve the voltage profile of the 33kV network.
- Enable ring connectivity with N-1 for 33 Hatabasta feeder.
- Ensure reliable & safe power supply to the consumers of Hatabasta and Binodpada Area.
- Avg. technical loss savings after execution of this proposal will be 392.7 kW.

4.0 Proposal for technical loss reduction of 33kV Niali feeder

Proposal:

Proposal for construction of 01 No. 33 kV Feeder from Upcoming OPTCL Betanda GSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement

Requirement/ Need of the proposal:

Objective:

To ensure network loss reduction, through length reduction and load bifurcation of 33kV Niali feeder.

Existing Scenario:

- At present, 33kV Niali feeder is emanating from Phulnakhra GSS and feeding power to Kasarda, Niali and Kulakapasi PSS. The feeder having length of 46 Ckm with conductor size of 232/100 sq.mm and the peak load demand at summer'26 is 21.9 MVA.
- The Feeder is interlinked with 33kV Damodarpur Feeder emanating from Phulnakhra GSS at Adaspur PSS.
- 33kV Niali feeder is lengthy, considering present scenario the feeder is overload and the voltage experienced at some PSS is below the permissible limit of -9% of 33kV i.e.; 30.03kV.
- With 2Yrs load growth @7% per each year the feeder will be overloaded.
- Since the feeder is having optimally loaded and having higher the feeder is facing low voltage issue at tail end as well as high technical losses.

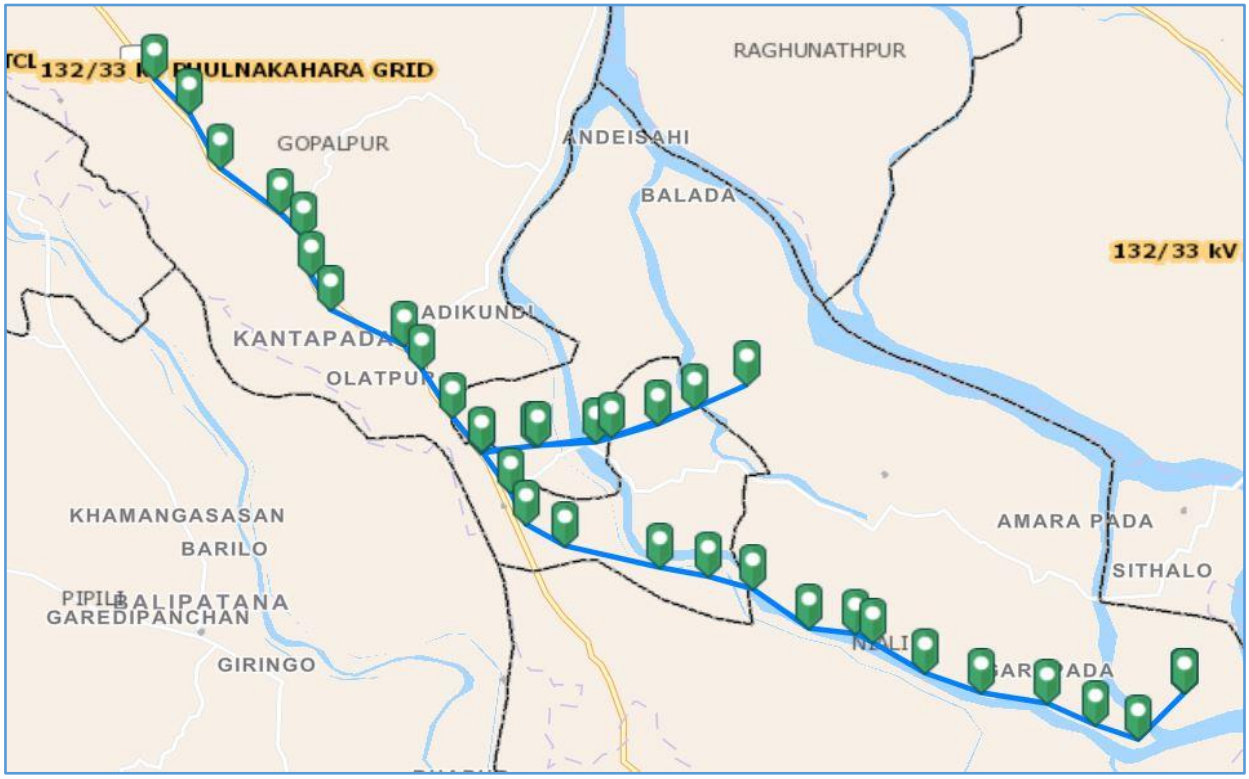
Existing Summer'26 Loading and projected load at 33kV Feeder:

Existing Loading									
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**	**Loss Summer'28 (kW)**
Phulnakhra	Niali	15.54	21.90	141%	Overload	25.07	161%	Overload	2524
Total Loss (kW)									**2524**

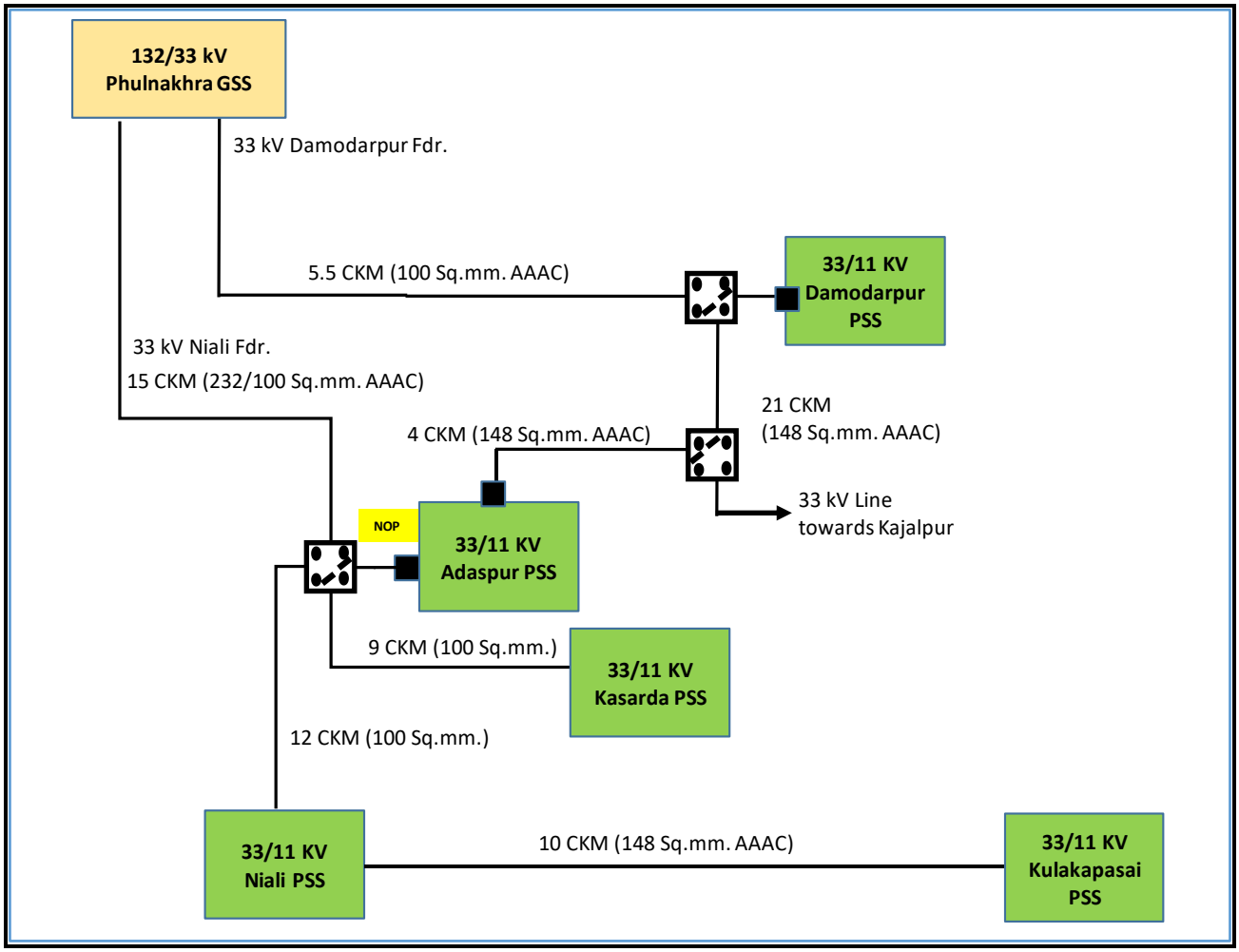
Existing Summer'26 voltage and projected voltage at PSS end:

33/11kV PSS Name	Voltage in kV in Summer '26	Projected Voltage with 2YR LG in kV in Summer '28 (Before Proposal)
Kasarda	27.8	26.5
Niali	25.9	24.6
Kulakapasi	25.3	23.9

GIS Map:

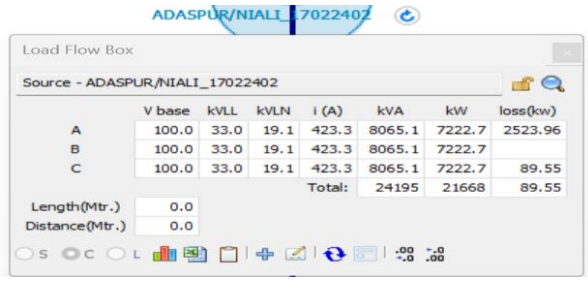


Existing SLD:

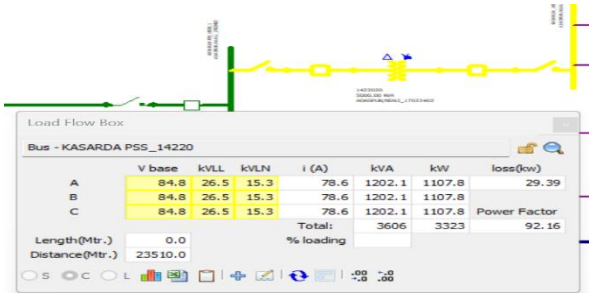


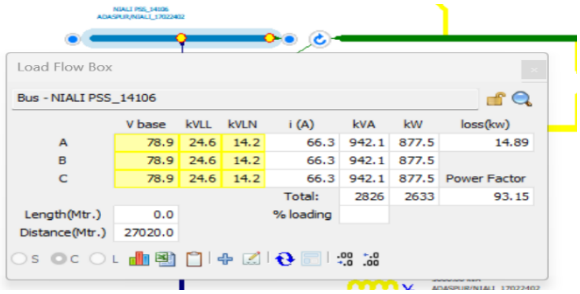
Load flow details with 2YR load growth without Proposal:

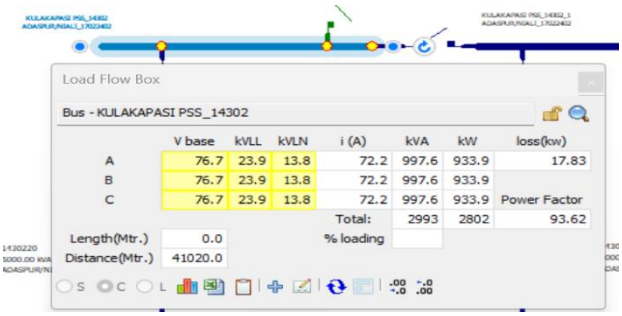
Loading details at GSS end:



Voltage details at PSS end:







Priority and Timeline of the Project:

Priority: Since at present, the 33kV Niali feeder emanating from Phulnakhra GSS are serving 31902 nos. consumers through existing network, frequent faults are being observed due to lengthy feeder and passes through dense vegetation , affecting the reliability of power supply. The no. of tripping's during the last year was 119 nos. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions. Moreover, the feeder is also facing severe low voltage issue and high technical losses due to lengthy.

Proposed Scenario:

- New 01 no. 33kV feeders is proposed from upcoming Betanda GSS to Kulakapasi PSS, to evacuate power from upcoming Betanda GSS.
- Proposed 33kV New Kulakapasi feeder emanating from OPTCL Betanda GSS will feed Niali & Kulakapasi PSS.
- Kulakapasi PSS will have dual sources.

Proposed loading in Summer'28 after execution of proposals:

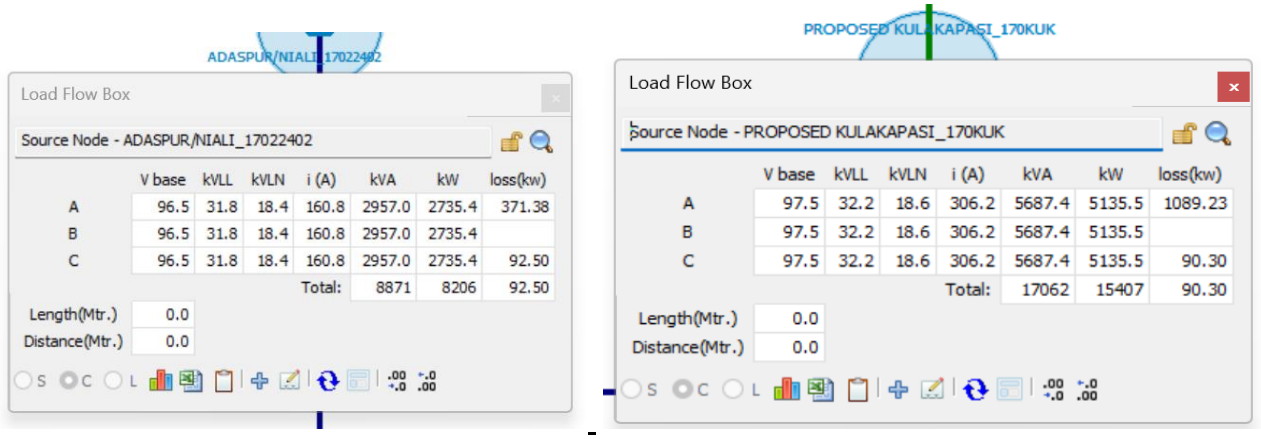
Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'28 (kW)**
Phulnakhra	Niali	26.51	8.07	30%	OK	371
Nua Betenda	Proposed Kulakapasi	26.51	17.00	64%	OK	1089
Total Loss (kW)						**1460**

Proposed Voltage at the PSS end after execution of proposal in Summer'28 with 2YR LG

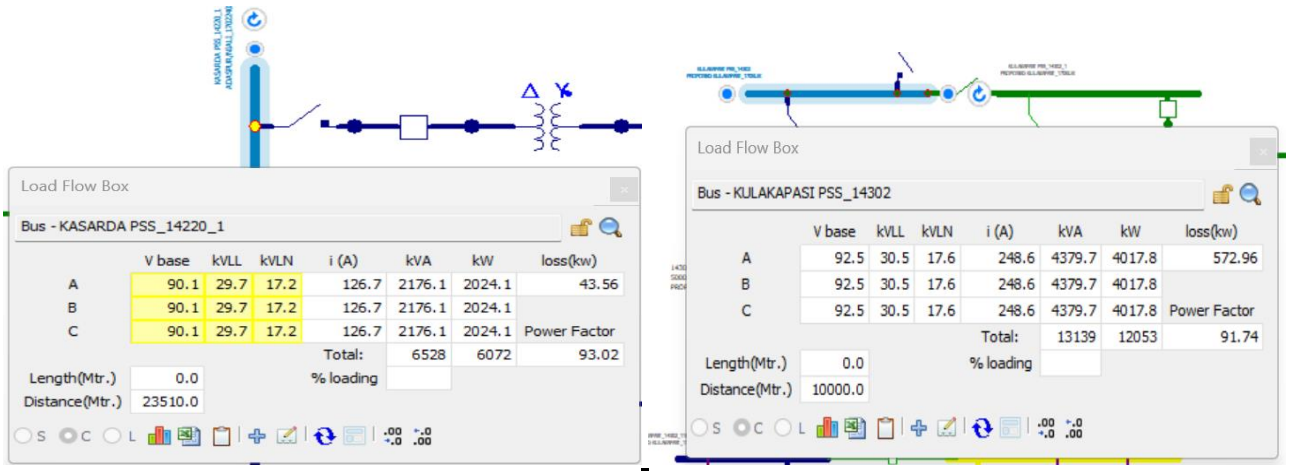
33/11kV PSS Name	Projected Voltage with 2YR LG in kV in Summer '28 (After Proposal)
Kasarda	29.7
Niali	28.5
Kulakapasi	30.5

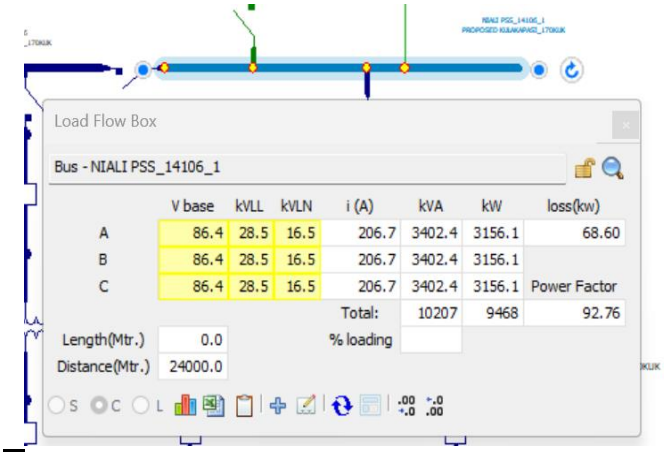
Load flow details with 2YR load growth with Proposal:

Loading details at GSS end:

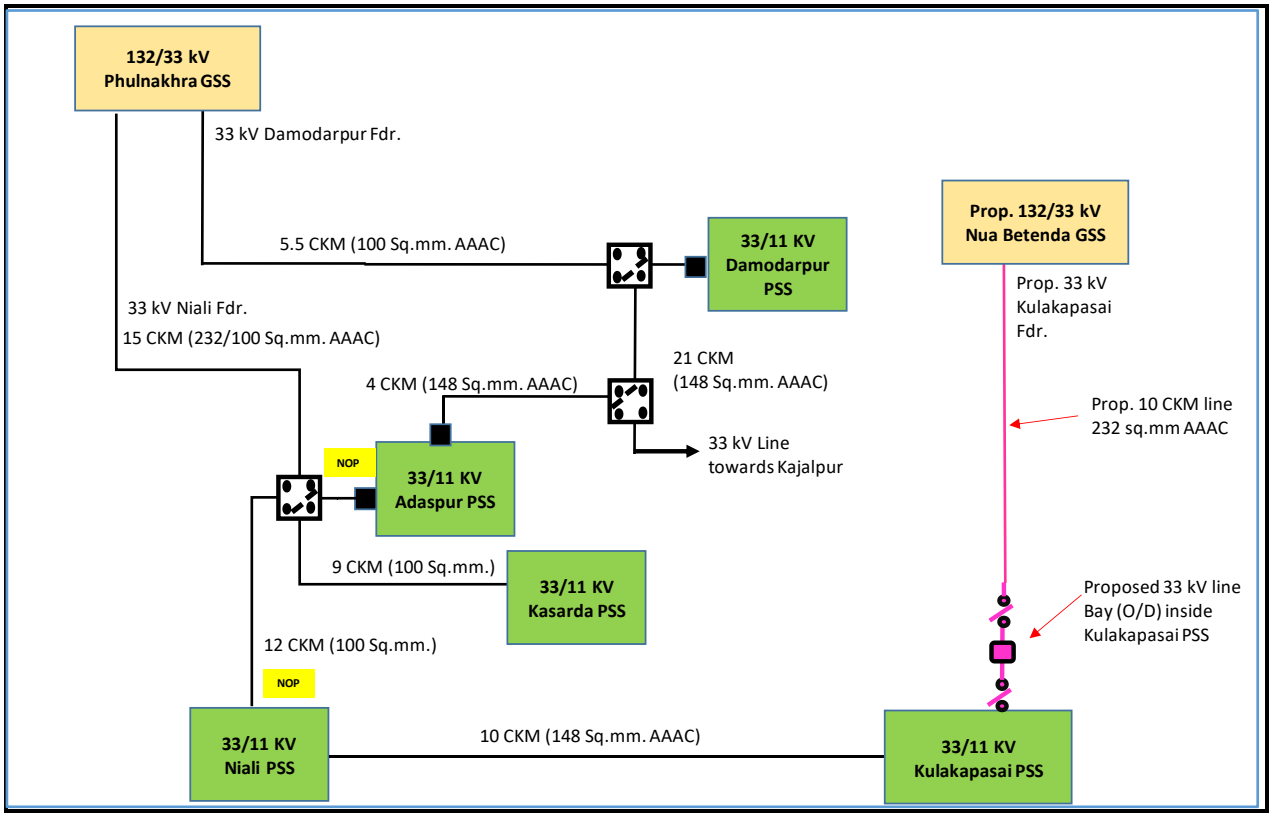


Voltage details at PSS end:





Proposed SLD:



Scope of Work:

1. Construction of 33 kV line of 7 Ckm using 232 Sq.mm. AAA Conductor and 13 Mtr. WPB Pole.
2. Construction of 33 kV line of 3 Ckm using 232 Sq.mm. XLPE AAA Conductor and 13 Mtr. WPB Pole.
3. Installation of 33 kV line protecting road crossing guarding on DP (5 locations).
4. Supply and Laying of 0.5 Ckm 33kV 3CX400 Sq.mm. U/G cable (with Back to Back arrangement) for 33 kV line crossing and road crossing near Grid.
5. Construction of 1 No. of 33 kV Line Bay Kulakapasai PSS.

Proposed Cost with Estimate Break-up:

ANNEXURE-6.4		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division: -	**CED**	
Name of the Sub-Division: -	Niali	
Name of the Work: -	Proposal for construction of 33 kV line from Proposed 132/33 kV Nua Betenda GSS to 33/11 kV Kulakapasai PSS to N-1 connectivity of 33 kV Damodarpur/ Niali feeder	
Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
ABSTRACT OF ESTIMATE		
Sl. No.	**Description**	**Amount**
1	Part- A: - Construction of 33 kV line of 7 Ckm using 232 Sq.mm. AAA Conductor and 13 Mtr. WPB Pole. (Refer PSLD)	19,599,556.94
2	Part- B: - Construction of 33 kV line of 3 Ckm using 232 Sq.mm. XLPE AAA Conductor and 13 Mtr. WPB Pole. (Refer PSLD)	10,915,780.98
3	Part-C: - Installation of 33 kV line protecting road crossing guarding on DP (5 locations).	152,185.94
4	Part-D: - Supply and Laying of 0.5 Ckm 33kV 3CX400 Sq.mm. U/G cable (with Back to Back arrangement) for 33 kV line crossing and road crossing near Grid.	7,887,759.85
5	Part-E: - Construction of 1 No. of 33 kV Line Bay Kulakapasai PSS.	2,918,365.81
	Total Amount	**41,473,649.53**
	Total Amount (In Cr.)	**4.15**
Total estimated cost is Rs.4.15 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹4.15Cr. (For detailed BoQ refer Annexure-6.4)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sl. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	4.15	RS Cr
B	Additional load due to load growth	-	3173.31	kVA
C	Total kW due to load growth	BXPF(power factor)	3014.64	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	2640829	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	0.63	RS Cr
I	Revenue owing to tech. loss reduction	from Technical Loss Calculation	1.14	RS Cr
J	Net Revenue Collected	H+I	1.78	RS Cr
K	% revenue return	(J/A)X100	42.8	%
L	Pay Back Period	100/K	2.34	Years

Benefit to the system and consumers:

- Reduction in feeder length and technical loss of 33kV network.
- Improve the voltage profile of the 33kV network.
- Enable ring connectivity with N-1 for 33 Niali feeder.
- Ensure reliable & safe power supply to the consumers of Kulakapasi and Niali Area.
- Avg. technical loss savings after execution of this proposal will be 368.14 kW.

5.0 Proposal for Technical loss reduction of 33kV Jarapada Feeder:

Proposal:

Proposal for construction of 1 Nos. 33 kV Feeders from Upcoming OPTCL Chhendipada GSS for Power Evacuation, Technical Loss Reduction, Ring Connectivity, and Network Reliability Improvement

Requirement/ Need of the proposal:

Objective:

To ensure network loss reduction, through length reduction and load bifurcation of 33kV Jarapada feeder.

Existing Scenario:

- At present, 33kV Jarapada feeder is emanating from Boinda GSS and feeding power to Jarapada, Chhendipada & Kosala PSS. The feeder is radial, having length of 41Ckm with conductor size of 100/ 80 sq.mm and the peak load demand at summer'26 is 17.8MVA.
- 33kV Jarapada feeder is radial and lengthy, considering present scenario the feeder is overload and the voltage experienced at some PSS is below the permissible limit of -9% of 33kV i.e.; 29.1kV.
- In existing scenario, the conductor augmentation work in progress Jarpada PSS to Chhendipada PSS under deposit scheme, which will mitigate the feeder overloading issue. However low voltage issue will be still persisted.
- 2Yrs load growth @10% each year has been considered.
- The feeders also having high technical loss.

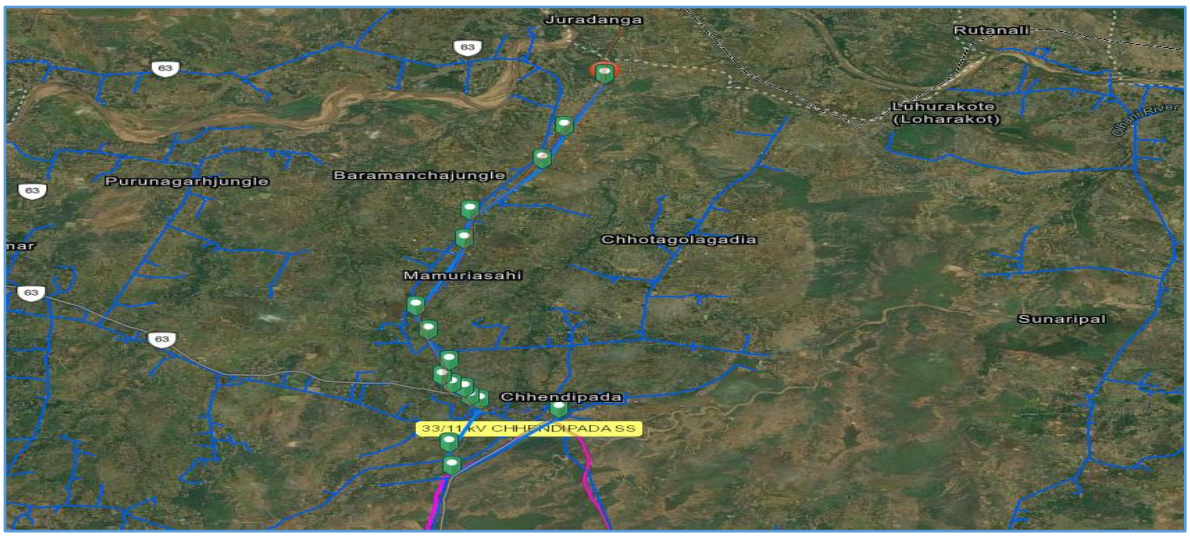
Existing Summer'26 Loading and projected load at 33kV Feeder:

Existing Loading										
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**Feeder Capacity Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**	**Loss Summer'28 (kW)**
Boinda	Jarapada	15.54	17.80	115%	Overload	22	24	91%	OK	2557
Total Loss (kW)										**2557**

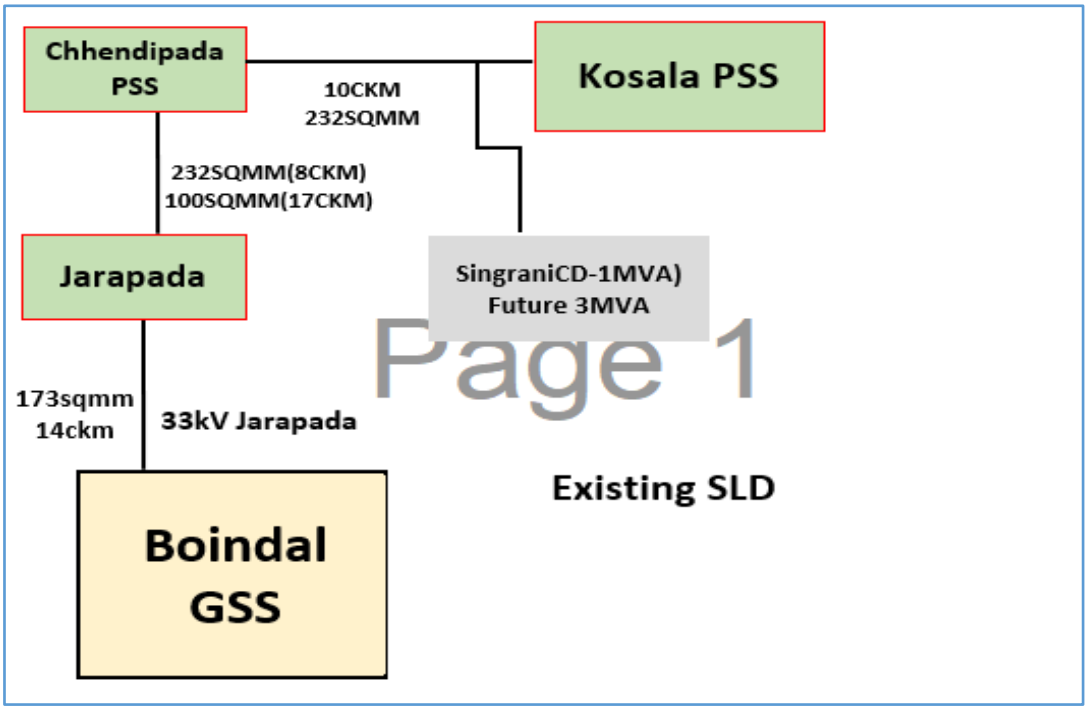
Existing Summer'26 voltage and projected voltage at PSS end:

33/11kV PSS Name	Voltage in kV in Summer '26	Projected Voltage with 2YR LG in kV in Summer '28 (Before Proposal)
Jarapada	29.1	29.4
Chhendipada	25.2	24.7
Kosala	24.7	24.1

GIS Map:

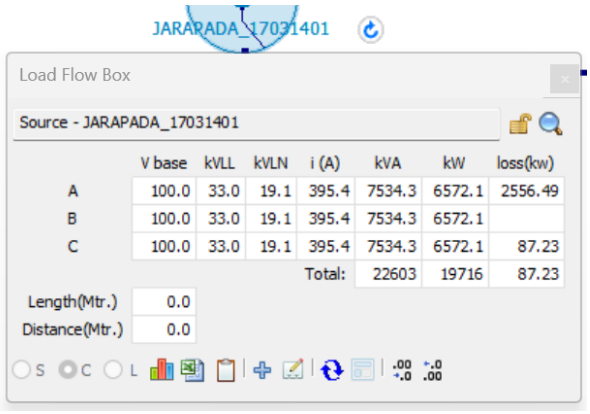


Existing SLD:



Load flow details with 2YR load growth without Proposal:

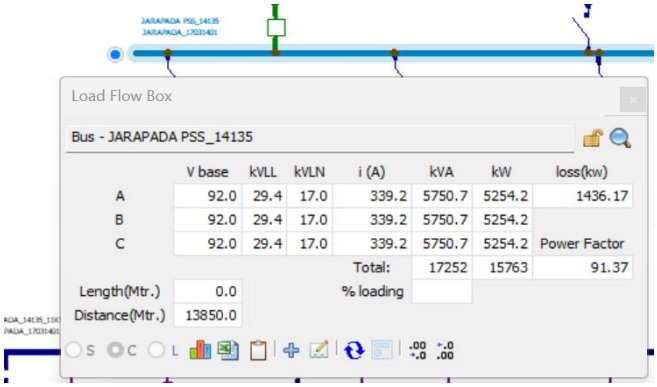
Loading details at GSS end:

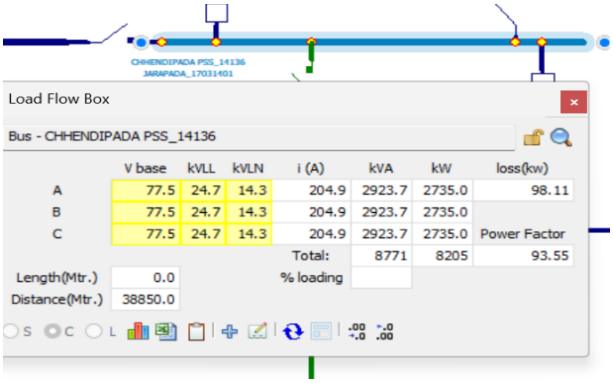


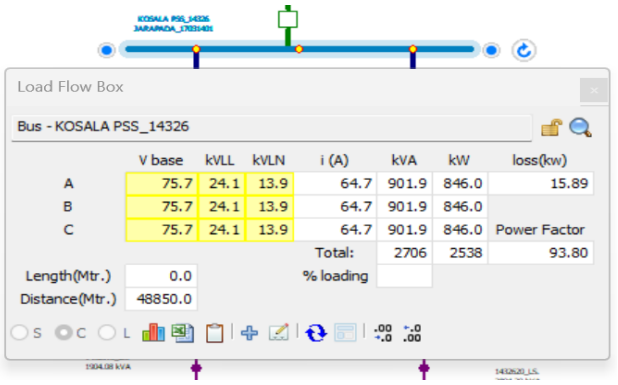
	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	100.0	33.0	19.1	395.4	7534.3	6572.1	2556.49
B	100.0	33.0	19.1	395.4	7534.3	6572.1	
C	100.0	33.0	19.1	395.4	7534.3	6572.1	87.23
				Total:	22603	19716	87.23

Length(Mtr.)	0.0
Distance(Mtr.)	0.0

Voltage details at PSS end in as is Scenerio with 2 Year Load growth:







Priority and Timeline of the Project:

Priority: Since at present, the 33kV Jarapada feeders emanating from Boinda GSS are serving 43162 nos. consumers through existing network , frequent faults are being observed due to feeder lengthy and passes through dense vegetation , affecting the reliability of power supply. The no. of tripping's during the last year was 51 nos. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions. Moreover the feeder is also facing severe low voltage issue and high technical losses due to lengthy.

Proposed Scenario:

- New 33kV feeder is proposed from upcoming OPTCL Chhendipada GSS to Chhendipada PSS for evacuation of power.
- After execution of the proposal, proposed Chhendipada feeder will feed Chendipada PSS . Existing Jarapada feeder will feed Jarapada PSS and Kosala PSS.
- The proposal will bifurcate, 33kV Jarapada feeder load and reduce the overall technical loss of the 33kV network.

Proposed loading in Summer'28 after execution of proposals:

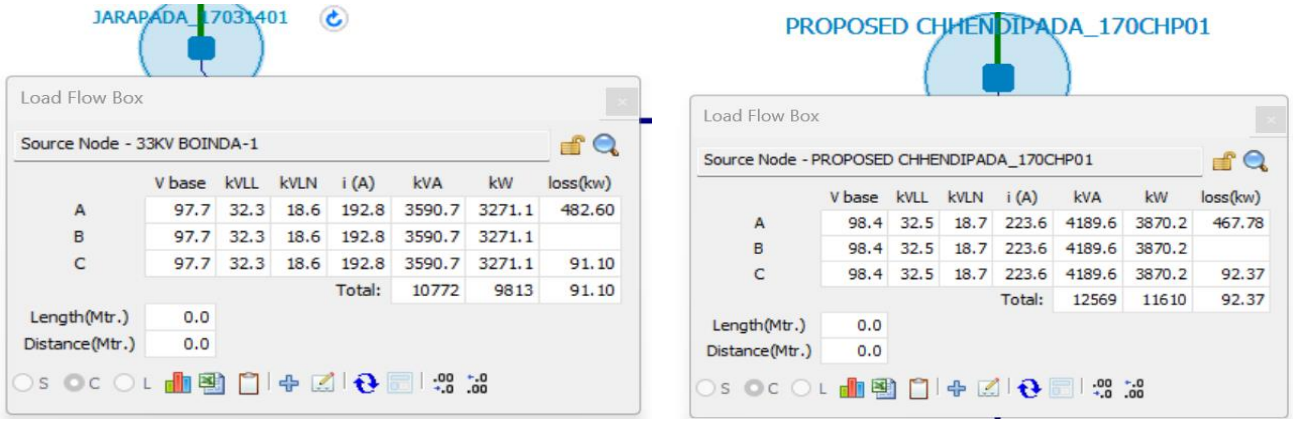
Loading after Proposal (Summer'28)						
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss Summer'28 (kW)**
Boinda	Jarapada	26.51	10.000	38%	OK	483
Jarapada	Chhedipada	26.51	12.00	45%	OK	468
Total Loss (kW)						**951**

Proposed Voltage at the PSS end after execution of proposal in Summer'28 with 2YR LG:

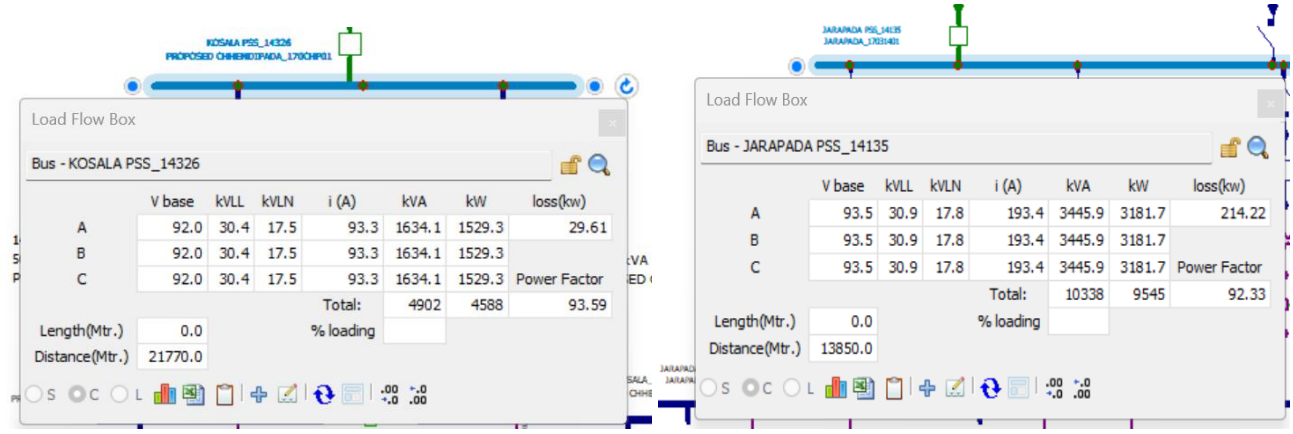
33/11kV PSS Name	Projected Voltage with 2YR LG in kV in Summer '28 (After Proposal)
Jarapada	30.9
Chhendipada	31.2
Kosala	30.4

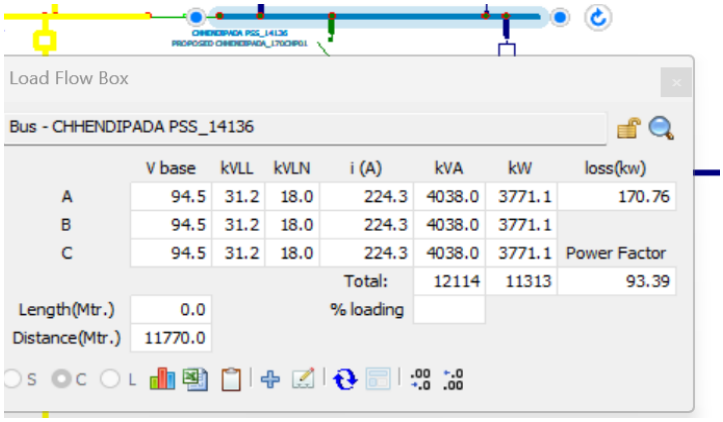
Load flow details with 2YR load growth with Proposal:

Loading details at GSS end:

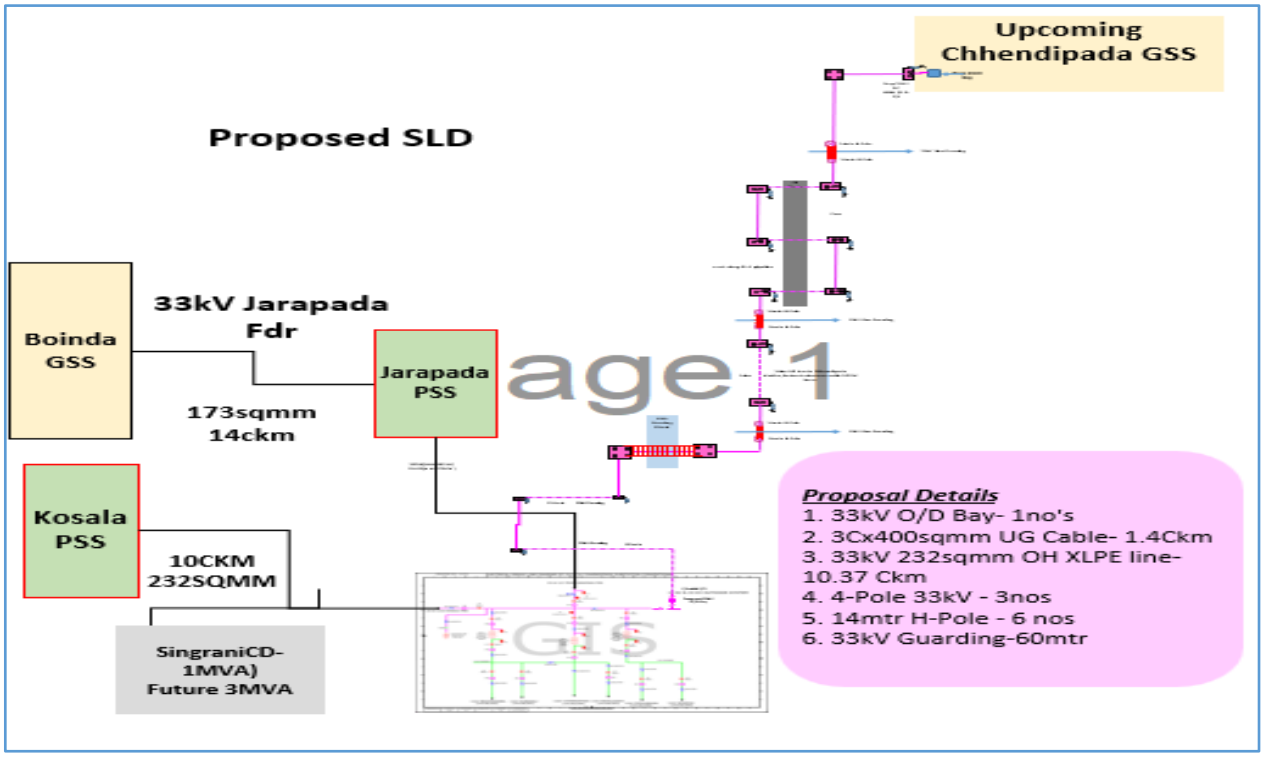


Voltage details at PSS end after execution of proposal:





Proposed SLD:



Scope of Work:

1. Construction of 33kV Outdoor Bay (Line Bay) at Chhendipada PSS- 1no's.
2. Supply & laying of 33kV 1R,3CX400 Sq.mm. XLPE U/G cable- 1.4Ckm.
3. Construction of 33kV OH line 232sqmm XLPE covered conductor-10.37ckm

Proposed Cost with Estimate Break-up:

ANNEXURE-6.5	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	**ANED (Dhenkanal)**
Name of the Work :-	***Loss reduction of 33kV Jarapada feeder by New 33kV Feeder from Chhendipada GSS :*** New 33kV feeder for power evacuation from Upcoming Chhendipada GSS, to enabling ring connectivity for 33kV Jarapada feeder which will provide 2nd 33kV source to PSS on existing feeder, improve network reliability by improve voltage profile, reduction in feeder length and reduction technical loss of network.

Scope of work:-		Proposal Details 1. 33kV O/D Bay- 1no's 2. 3Cx400sqmm UG Cable- 1.4Ckm 3. 33kV 232sqmm OH XLPE line- 10.37 Ckm 4. 4-Pole 33kV - 3nos 5. 14mtr H-Pole - 6 nos	
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-10.37ckm	₹ 4,00,37,854.96
2	B	Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable 1.4km	₹ 1,28,08,532.03
3	C	Standard BOQ for Line Protecting Guarding on Double Pole for Road Crossing	₹ 1,06,385.33
4	D	Standard BoQ and Estimate for 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with One No. of Isolator and LA Set	₹ 16,19,136.26
5	E	14 Mtr. H-Pole	₹ 8,10,761.82
		Total Amount	**₹ 5,53,82,670.39**
		Total Amount (In Cr)	**₹ 5.54**
Total estimated cost is Rs. 5.54Crore. (On TPCODL CAPEX Scheme)			

Cost Estimate: ₹5.54Cr. (For detailed BoQ refer Annexure-6.5.).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**New Value**	**UoM**
A	Total cost of scheme	-	5.54	RS Cr
B	Additional load due to load growth	-	4200.00	kVA
C	Total kW due to load growth	BXPF(power factor)	3990.00	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	CX365X24XLF	3495240	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	(GXD)/10^7	0.84	RS Cr
I	Revenue owing to tech. loss reduction	From Technical Loss Calculation	1.73	RS Cr
J	Net Revenue Collected	H+I	2.56	RS Cr
K	% revenue return	(J/A)X100	46.3	%
L	Pay Back Period	100/K	2.16	Years

Benefit to the system and consumers:

- Reduction in feeder length and technical loss of 33kV network.
- Improve the voltage profile of the 33kV network.
- Enable ring connectivity with N-1 for 33 Jarapada feeder.
- Ensure reliable & safe power supply to the consumers of Chhendipada and Kosala Area.
- Avg. technical loss savings after execution of this proposal will be 555.7 kW.

ANNEXURE- 6.1			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
	Name of the Division :-	**NED**	
	Name of the Sub-Division : -	Kakatpur	
	Name of the Work :-	Construction of 2 Nos. New 33kV feeder for power evacuation from proposed betanda GSS.	
	Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 5Nos. 33kV DP with Isolator & earth switch.	₹ 21,01,912.10
2	B	PART B: Supply & laying of 33kV, 3CX400 sq.mm XLPE UG Cable length = 1.55 kM without spare run.	₹ 1,89,95,290.83
3	C	PPART C: Extension of 33kV Bay using buscoupler & construction of one new 33kV Bay.	₹ 76,46,977.05
4	D	PART D: Supply & Laying of 33kV 1CX400 sq.mm XLPE UG Cable of length = 0.08 kM , 3 Run.	₹ 6,85,007.06
		Total Amount	**₹ 2,94,29,187.04**
		Total Amount (In Cr)	**2.94**
Total estimated cost is Rs. 2.94 Crore. (On TPCODL Capex Scheme)			

PART A: Construction of 5Nos. 33kV DP with Isolator & earth switch.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	5

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	10	3,39,700.00
2	GI Channel,angle & flat of different size	KG	78.00	2765.965	2,15,745.27
3	DMC Insulator for LA (70/10)	EA	113.50	40	4,540.00
4	Danger Plate	EA	180.00	10	1,800.00
5	H.T. Stay clamp	EA	260.00	20	5,200.00
6	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
7	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
8	7/8 SWG Stay Wire	KG	75.00	300	22,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
10	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	15	66,645.00
12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	5	5,08,260.00
13	33KV pin insulator polymer	EA	398.00	15	5,970.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	30	18,930.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	30	8,670.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	30	9,990.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	111.14	8,224.36
18	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
A1				**Total Cost of materials**	**12,64,499.63**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,27,609.93**
A				**Total landed Cost (A=A1 + A2)**	**14,92,109.56**
B				Stock, Storage & Insurance i.e 3% of A	44,763.29
C				**Sub Total (A+B)**	**15,36,872.85**
D				Contigency @ 3% of C	46,106.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	28,966.38
F				Transportation @ 7.5% of C	1,15,265.46
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	20,643.57
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,03,544.74
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**18,51,399.19**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.5	36,568.68
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.125	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**1,34,939.83**
K2				**Applicable Taxes to make it Landed Cost @18%**	**24,289.17**
K				**Total landed Cost (K=K1+ K2)**	**1,59,229.00**
L				**Total (J+K)**	20,10,628.19
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**20,10,628.19**
O				CESS 1% of N	20,106.28
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**20,30,734.47**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	0.08

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	232 sq.mm AAA conductor	M	181.65	247.20	44,903.88
A1				**Total Cost of materials**	**44,903.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,082.70**

A	**Total landed Cost (A=A1 + A2)**	**52,986.58**
B	Stock, Storage & Insurance i.e 3% of A	1,589.60
C	**Sub Total (A+B)**	**54,576.18**
D	Contigency @ 3% of C	1,637.29
E	Tools & Plants @ 2% of C	1,091.52
F	Transportation @ 7.5% of C	4,093.21
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,457.62
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**66,855.82**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.08	837.60
K1	**Total Civil & Services**				**837.60**
K2	**Applicable Taxes to make it Landed Cost @18%**				**150.77**
K	**Total landed Cost (K=K1+ K2)**				**988.37**
L	**Total (J+K)**				67,844.18
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**67,844.18**
O	CESS 1% of N				678.44
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**68,522.63**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	20,30,734.47
2	Gross Total Material +Services (N+O) for 33 KV Pin Points	68,522.63
Q	**Gross Total Material +Services**	**20,99,257.10**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**2,250.00**
V	GST @ 18% on Total Inspection Fees (U)	405.00
W	Total Inspection Fees including GST (U+V)	2,655.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**21,01,912.10**

PART B: Supply & laying of 33kV, 3CX400 sq.mm XLPE UG Cable length = 1.55 kM without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***1550***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1550	3,165.00	49,05,750.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	6	25,930.00	1,55,580.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	11,900.00	71,400.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	1550.00	812.00	12,58,600.00
	Sub Total (Supply Portion) (in Rs.)				**63,91,330.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	3100	115.00	3,56,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	12	2,000.00	24,000.00
1.3	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1550.00	195.00	3,02,250.00
	Sub Total (Erection Portion) (in Rs.)				**6,82,750.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	717		
1.1.a	Earth work excavation of **soil**	M3	602.28	716.03	4,31,250.55
1.1.b	Earth work excavation of **hard rock**	M3	258.12	1,759.39	4,54,133.75
1.2	Back filling with excavated soil outside and above the trench	M3	860.4	220.00	1,89,288.00
1.3	Road Repair and restoration charges	KM	0.717	92,94,727.82	66,64,319.85
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
3	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	52	1,035.17	53,828.84
4	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.55	10,470.00	16,228.50
	Sub Total (Civil Portion) (in Rs.)				**79,76,080.63**
A1	**Sub Total (Supply Portion)**				**63,91,330.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,50,439.40**
A	**Total Landed Cost (A=A1 + A2)**				**75,41,769.40**

B	Stock, Storage & Insurance @ 3 % of A	2,26,253.08
C	**Sub Total (A+B)**	**77,68,022.48**
D	Contingency @ 3 % of C	2,33,040.67
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	5,82,601.69
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**85,83,664.84**
I1	Sub Total (Erection Portion + Civil Portion)	86,58,830.63
I2	**Applicable Taxes to make it Landed Cost @18%**	**15,58,589.51**
I	**Total landed Cost (I=I1+ I2)**	**1,02,17,420.14**
J	**Total Cost (H+I)**	**1,88,01,084.98**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,88,01,084.98**
M	CESS 1% of L	1,88,010.85
N	**Grand Total (L+M)**	**1,89,89,095.83**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)	945.00
U	Total Inspection Fees including GST (S+T)	6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,89,95,290.83**

PPART C: Extension of 33kV Bay using buscoupler & construction of one new 33kV Bay.					
No. of Bay requirement (Indoor)			2		
MATERIALS OF 33 kV Bay					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
2	GI Flat	KG	78.00	283.2	22,089.60
3	Supply of 33 kV extension Panel (O/G Feeder) as per the existing drawing (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	19,97,000.00	2	39,94,000.00
4	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**40,41,267.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,27,428.21**
A				**Total landed Cost (A=A1 + A2)**	**47,68,696.03**
B				Stock, Storage & Insurance i.e 3% of A	1,43,060.88
C				**Sub Total (A+B)**	**49,11,756.91**
D				Contigency @ 3% of C	1,47,352.71
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	97,982.33
F				Transportation @ 7.5% of C	3,68,381.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	2,42,715.38
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,89,911.67
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**62,58,100.77**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
2	**RCC Cable Trench :**	Qty			
2.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	138	32,016.00
2.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	9.2	13,616.00
2.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	9.2	46,276.00
2.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	18.4	1,38,000.00
2.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	16.8	1,26,000.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	224	60,480.00
2.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	3965.6	4,04,491.20
2.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	4.8	38,160.00
2.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2120.8	2,20,563.20

K1	**Total Civil & Services**	**11,09,880.24**
K2	**Applicable Taxes to make it Landed Cost @18%**	**1,99,778.44**
K	**Total landed Cost (K=K1+ K2)**	**13,09,658.68**
L	**Total (J+K)**	**75,67,759.46**
M	Other overheads (Including 6% supervision charges) of L	
N	**Sub-Total (L+M)**	**75,67,759.46**
O	CESS 1% of (N)	75,677.59
P	**Total (N+O)**	76,43,437.05
Q	Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R	GST @ 18% on Total Inspection Fees (Q)	540.00
S	Total Inspection Fees including GST (Q+R)	3,540.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**76,46,977.05**

PART D: Supply & Laying of 33kV 1CX400 sq.mm XLPE UG Cable of length = 0.08 kM , 3 Run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 1Core, 400sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
a	***Length of 33kV 1C, 400sqmm cable (open trench)***	***M***	***80***		
1.1	Supply of 33kV, 1Core, 400sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	240	1,064.00	2,55,360.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 400sqmm, HT UG Cable kits for 1Core	EA	3	5,489.00	16,467.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	3	29,925.00	89,775.00
1.4	Supply of materials for High Density Polyethelene (HDPE) pipe 110mm diameter, PE 80- PN8 for laying of 33kV U/G cable	M	240.00	261.00	62,640.00
	Sub Total (Supply Portion) (in Rs.)				**4,24,242.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 400sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by open trench method.	M	240	96.66	23,198.40
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 1Core, 400sqmm, aluminium UG cable kits	EA	6	2,129.37	12,776.23
1.3	Laying of **110mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	240.00	195.00	46,800.00
	Sub Total (Erection Portion) (in Rs.)				**82,774.63**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	3	1,035.17	3,105.51
2	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.08	10,470.00	837.60
	Sub Total (Civil Portion) (in Rs.)				**3,943.11**
A1	**Sub Total (Supply Portion)**				**4,24,242.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**76,363.56**
A	**Total Landed Cost (A=A1 + A2)**				**5,00,605.56**
B	Stock, Storage & Insurance @ 3 % of A				15,018.17
C	**Sub Total (A+B)**				**5,15,623.73**
D	Contingency @ 3 % of C				15,468.71
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				38,671.78
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**5,69,764.22**
I1	Sub Total (Erection Portion + Civil Portion)				86,717.74
I2	**Applicable Taxes to make it Landed Cost @18%**				**15,609.19**
I	**Total landed Cost (I=I1+ I2)**				**1,02,326.93**

J	**Total Cost (H+I)**	**6,72,091.15**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**6,72,091.15**
M	CESS 1% of L	6,720.91
N	**Grand Total (L+M)**	**6,78,812.06**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)	945.00
U	Total Inspection Fees including GST (S+T)	6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**6,85,007.06**

ANNEXURE-6.2			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-2 (BBSR-I)**	
Name of the Work :-		***Reliability Improvement of BBSR City Area by installation of new 33kv Switchgear Panel at Nayapally PSS***	
Scope of work:-		1. Construction of 33 kV Indoor AIS Switchgear Panel at Nayapally PSS 2. Construction of 33kv interlinking line- 1.8KM with 3CX400sqmm without spare from Nayapally GSS to ESIC PSS and RRL PSS.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A : Construction of 33 kV Indoor AIS Switchgear Panel at Nayapally PSS.	₹ 2,60,16,822.48
2	B	Part-B : 1. Supply and laying of 33kv 1CX1000sqmm from Nayapally Grid GSS for 33kv Nayapally -1 and Nayapally-2 feeder upto 33kv New Switchgear Panel- (Length 300 mtr -3runX1CX1000sqmm)	₹ 53,30,170.12
3	C	Part-C : 1. Supply and laying of 33kv 1CX630sqmm from 33kv Switchgear panel to Trf Primary side.- (Length 40 mtr X3) 2. Supply and laying of 33kv 1CX630sqmm from 33kv I/C to 33kv Panel . (Length - 40 mtr X 5)	₹ 37,57,276.98
4	D	Part-D Construction of 33kv interlinking line- 1.8KM with 3CX400sqmm without spare from Nayapally GSS to ESIC PSS and RRL PSS.	₹ 2,58,82,361.04
5	E	Part-E -Dismantling of Materials	₹ 4,18,534.18
		Total Amount	**₹ 6,14,05,164.80**
		Total Amount (In Cr)	**₹ 6.14**
Total estimated cost is Rs. 6.14 Crore. (On TPCODL CAPEX Scheme)			

Part-A : Construction of 33 kV Indoor AIS Switchgear Panel at Nayapally PSS.

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
2	GI Flat	KG	78.00	354	27,612.00
3	33kV Indoor AIS Panel consisting of 36kV VCB Breaker Total 16No's Switch panel board. Bus Bar size 1250Amp. Each Breaker Rating is 1250Amp & Draw out type.	EA	1,74,99,533.00	1	1,74,99,533.00
A1				**Total Cost of materials**	**1,75,40,145.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,57,226.10**
A				**Total landed Cost (A=A1 + A2)**	**2,06,97,371.10**
B				Stock, Storage & Insurance i.e 3% of A	6,20,921.13
C				**Sub Total (A+B)**	**2,13,18,292.23**
D				Contigency @ 3% of C	6,39,548.77
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,26,049.84
F				Transportation @ 7.5% of C	15,98,871.92
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,63,446.62
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,355.96
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,50,49,565.34**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
2	**RCC Cable Trench :**	Qty			
2.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	69	16,008.00
2.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	4.6	6,808.00
2.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	4.6	23,138.00
2.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	9.2	69,000.00
2.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	8.4	63,000.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	112	30,240.00
2.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	1982.8	2,02,245.60
2.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	2.4	19,080.00
2.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1060.4	1,10,281.60
K1				**Total Civil & Services**	**5,77,648.50**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,03,976.73**
K				**Total landed Cost (K=K1+ K2)**	**6,81,625.23**
L				**Total (J+K)**	**2,57,31,190.57**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**2,57,31,190.57**
O				CESS 1% of (N)	2,57,311.91
P				**Total (N+O)**	2,59,88,502.48
Q				Inspection Fee of VCB - Rs. 1500/ VCB	24,000.00
R				GST @ 18% on Total Inspection Fees (Q)	4,320.00
S				Total Inspection Fees including GST (Q+R)	28,320.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**2,60,16,822.48**

Part-B :

1. Supply and laying of 33kv 1CX1000sqmm from Nayapally Grid GSS for 33kv Nayapally -1 and Nayapally-2 feeder upto 33kv New Switchgear Panel- (Length 300 mtr -3runX1CX1000sqmm)

Standard BoQ and Estimate for 33kV, 1C 1000sqmm U/G Cable along with 33kV RMU					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 1Core, 1000sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
a	***Length of 33kV 1C, 1000sqmm cable (open trench)***	***M***	***300***		
1.1	Supply of 33kV, 1Core, 1000sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	900	2,980.00	26,82,000.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 1000sqmm, HT U/G Cable kits for 1Core	EA	18	7,521.00	1,35,378.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 1000sqmm, HT U/G Cable kits (Touch Proof)	EA	18	29,925.00	5,38,650.00
1.4	Supply of materials for High Density Polyethelene (HDPE) pipe 110mm diameter, PE 80- PN8 for laying of 33kV U/G cable	M	900.00	261.00	2,34,900.00
	Sub Total (Supply Portion) (in Rs.)				**35,90,928.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 1000sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 1000sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by open trench method.	M	1200	96.66	1,15,992.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 1Core, 1000sqmm, aluminium UG cable kits	EA	36	2,129.37	76,657.35
	Sub Total (Erection Portion) (in Rs.)				**3,68,149.35**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Trench**				
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	10	1,035.17	10,351.70
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.3	10,470.00	3,141.00
	Sub Total (Civil Portion) (in Rs.)				**13,492.70**
A1	**Sub Total (Supply Portion)**				**35,90,928.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**6,46,367.04**
A	**Total Landed Cost (A=A1 + A2)**				**42,37,295.04**
B	Stock, Storage & Insurance @ 3 % of A				1,27,118.85
C	**Sub Total (A+B)**				**43,64,413.89**
D	Contingency @ 3 % of C				1,30,932.42
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				3,27,331.04
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**48,22,677.35**

I1	Sub Total (Erection Portion + Civil Portion)	3,81,642.05
I2	**Applicable Taxes to make it Landed Cost @18%**	**68,695.57**
I	**Total landed Cost (I=I1+ I2)**	**4,50,337.62**
J	**Total Cost (H+I)**	**52,73,014.97**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**52,73,014.97**
M	CESS 1% of L	52,730.15
N	**Grand Total (L+M)**	**53,25,745.12**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**3,750.00**
T	GST @ 18% on Total Inspection Fees (S)	675.00
U	Total Inspection Fees including GST (S+T)	4,425.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**53,30,170.12**

Part-C : 1. Supply and laying of 33kv 1CX630sqmm from 33kv Switchgear panel to Trf Primary side.- (Length 40 mtr X3)
2. Supply and laying of 33kv 1CX630sqmm from 33kv I/C to 33kv Panel . (Length - 40 mtr X 5)

Standard BoQ and Estimate for 33kV, 1C 630sqmm U/G Cable along with 33kV RMU					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
a	***Length of 33kV 1C, 630sqmm cable (open trench)***	***M***	***320***		
1.1	Supply of 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	1280	1,279.00	16,37,120.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	12	7,521.00	90,252.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits (Touch Proof)	EA	12	29,925.00	3,59,100.00
	Sub Total (Supply Portion) (in Rs.)				**20,86,472.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by **open trench method**.	M	1280	96.66	1,23,724.80
1.2	Erection of **Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits** Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium UG cable kits	EA	24	2,129.37	51,104.90
	Sub Total (Erection Portion) (in Rs.)				**1,74,829.70**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Trench**				
2	Cable Trench with RCC Wall	RM	**35**	16,703.11	5,84,609.01
3	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	11	1,035.17	11,386.87
4	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.32	10,470.00	3,350.40
	Sub Total (Civil Portion) (in Rs.)				**5,99,346.28**
A1	**Sub Total (Supply Portion)**				**20,86,472.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,75,564.96**
A	**Total Landed Cost (A=A1 + A2)**				**24,62,036.96**
B	Stock, Storage & Insurance @ 3 % of A				73,861.11
C	**Sub Total (A+B)**				**25,35,898.07**
D	Contingency @ 3 % of C				76,076.94
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				1,90,192.36
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**28,02,167.37**

I1	Sub Total (Erection Portion + Civil Portion)	7,74,175.99
I2	**Applicable Taxes to make it Landed Cost @18%**	**1,39,351.68**
I	**Total landed Cost (I=I1+ I2)**	**9,13,527.66**
J	**Total Cost (H+I)**	**37,15,695.03**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**37,15,695.03**
M	CESS 1% of L	37,156.95
N	**Grand Total (L+M)**	**37,52,851.98**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**3,750.00**
T	GST @ 18% on Total Inspection Fees (S)	675.00
U	Total Inspection Fees including GST (S+T)	4,425.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**37,57,276.98**

Part-D

Construction of 33kv interlinking line- 1.8KM with 3CX400sqmm without spare from Nayapally GSS to ESIC PSS and RRL PSS.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***1400***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***400***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1800	3,165.00	56,97,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	7	25,930.00	1,81,510.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	5	71,915.00	3,59,575.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	1400.00	812.00	11,36,800.00
	Sub Total (Supply Portion) (in Rs.)				**73,74,885.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1800	115.00	2,07,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	12	2,000.00	24,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	400	2,970.00	11,88,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1400.00	195.00	2,73,000.00
	Sub Total (Erection Portion) (in Rs.)				**16,92,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1390		
1.1.a	Earth work excavation of **soil**	M3	1167.6	716.03	8,36,036.63
1.1.b	Earth work excavation of **hard rock**	M3	500.4	1,759.39	8,80,398.76
1.2	Back filling with excavated soil outside and above the trench	M3	1668	220.00	3,66,960.00
1.3	Road Repair and restoration charges	KM	1	92,94,727.82	92,94,727.82
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
3	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	60	1,035.17	62,110.20
4	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.8	10,470.00	18,846.00
	Sub Total (Civil Portion) (in Rs.)				**1,16,26,110.55**

A1	**Sub Total (Supply Portion)**	**73,74,885.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**13,27,479.30**
A	**Total Landed Cost (A=A1 + A2)**	**87,02,364.30**
B	Stock, Storage & Insurance @ 3 % of A	2,61,070.93

C	**Sub Total (A+B)**	**89,63,435.23**
D	Contingency @ 3 % of C	2,68,903.06
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	6,72,257.64
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**99,04,595.93**
I1	Sub Total (Erection Portion + Civil Portion)	1,33,18,110.55
I2	**Applicable Taxes to make it Landed Cost @18%**	**23,97,259.90**
I	**Total landed Cost (I=I1+ I2)**	**1,57,15,370.45**
J	**Total Cost (H+I)**	**2,56,19,966.38**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**2,56,19,966.38**
M	CESS 1% of L	2,56,199.66
N	**Grand Total (L+M)**	**2,58,76,166.04**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)	945.00
U	Total Inspection Fees including GST (S+T)	6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**2,58,82,361.04**

Part-E -Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	10000	8.10	81,013.68
2	Dismantling of ACSR/AAAC 148/232mm2 from overhead line	M	500	11.05	5,523.66
3	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	10	18,003.04	1,80,030.40
4	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	10	1,200.00	12,000.00
5	Dismantling / Removal of 11KV/33KV CRP Pannel	EA	8	5,114.50	40,916.00
6	Dismantling of varous size of XLPE/PVC power Cable (up to 1000sqmm) with of all sizes(1C/3C/4C) upto 33KV	M	1000	30.69	30,687.00
7	Dismantling of 33kv Pin Insulator with F Bracket	EA	30	13.51	405.30
8	Dismantling of 33kv Disc Insulator with Hardware	EA	30	20.07	602.16
A1	**Sub Total (Civil Portion) (in Rs.)**				**3,51,178.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**63,212.08**
A	**Total landed Cost (A=A1+ A2)**				**4,14,390.28**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				4,14,390.28
D	**CESS @ 1% of C**				4,143.90
E	**Grand Total (C+D)**				4,18,534.18

ANNEXURE- 6.3			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**Khurdha (BBSR-II)**	
Name of the Work :-		***Loss reduction of 33kV Binodpada feeder by New 33kV Feeder from Hatabasta GSS :*** New 33kV feeder for power evacuation from Upcoming Hatabasta GSS, to enabling ring connectivity for 33kV Binodpada feeder which will provide 2nd 33kV source to PSS on existing feeder, improve network reliability by improve voltage profile, reduction in feeder length and reduction technical loss of network.	
Scope of work:-		PART A: Construction of 1 no. of 33 KV Outdoor Bay at Binodpada PSS. (Line Bay) PART B: Modification and extension of Control room at Binodpada PSS. PART C: Supply & Laying of 5 km 33kV 3CX400sqmm U/G Cable without spare run. PART D: Construction of 2 nos. 33 KV DP With Isolator and Earth Switch for U/G Cable Raising.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 1 no. of 33 KV Outdoor Bay at Binodpada PSS. (Line Bay)	₹ 92,30,003.19
2	B	PART B: Supply & Laying of 5 km 33kV 3CX400sqmm U/G Cable without spare run. (Refer PSLD point A-B)	₹ 5,22,15,454.84
3	C	PART C: Construction of 2 nos. 33 KV DP With Isolator and Earth Switch for U/G Cable Raising. (Refer PSLD point A & B)	₹ 8,44,316.39
		Total Amount	**₹ 6,22,89,774.41**
		Total Amount (In Cr)	**₹ 6.23**
Total estimated cost is Rs. 6.23 Crore. (On TPCODL Capex Scheme)			

PART A: Construction of 1 no. of 33 KV Outdoor Bay at Binodpada PSS. (Line Bay)

No. of BAY requirement	1
No. of VCB Requirement	1

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	16	20,800.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	566	44,179.20
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (24V DC)	EA	86,858.00	2	1,73,716.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (24V DC)	EA	2,63,629.00	1	2,63,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (24V DC)	EA	2,70,500.00	1	2,70,500.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	1,21,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**14,25,367.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,56,566.21**
A				**Total landed Cost (A=A1 + A2)**	**16,81,934.02**

B	Stock, Storage & Insurance i.e 3% of A	50,458.02
C	**Sub Total (A+B)**	**17,32,392.04**
D	Contigency @ 3% of C	51,971.76
E	Tools & Plants @ 2% of C (Except GI Pipe earthing)	34,142.23
F	Transportation @ 7.5% of C	1,29,929.40
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,38,669.70
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**21,03,125.87**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	16	60,555.68
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91

3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45

4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	172.5	40,020.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	11.5	17,020.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	11.5	57,845.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	23	1,72,500.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	21	1,57,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	280	75,600.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	4957	5,05,614.00
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	6	47,700.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2651	2,75,704.00
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
8	Modification and extension of Control Room along with other civil works	LS	41,00,000.00	1	41,00,000.00

K1	**Total Civil & Services**	**59,60,795.49**
K2	**Applicable Taxes to make it Landed Cost @18%**	**10,72,943.19**
K	**Total landed Cost (K=K1+ K2)**	**70,33,738.67**
L	**Total Material +services (J+K)**	**91,36,864.54**
M	Other overheads (Including 6% supervision charges)	
N	**Sub-Total (L+M)**	**91,36,864.54**
O	CESS 1% of (N)	91,368.65
P	**Total (N+O)**	92,28,233.19
Q	Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R	GST @ 18% on Total Inspection Fees (Q)	270.00
S	Total Inspection Fees including GST (Q+R)	1,770.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**92,30,003.19**

PART B: Supply & Laying of 5 km 33kV 3CX400sqmm U/G Cable without spare run. (Refer PSLD point A-B)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***2000***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***3000***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	5000	3,165.00	1,58,25,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	19	25,930.00	4,92,670.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
1.4	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	2	71,915.00	1,43,830.00
1.5	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	2000.00	812.00	16,24,000.00
	Sub Total (Supply Portion) (in Rs.)				**1,81,09,300.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	5000	115.00	5,75,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	23	2,000.00	46,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	3000	2,970.00	89,10,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2000.00	195.00	3,90,000.00
	Sub Total (Erection Portion) (in Rs.)				**99,21,000.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1884		
1.1.a	Earth work excavation of **soil**	M3	1582.56	716.03	11,33,160.44
1.1.b	Earth work excavation of **hard rock**	M3	678.24	1,759.39	11,93,288.67
1.2	Back filling with excavated soil outside and above the trench	M3	2260.8	220.00	4,97,376.00
1.3	Road Repair and restoration charges	KM	0.92	92,94,727.82	85,51,149.59
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**100**	16,703.11	16,70,311.47
4	**Fencing**				
5	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	167	1,035.17	1,72,873.39

6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	5	10,470.00	52,350.00
	Sub Total (Civil Portion) (in Rs.)				**1,32,70,509.56**
A1	**Sub Total (Supply Portion)**				**1,81,09,300.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**32,59,674.00**
A	**Total Landed Cost (A=A1 + A2)**				**2,13,68,974.00**
B	Stock, Storage & Insurance @ 3 % of A				6,41,069.22
C	**Sub Total (A+B)**				**2,20,10,043.22**
D	Contingency @ 3 % of C				6,60,301.30
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				16,50,753.24
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**2,43,21,097.76**
I1	Sub Total (Erection Portion + Civil Portion)				2,31,91,509.56
I2	**Applicable Taxes to make it Landed Cost @18%**				**41,74,471.72**
I	**Total landed Cost (I=I1+ I2)**				**2,73,65,981.29**
J	**Total Cost (H+I)**				**5,16,87,079.04**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**5,16,87,079.04**
M	CESS 1% of L				5,16,870.79
N	**Grand Total (L+M)**				**5,22,03,949.84**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				6,000.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**9,750.00**
T	GST @ 18% on Total Inspection Fees (S)				1,755.00
U	Total Inspection Fees including GST (S+T)				11,505.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**5,22,15,454.84**

PART C: Construction of 2 nos. 33 KV DP With Isolator and Earth Switch for U/G Cable Raising. (Refer PSLD point A & B)

No. of 33 KV DP required With Isolator for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8046)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1134.292	88,474.78
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (24V DC)	EA	1,01,652.00	2	2,03,304.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	6	3,786.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	6	1,998.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.52	4,404.48
18	232 sq.mm AAA conductor	M	181.65	24	4,359.60
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	24	19,488.00
20	POLYCARBONATE BIRD GUARD	EA	21.00	12	252.00
A1				**Total Cost of materials**	**5,25,294.86**
A2				**Applicable Taxes to make it Landed Cost @18%**	**94,553.07**
A				**Total landed Cost (A=A1 + A2)**	**6,19,847.93**
B				Stock, Storage & Insurance i.e 3% of A	18,595.44
C				**Sub Total (A+B)**	**6,38,443.37**
D				Contigency @ 3% of C	19,153.30
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,586.72
F				Transportation @ 7.5% of C	47,883.25
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				41,418.75
I	Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**7,66,742.82**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	195.00	24	4,680.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**58,655.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,558.07**
K				**Total landed Cost (K=K1+ K2)**	**69,214.00**
L				**Total (J+K)**	8,35,956.82
M	Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)				
N				**Sub-Total Material +Services (L+M)**	**8,35,956.82**
O				CESS 1% of N	8,359.57
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**8,44,316.39**

ANNEXURE-6.4		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	**CED**	
Name of the Sub-Division : -	Niali	
Name of the Work :-	Proposal for construction of 33 kV line from Proposed 132/33 kV Nua Betenda GSS to 33/11 kV Kulakapasai PSS to N-1 connectivity of 33 kV Niali feeder	
Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
ABSTRACT OF ESTIMATE		
Sl. No.	**Description**	**Amount**
1	Part- A:- Construction of 33 kV line of 7 Ckm using 232 Sq.mm. AAA Conductor and 13 Mtr. WPB Pole. (Refer PSLD)	1,95,99,556.94
2	Part- B:- Construction of 33 kV line of 3 Ckm using 232 Sq.mm. XLPE AAA Conductor and 13 Mtr. WPB Pole. (Refer PSLD)	1,09,15,780.98
3	Part-C :- Installation of 33 kV line protecting road crossing guarding on DP (5 locations).	1,52,185.94
4	Part-D :- Supply and Laying of 0.5 Ckm 33kV 3CX400 Sq.mm. U/G cable (with Back to Back arrangement) for 33 kV line crossing and road crossing near Grid.	78,87,759.85
5	Part-E :- Construction of 1 No. of 33 kV Line Bay Kulakapasai PSS.	29,18,365.81
	Total Amount	**4,14,73,649.53**
	Total Amount (In Cr.)	**4.15**
Total estimated cost is Rs.4.15 Crore. (On TPCODL Capex Scheme)		

Part- A:-
Construction of 33 kV line of 7 Ckm using 232 Sq.mm. AAA Conductor and 13 Mtr. WPB Pole. (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	14

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	28	9,51,160.00
2	GI Channel,angle, flat of different size	KG	78.00	2946.188	2,29,802.66
3	Danger Plate	EA	180.00	28	5,040.00
4	H.T. Stay clamp	EA	260.00	56	14,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	56	80,304.00
6	H.T. Stay Insulator Type-C	EA	87.00	112	9,744.00
7	7/8 SWG Stay Wire	KG	75.00	840	63,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	28	36,400.00
9	GI barbed wire anticlimbing device	KG	74.00	84	6,216.00
10	33 kV pin insulator polymer	EA	398.00	42	16,716.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	84	53,004.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	84	24,276.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	84	27,972.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	176.792	13,082.61
15	POLYCARBONATE BIRD GUARD	EA	21.00	126	2,646.00
A1				**Total Cost of materials**	**15,33,923.27**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,76,106.19**
A				**Total landed Cost (A=A1 + A2)**	**18,10,029.46**
B				Stock, Storage & Insurance i.e 3% of A	54,300.88
C				**Sub Total (A+B)**	**18,64,330.34**
D				Contigency @ 3% of C	55,929.91
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	32,327.58
F				Transportation @ 7.5% of C	1,39,824.78
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	57,801.99
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	46,033.92
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**21,96,248.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	56	1,28,885.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	15.4	1,02,392.29
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.15	20,943.88
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	28	1,05,972.44
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	14	11,704.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	28	7,933.52
K1				**Total Civil & Services**	**3,77,831.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**68,009.67**
K				**Total landed Cost (K=K1+ K2)**	**4,45,841.20**
L				**Total (J+K)**	26,42,089.72
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**26,42,089.72**
O				CESS 1% of N	26,420.90
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**26,68,510.62**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	1,24,712.00

13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
18	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**4,27,207.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**76,897.41**
A				**Total landed Cost (A=A1 + A2)**	**5,04,105.27**
B				Stock, Storage & Insurance i.e 3% of A	15,123.16
C				**Sub Total (A+B)**	**5,19,228.42**
D				Contigency @ 3% of C	15,576.85
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	9,676.14
F				Transportation @ 7.5% of C	38,942.13
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,865.83
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,23,546.80**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	6,87,238.40
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**6,87,238.40**
O				CESS 1% of N	6,872.38
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**6,94,110.78**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	8

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	8	2,71,760.00
2	GI Channel,angle & flat of different size	KG	78.00	362.976	28,312.13
3	Danger Plate, 1 no's.	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
9	33KV pin insulator polymer	EA	398.00	24	9,552.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	48	30,288.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	48	13,872.00
12	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	48	15,984.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
15	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
A1				**Total Cost of materials**	**4,05,669.76**
A2				**Applicable Taxes to make it Landed Cost @18%**	**73,020.56**
A				**Total landed Cost (A=A1 + A2)**	**4,78,690.32**
B				Stock, Storage & Insurance i.e 3% of A	14,360.71
C				**Sub Total (A+B)**	**4,93,051.03**
D				Contigency @ 3% of C	14,791.53
E				Tools & Plants @ 2% of C	9,278.99
F				Transportation @ 7.5% of C	36,978.83
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,514.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,365.24

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**5,83,980.47**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**62,605.83**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,269.05**
K				**Total landed Cost (K=K1+ K2)**	**73,874.87**
L				**Total (J+K)**	6,57,855.34
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**6,57,855.34**
O				CESS 1% of N	6,578.55
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**6,64,433.89**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	8

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	8	2,71,760.00
2	GI Channel,angle & flat of different size	KG	78.00	713.616	55,662.05
3	Danger Plate	EA	180.00	8	1,440.00
4	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
5	33KV pin insulator polymer	EA	398.00	32	12,736.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	48	30,288.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	48	13,872.00
8	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	48	15,984.00
10	H.T. Stay clamp	EA	260.00	16	4,160.00
11	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
12	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
13	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
15	POLYCARBONATE BIRD GUARD	EA	21.00	80	1,680.00
A1				**Total Cost of materials**	**4,58,923.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**82,606.26**
A				**Total landed Cost (A=A1 + A2)**	**5,41,529.94**
B				Stock, Storage & Insurance i.e 3% of A	16,245.90
C				**Sub Total (A+B)**	**5,57,775.84**
D				Contigency @ 3% of C	16,733.28
E				Tools & Plants @ 2% of C (Except HT Stay Set)	10,025.29
F				Transportation @ 7.5% of C	41,833.19
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,514.86
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				17,096.75
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**6,59,979.20**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.400	29,254.94
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.900	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**81,018.03**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,583.24**
K				**Total landed Cost (K=K1+ K2)**	**95,601.27**
L				**Total (J+K)**	7,55,580.47
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**7,55,580.47**

O	CESS 1% of N	7,555.80
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**7,63,136.28**

	33 Kv Line Length In KM with 40 Mtr. Span			7	
	(Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)				
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	143	48,57,710.00
2	33 KV V cross Arm (GI)	EA	1,701.00	143	2,43,243.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	143	11,583.00
4	Danger Plate	EA	180.00	143	25,740.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	220.22	17,177.16
6	GI barbed wire anticlimbing device	KG	74.00	429.00	31,746.00
7	33 kV pin insulator polymer	EA	398.00	429	1,70,742.00
8	Earthing of Support (Coil Type)	EA	164.00	143	23,452.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	235.52	17,428.55
10	232 sq.mm AAA conductor	M	181.65	21630.00	39,29,089.50
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	21	20,152.89
12	POLYCARBONATE BIRD GUARD	EA	21.00	429	9,009.00
A1	**Total Cost of materials**				**93,57,073.11**
A2	**Applicable Taxes to make it Landed Cost @18%**				**16,84,273.16**
A	**Total landed Cost (A=A1 + A2)**				**1,10,41,346.27**
B	Stock, Storage & Insurance i.e 3% of A				3,31,240.39
C	**Sub Total (A+B)**				**1,13,72,586.65**
D	Contigency @ 3% of C				3,41,177.60
E	Tools & Plants @ 2% of C				2,27,451.73
F	Transportation @ 7.5% of C				8,52,944.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				2,95,203.04
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,46,852.59
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,36,36,215.62**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	78.65	5,22,932.05
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	16.09	1,06,963.37
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	143	1,19,548.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	143	40,517.62
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7	73,290.00
K1	**Total Civil & Services**				**8,63,251.05**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,55,385.19**
K	**Total landed Cost (K=K1+ K2)**				**10,18,636.24**
L	**Total (J+K)**				1,46,54,851.85
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**1,46,54,851.85**
O	CESS 1% of N				1,46,548.52
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**1,48,01,400.37**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				26,68,510.62
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				6,94,110.78
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				6,64,433.89
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				7,63,136.28
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				1,48,01,400.37
Q	**Gross Total Material +Services**				**1,95,91,591.94**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				4,500.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**6,750.00**
V	GST @ 18% on Total Inspection Fees (U)				1,215.00
W	Total Inspection Fees including GST (U+V)				7,965.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**1,95,99,556.94**

Part- B:-

Construction of 33 kV line of 3 Ckm using 232 Sq.mm. XLPE AAA Conductor and 13 Mtr. WPB Pole. (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	5

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	10	3,39,700.00
2	GI Channel,angle, flat of different size	KG	78.00	1052.21	82,072.38
3	Danger Plate	EA	180.00	10	1,800.00
4	H.T. Stay clamp	EA	260.00	20	5,200.00
5	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
6	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
7	7/8 SWG Stay Wire	KG	75.00	300	22,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
9	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
10	33 kV pin insulator polymer	EA	398.00	15	5,970.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	15	1,800.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	30	27,000.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	30	8,670.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	63.14	4,672.36
A1				**Total Cost of materials**	**6,21,764.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,11,917.65**
A				**Total landed Cost (A=A1 + A2)**	**7,33,682.39**
B				Stock, Storage & Insurance i.e 3% of A	22,010.47
C				**Sub Total (A+B)**	**7,55,692.86**
D				Contigency @ 3% of C	22,670.79
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	13,342.78
F				Transportation @ 7.5% of C	56,676.96
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	20,643.57
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	25,426.74
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**8,94,453.71**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.5	36,568.68
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.125	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**1,34,939.83**
K2				**Applicable Taxes to make it Landed Cost @18%**	**24,289.17**
K				**Total landed Cost (K=K1+ K2)**	**1,59,229.00**
L				**Total (J+K)**	10,53,682.71
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**10,53,682.71**
O				CESS 1% of N	10,536.83
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**10,64,219.53**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	1

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00

13	33KV pin insulator polymer	EA	398.00	3	1,194.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
A1				**Total Cost of materials**	**2,28,390.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,110.37**
A				**Total landed Cost (A=A1 + A2)**	**2,69,501.29**
B				Stock, Storage & Insurance i.e 3% of A	8,085.04
C				**Sub Total (A+B)**	**2,77,586.33**
D				Contigency @ 3% of C	8,327.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,197.51
F				Transportation @ 7.5% of C	20,818.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,730.12
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,33,789.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	3,65,635.05
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**3,65,635.05**
O				CESS 1% of N	3,656.35
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**3,69,291.40**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	4

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	181.488	14,156.06
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	33KV pin insulator polymer	EA	398.00	12	4,776.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**2,61,982.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**47,156.92**
A				**Total landed Cost (A=A1 + A2)**	**3,09,139.80**
B				Stock, Storage & Insurance i.e 3% of A	9,274.19
C				**Sub Total (A+B)**	**3,18,413.99**
D				Contigency @ 3% of C	9,552.42
E				Tools & Plants @ 2% of C	6,077.26
F				Transportation @ 7.5% of C	23,881.05
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,871.47
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J	**Sum of (C to I)**	**3,80,053.62**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1	**Total Civil & Services**				**31,302.91**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,634.52**
K	**Total landed Cost (K=K1+ K2)**				**36,937.44**
L	**Total (J+K)**				4,16,991.06
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**4,16,991.06**
O	CESS 1% of N				4,169.91
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**4,21,160.97**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	4

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	356.808	27,831.02
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00
5	33KV pin insulator polymer	EA	398.00	16	6,368.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	16	1,920.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
11	Earthing of Support (Coil Type)	EA	164.00	4	656.00
12	H.T. Stay clamp	EA	260.00	8	2,080.00
13	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
14	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
15	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1	**Total Cost of materials**				**2,89,005.84**
A2	**Applicable Taxes to make it Landed Cost @18%**				**52,021.05**
A	**Total landed Cost (A=A1 + A2)**				**3,41,026.89**
B	Stock, Storage & Insurance i.e 3% of A				10,230.81
C	**Sub Total (A+B)**				**3,51,257.70**
D	Contigency @ 3% of C				10,537.73
E	Tools & Plants @ 2% of C (Except HT Stay Set)				6,460.04
F	Transportation @ 7.5% of C				26,344.33
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,785.35
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,18,642.58**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.200	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.450	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1	**Total Civil & Services**				**40,509.01**
K2	**Applicable Taxes to make it Landed Cost @18%**				**7,291.62**
K	**Total landed Cost (K=K1+ K2)**				**47,800.63**
L	**Total (J+K)**				4,66,443.21
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**4,66,443.21**
O	CESS 1% of N				4,664.43

P	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				4,71,107.64
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)		3		
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	61	20,72,170.00
2	33 KV V cross Arm (GI)	EA	1,701.00	61	1,03,761.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	61	4,941.00
4	Danger Plate	EA	180.00	61	10,980.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	93.94	7,327.32
6	GI barbed wire anticlimbing device	KG	74.00	183.00	13,542.00
7	33 kV pin insulator polymer	EA	398.00	183	72,834.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	183	21,960.00
10	Earthing of Support (Coil Type)	EA	164.00	61	10,004.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	100.47	7,434.56
12	232 sq.mm XLPE AAA covered conductor	M	342.00	9270.00	31,70,340.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	9	6,750.00
A1				**Total Cost of materials**	**55,02,043.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,90,367.90**
A				**Total landed Cost (A=A1 + A2)**	**64,92,411.78**
B				Stock, Storage & Insurance i.e 3% of A	1,94,772.35
C				**Sub Total (A+B)**	**66,87,184.13**
D				Contigency @ 3% of C	2,00,615.52
E				Tools & Plants @ 2% of C	1,33,743.68
F				Transportation @ 7.5% of C	5,01,538.81
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,25,925.77
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,16,866.87
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**80,65,874.79**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	33.55	2,23,068.92
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.86	45,627.73
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	61	50,996.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	61	17,283.74
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**3,68,386.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**66,309.55**
K				**Total landed Cost (K=K1+ K2)**	**4,34,695.94**
L				**Total (J+K)**	85,00,570.73
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**85,00,570.73**
O				CESS 1% of N	85,005.71
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**85,85,576.44**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				10,64,219.53
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				3,69,291.40
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				4,21,160.97
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				4,71,107.64
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				85,85,576.44
Q				**Gross Total Material +Services**	**1,09,11,355.98**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				1,500.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**3,750.00**
V	GST @ 18% on Total Inspection Fees (U)				675.00
W	Total Inspection Fees including GST (U+V)				4,425.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**1,09,15,780.98**

Part-C :-
Installation of 33 kV line protecting road crossing guarding on DP (5 locations).

No. of 33 KV Line Protecting Guarding	5
Length of 33 KV Line Protecting Guarding in Mtr.	40

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	576.235	44,946.33
2	No-10 GI wire for lacing	KG	78.00	32.75	2,554.50
3	No-8 GI wire for guard wire	KG	78.00	153.6	11,980.80
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
A1				**Total Cost of materials**	**72,481.63**
A2				**Applicable Taxes to make it Landed Cost @18%**	**13,046.69**
A				**Total landed Cost (A=A1 + A2)**	**85,528.32**
B				Stock, Storage & Insurance i.e 3% of A	2,565.85
C				**Sub Total (A+B)**	**88,094.17**
D				Contigency @ 3% of C	2,642.83
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,445.88
F				Transportation @ 7.5% of C	6,607.06
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,229.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,06,019.34**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
K1				**Total Civil & Services**	**37,847.30**
K2				Applicable Taxes to make it Landed Cost @18%	6,812.51
K				**Total landed Cost (K=K1+ K2)**	**44,659.81**
L				**Total (J+K)**	1,50,679.15
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**1,50,679.15**
O				Total CESS @ 1% of (N)	1,506.79
P				**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**	**1,52,185.94**

Part-D :-
Supply and Laying of 0.5 Ckm 33kV 3CX400 Sq.mm. U/G cable (with Back to Back arrangement) for 33 kV line crossing and road crossing near Grid.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***500***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1000	3,165.00	31,65,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	25,930.00	51,860.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	11,900.00	47,600.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	1000.00	812.00	8,12,000.00
	Sub Total (Supply Portion) (in Rs.)				**40,76,460.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1000	115.00	1,15,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1000.00	195.00	1,95,000.00
	Sub Total (Erection Portion) (in Rs.)				**3,22,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	468		
1.1.a	Earth work excavation of **soil**	M3	393.12	716.03	2,81,485.71
1.1.b	Earth work excavation of **hard rock**	M3	168.48	1,759.39	2,96,422.03
1.2	Back filling with excavated soil outside and above the trench	M3	561.6	220.00	1,23,552.00
1.3	Road Repair and restoration charges	KM	0.1	92,94,727.82	9,29,472.78
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	17	1,035.17	17,597.89
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.5	10,470.00	5,235.00
	Sub Total (Civil Portion) (in Rs.)				**16,53,765.41**
A1	**Sub Total (Supply Portion)**				**40,76,460.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**7,33,762.80**

A	**Total Landed Cost (A=A1 + A2)**	**48,10,222.80**
B	Stock, Storage & Insurance @ 3 % of A	1,44,306.68
C	**Sub Total (A+B)**	**49,54,529.48**
D	Contingency @ 3 % of C	1,48,635.88
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	3,71,589.71
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**54,74,755.08**
I1	Sub Total (Erection Portion + Civil Portion)	19,75,765.41
I2	**Applicable Taxes to make it Landed Cost @18%**	**3,55,637.77**
I	**Total landed Cost (I=I1+ I2)**	**23,31,403.19**
J	**Total Cost (H+I)**	**78,06,158.27**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**78,06,158.27**
M	CESS 1% of L	78,061.58
N	**Grand Total (L+M)**	**78,84,219.85**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,000.00**
T	GST @ 18% on Total Inspection Fees (S)	540.00
U	Total Inspection Fees including GST (S+T)	3,540.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**78,87,759.85**

Part-E :-

Construction of 1 No. of 33 kV Line Bay Kulakapasai PSS.

No. of BAY requirement	1
No. of VCB Requirement	1

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	16	20,800.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	566	44,179.20
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	1	2,63,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	1,21,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00

23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**14,40,161.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,59,229.13**
A				**Total landed Cost (A=A1 + A2)**	**16,99,390.94**
B				Stock, Storage & Insurance i.e 3% of A	50,981.73
C				**Sub Total (A+B)**	**17,50,372.66**
D				Contigency @ 3% of C	52,511.18
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	34,501.85
F				Transportation @ 7.5% of C	1,31,277.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,40,467.77
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,25,152.14**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	16	60,555.68
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60

2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88

3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00

5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	17.25	4,002.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	1.15	1,702.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	1.15	5,784.50
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	2.3	17,250.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	2.1	15,750.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	28	7,560.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	495.7	50,561.40
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	0.6	4,770.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	265.1	27,570.40
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**6,46,242.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,16,323.70**
K				**Total landed Cost (K=K1+ K2)**	**7,62,566.49**
L				**Total Material +services (J+K)**	**28,87,718.63**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**28,87,718.63**
O				CESS 1% of (N)	28,877.19
P				**Total (N+O)**	29,16,595.81
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**29,18,365.81**

ANNEXURE-6.5			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**ANED (Dhenkanal)**	
Name of the Sub Division :-		**Chhendipada**	
Name of the Work :-		***Loss reduction of 33kV Jarapada feeder by New 33kV Feeder from Chhendipada GSS :*** New 33kV feeder for power evacuation from Upcoming Chhendipada GSS, to enabling ring connectivity for 33kV Jarapada feeder which will provide 2nd 33kV source to PSS on existing feeder, improve network reliability by improve voltage profile, reduction in feeder length and reduction technical loss of network.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. - XLPE AAA Covered Conductor-10.37ckm.	₹ 4,00,37,854.96
2	B	PART B: Laying of 33kV 3C, 400sqmm UG Cable 1.4km	₹ 1,28,08,532.03
3	C	PART C: Construction of 3 Nos. Line Protecting Guarding on Double Pole for Road Crossing.	₹ 1,06,385.33
4	D	PART D: Construction of 3 Nos. 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with One No. of Isolator and LA Set.	₹ 16,19,136.26
5	E	PART E: Installation of 14 Mtr. H-Pole for 11kV line crossing.	₹ 8,10,761.82
		Total Amount	**₹ 5,53,82,670.39**
		Total Amount (In Cr)	**₹ 5.54**
Total estimated cost is Rs. 5.54 Crore. (On TPCODL CAPEX Scheme)			

PART A: Construction of 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-10.37ckm.

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	10

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	20	6,79,400.00
2	GI Channel,angle, flat of different size	KG	78.00	2104.42	1,64,144.76
3	Danger Plate	EA	180.00	20	3,600.00
4	H.T. Stay clamp	EA	260.00	40	10,400.00
5	H.T. Stay set (Complete)	SET	1,434.00	40	57,360.00
6	H.T. Stay Insulator Type-C	EA	87.00	80	6,960.00
7	7/8 SWG Stay Wire	KG	75.00	600	45,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	20	26,000.00
9	GI barbed wire anticlimbing device	KG	74.00	60	4,440.00
10	33 kV pin insulator polymer	EA	398.00	30	11,940.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	30	3,600.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	60	54,000.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	40	8,800.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	60	17,340.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	126.28	9,344.72
A1				**Total Cost of materials**	**12,52,329.48**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,25,419.31**
A				**Total landed Cost (A=A1 + A2)**	**14,77,748.79**
B				Stock, Storage & Insurance i.e 3% of A	44,332.46
C				**Sub Total (A+B)**	**15,22,081.25**
D				Contigency @ 3% of C	45,662.44
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	26,899.46
F				Transportation @ 7.5% of C	1,14,156.09
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	41,287.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	51,923.04
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**18,02,009.42**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	40	92,061.00
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11	73,137.35
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	20	75,694.60
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
K1				**Total Civil & Services**	**2,69,879.66**
K2				**Applicable Taxes to make it Landed Cost @18%**	**48,578.34**
K				**Total landed Cost (K=K1+ K2)**	**3,18,458.00**
L				**Total (J+K)**	21,20,467.42
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**21,20,467.42**
O				CESS 1% of N	21,204.67
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**21,41,672.10**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	12

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	24	8,15,280.00
2	GI Channel,angle & flat of different size	KG	78.00	6638.316	5,17,788.65
3	DMC Insulator for LA (70/10)	EA	113.50	96	10,896.00
4	Danger Plate	EA	180.00	24	4,320.00
5	H.T. Stay clamp	EA	260.00	48	12,480.00
6	H.T. Stay set (Complete)	SET	1,434.00	48	68,832.00
7	H.T. Stay Insulator Type-C	EA	87.00	96	8,352.00
8	7/8 SWG Stay Wire	KG	75.00	720	54,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	24	31,200.00
10	GI barbed wire anticlimbing device	KG	74.00	72	5,328.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	36	1,59,948.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	12	7,48,272.00
13	33KV pin insulator polymer	EA	398.00	36	14,328.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	36	4,320.00

15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	72	64,800.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	48	10,560.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	72	1,80,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	72	20,808.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	266.736	19,738.46
A1				**Total Cost of materials**	**27,51,251.11**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,95,225.20**
A				**Total landed Cost (A=A1 + A2)**	**32,46,476.31**
B				Stock, Storage & Insurance i.e 3% of A	97,394.29
C				**Sub Total (A+B)**	**33,43,870.60**
D				Contigency @ 3% of C	1,00,316.12
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	62,626.82
F				Transportation @ 7.5% of C	2,50,790.30
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				49,544.57
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,14,044.96
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**40,21,193.36**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	48	1,10,473.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.2	87,764.82
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.7	17,951.90
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	24	90,833.52
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	12	10,032.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	24	6,800.16
K1				**Total Civil & Services**	**3,23,855.60**
K2				**Applicable Taxes to make it Landed Cost @18%**	**58,294.01**
K				**Total landed Cost (K=K1+ K2)**	**3,82,149.60**
L				**Total (J+K)**	44,03,342.96
M	Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)				
N				**Sub-Total Material +Services (L+M)**	**44,03,342.96**
O				CESS 1% of N	44,033.43
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**44,47,376.39**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	20

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	20	6,79,400.00
2	GI Channel,angle & flat of different size	KG	78.00	907.44	70,780.32
3	Danger Plate	EA	180.00	20	3,600.00
4	H.T. Stay clamp	EA	260.00	20	5,200.00
5	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
6	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
7	7/8 SWG Stay Wire	KG	75.00	300	22,500.00
8	GI barbed wire anticlimbing device	KG	74.00	60	4,440.00
9	33KV pin insulator polymer	EA	398.00	60	23,880.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	60	7,200.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	120	1,08,000.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	40	8,800.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	120	3,00,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	120	34,680.00
15	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	199.92	14,794.08
A1				**Total Cost of materials**	**13,18,714.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,37,368.59**
A				**Total landed Cost (A=A1 + A2)**	**15,56,082.99**
B				Stock, Storage & Insurance i.e 3% of A	46,682.49
C				**Sub Total (A+B)**	**16,02,765.48**
D				Contigency @ 3% of C	48,082.96
E				Tools & Plants @ 2% of C	30,600.23
F				Transportation @ 7.5% of C	1,20,207.41
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				41,287.14
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				70,426.89
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**19,13,370.12**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11	73,137.35
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
K1				**Total Civil & Services**	**1,56,514.56**
K2				**Applicable Taxes to make it Landed Cost @18%**	**28,172.62**
K				**Total landed Cost (K=K1+ K2)**	**1,84,687.18**
L				**Total (J+K)**	20,98,057.30
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**20,98,057.30**
O				CESS 1% of N	20,980.57
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**21,19,037.87**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	20

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	20	6,79,400.00
2	GI Channel,angle & flat of different size	KG	78.00	1784.04	1,39,155.12
3	Danger Plate	EA	180.00	20	3,600.00
4	GI barbed wire anticlimbing device	KG	74.00	60	4,440.00
5	33KV pin insulator polymer	EA	398.00	80	31,840.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	80	9,600.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	120	1,08,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	40	8,800.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	120	3,00,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	120	34,680.00
11	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
12	H.T. Stay clamp	EA	260.00	40	10,400.00
13	H.T. Stay set (Complete)	SET	1,434.00	40	57,360.00
14	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
15	7/8 SWG Stay Wire	KG	75.00	600	45,000.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	199.92	14,794.08
A1				**Total Cost of materials**	**14,53,829.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,61,689.26**
A				**Total landed Cost (A=A1 + A2)**	**17,15,518.46**
B				Stock, Storage & Insurance i.e 3% of A	51,465.55
C				**Sub Total (A+B)**	**17,66,984.01**
D				Contigency @ 3% of C	53,009.52
E				Tools & Plants @ 2% of C (Except HT Stay Set)	32,514.12
F				Transportation @ 7.5% of C	1,32,523.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				41,287.14
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				79,996.32
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,06,314.90**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.000	73,137.35
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.250	14,959.91
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	40	92,061.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
K1				**Total Civil & Services**	**2,02,545.06**
K2				**Applicable Taxes to make it Landed Cost @18%**	**36,458.11**
K				**Total landed Cost (K=K1+ K2)**	**2,39,003.17**
L				**Total (J+K)**	23,45,318.08
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**23,45,318.08**
O				CESS 1% of N	23,453.18
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**23,68,771.26**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)			10.37		
MATERIALS FOR 33 KV Pin Points					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	197	66,92,090.00
2	33 KV V cross Arm (GI)	EA	1,701.00	197	3,35,097.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	197	15,957.00
4	Danger Plate	EA	180.00	197	35,460.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	303.38	23,663.64
6	GI barbed wire anticlimbing device	KG	74.00	591.00	43,734.00
7	33 kV pin insulator polymer	EA	398.00	591	2,35,218.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	591	70,920.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	394	86,680.00
10	Earthing of Support (Coil Type)	EA	164.00	197	32,308.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	324.46	24,009.97
12	232 sq.mm XLPE AAA covered conductor	M	342.00	32043.30	1,09,58,808.60
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	30	22,500.00
A1				**Total Cost of materials**	**1,85,76,446.21**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,43,760.32**
A				**Total landed Cost (A=A1 + A2)**	**2,19,20,206.52**
B				Stock, Storage & Insurance i.e 3% of A	6,57,606.20
C				**Sub Total (A+B)**	**2,25,77,812.72**
D				Contigency @ 3% of C	6,77,334.38
E				Tools & Plants @ 2% of C	4,51,556.25
F				Transportation @ 7.5% of C	16,93,335.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				4,06,678.31
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,44,424.65
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,72,51,142.27**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	108.35	7,20,402.90
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	22.16	1,47,355.14
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	197	1,64,692.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	197	55,817.98
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	10.37	1,08,573.90
K1				**Total Civil & Services**	**11,96,841.92**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,15,431.54**
K				**Total landed Cost (K=K1+ K2)**	**14,12,273.46**
L				**Total (J+K)**	2,86,63,415.73
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**2,86,63,415.73**
O				CESS 1% of N	2,86,634.16
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**2,89,50,049.89**
Gross Total Summary					
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				21,41,672.10
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				44,47,376.39
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				21,19,037.87
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				23,68,771.26
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				2,89,50,049.89
Q				**Gross Total Material +Services**	**4,00,26,907.51**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				7,027.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**9,277.50**
V	GST @ 18% on Total Inspection Fees (U)				1,669.95
W	Total Inspection Fees including GST (U+V)				10,947.45
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,00,37,854.96**

PART B: Laying of 33kV 3C, 400sqmm UG Cable 1.4km					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***1400***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1400	3,165.00	44,31,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	6	25,930.00	1,55,580.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	12	11,900.00	1,42,800.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	96.00	812.00	77,952.00
	Sub Total (Supply Portion) (in Rs.)				**48,07,332.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1400	115.00	1,61,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	18	2,000.00	36,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1400	2,970.00	41,58,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	96.00	195.00	18,720.00
	Sub Total (Erection Portion) (in Rs.)				**43,73,720.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Trench**				
2	Cable Trench with RCC Wall	RM	**50**	16,703.11	8,35,155.74
3	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	47	1,035.17	48,652.99
4	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.4	10,470.00	14,658.00
	Sub Total (Civil Portion) (in Rs.)				**8,98,466.73**
A1	**Sub Total (Supply Portion)**				**48,07,332.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,65,319.76**
A	**Total Landed Cost (A=A1 + A2)**				**56,72,651.76**
B	Stock, Storage & Insurance @ 3 % of A				1,70,179.55
C	**Sub Total (A+B)**				**58,42,831.31**
D	Contingency @ 3 % of C				1,75,284.94
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				4,38,212.35
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**64,56,328.60**

I1	Sub Total (Erection Portion + Civil Portion)	52,72,186.73
I2	**Applicable Taxes to make it Landed Cost @18%**	**9,48,993.61**
I	**Total landed Cost (I=I1+ I2)**	**62,21,180.34**
J	**Total Cost (H+I)**	**1,26,77,508.94**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,26,77,508.94**
M	CESS 1% of L	1,26,775.09
N	**Grand Total (L+M)**	**1,28,04,284.03**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	600.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,600.00**
T	GST @ 18% on Total Inspection Fees (S)	648.00
U	Total Inspection Fees including GST (S+T)	4,248.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,28,08,532.03**

PART C: Construction of 3 Nos. Line Protecting Guarding on Double Pole for Road Crossing.

No. of 33 KV Line Protecting Guarding	3
Length of 33 KV Line Protecting Guarding in Mtr.	40

Materials for Line Protecting Guarding for Road Crossing(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8011)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	474.255	36,991.89
2	No-10 GI wire for lacing	KG	78.00	19.65	1,532.70
3	No-8 GI wire for guard wire	KG	78.00	92.16	7,188.48
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
A1				**Total Cost of materials**	**53,513.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,632.35**
A				**Total landed Cost (A=A1 + A2)**	**63,145.42**
B				Stock, Storage & Insurance i.e 3% of A	1,894.36
C				**Sub Total (A+B)**	**65,039.79**
D				Contigency @ 3% of C	1,951.19
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,111.19
F				Transportation @ 7.5% of C	4,877.98
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,555.97
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**78,536.12**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
K1				**Total Civil & Services**	**22,708.38**
K2				Applicable Taxes to make it Landed Cost @18%	4,087.51
K				**Total landed Cost (K=K1+ K2)**	**26,795.89**
L				**Total (J+K)**	1,05,332.01
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**1,05,332.01**
O				Total CESS @ 1% of (N)	1,053.32
P				**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**	**1,06,385.33**

PART D: Construction of 3 Nos. 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with One No. of Isolator and LA Set.					
No. of 33 KV 4-Pole with Isolator (Ref. Drawing No.-PD-1346-TPCODL-33 KV-OH-8012)				3	
MATERIALS FOR 33 KV 4-P With Isolator					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for 4-Pole	EA	33,970.00	12	4,07,640.00
2	GI Channel,angle & flat of different size	KG	78.00	2960.319	2,30,904.88
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	Danger Plate	EA	180.00	12	2,160.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	1,87,068.00
13	33KV pin insulator polymer	EA	398.00	18	7,164.00
14	H W fitting(B&S)90KN,4 Bolt	EA	631.00	45	28,395.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	45	13,005.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	45	14,985.00
17	232 sq.mm AAA conductor	M	181.65	117	21,253.05
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	110.808	8,199.79
19	POLYCARBONATE BIRD GUARD	EA	21.00	63	1,323.00
A1				**Total Cost of materials**	**10,11,188.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,82,013.97**
A				**Total landed Cost (A=A1 + A2)**	**11,93,202.69**
B				Stock, Storage & Insurance i.e 3% of A	35,796.08
C				**Sub Total (A+B)**	**12,28,998.78**
D				Contigency @ 3% of C	36,869.96
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/stay set)	23,517.33
F				Transportation @ 7.5% of C	92,174.91
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,772.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing/stay set) (With Applicable Taxes @ 18% to make it Landed Cost)	68,042.07
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**14,74,375.33**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.6	43,882.41
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**1,09,093.12**
K2				Applicable Taxes to make it Landed Cost @18%	19,636.76
K				**Total landed Cost (K=K1+ K2)**	**1,28,729.88**
L				**Total (J+K)**	16,03,105.20
M				Other overheads (Including 6% supervision charges) of L (for 33 KV 4-P With Isolator)	
N				**Sub Total (L+M)**	**16,03,105.20**
O				CESS 1% of N	16,031.05
P				**Gross Total Material +Services (N+O)**	**16,19,136.26**

PART D: Constrcution of one 33 KV Outdoor Bay (Transformer & Line Bay)

No. of BAY requirement	1
No. of VCB Requirement	1

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	16	20,800.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	566	44,179.20
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	1	2,63,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	0	-
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	1,21,653.00

19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
26	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	0	-
27	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
28	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	2,49,965.00	0	-
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**14,40,161.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,59,229.13**
A				**Total landed Cost (A=A1 + A2)**	**16,99,390.94**
B				Stock, Storage & Insurance i.e 3% of A	50,981.73
C				**Sub Total (A+B)**	**17,50,372.66**
D				Contigency @ 3% of C	52,511.18
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	34,501.85
F				Transportation @ 7.5% of C	1,31,277.95
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,020.73
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,40,467.77
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**21,25,152.14**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	16	60,555.68
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06

2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45

4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	34.5	8,004.00

6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	2.3	3,404.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	2.3	11,569.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.6	34,500.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.2	31,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	56	15,120.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	991.4	1,01,122.80
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	1.2	9,540.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	530.2	55,140.80
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00

K1	**Total Civil & Services**	**7,81,193.09**
K2	**Applicable Taxes to make it Landed Cost @18%**	**1,40,614.76**
K	**Total landed Cost (K=K1+ K2)**	**9,21,807.84**
L	**Total Material +services (J+K)**	**30,46,959.98**
M	Other overheads (Including 6% supervision charges)	
N	**Sub-Total (L+M)**	**30,46,959.98**
O	CESS 1% of (N)	30,469.60
P	**Total (N+O)**	30,77,429.58
Q	Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R	GST @ 18% on Total Inspection Fees (Q)	270.00
S	Total Inspection Fees including GST (Q+R)	1,770.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**30,79,199.58**

PART E: Installation of 14 Mtr. H-Pole for 11kV line crossing.

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	6

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	6	3,93,420.00
2	GI Channel,angle & flat of different size	KG	78.00	270.624	21,108.67
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
9	33KV pin insulator polymer	EA	398.00	18	7,164.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	36	22,716.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	36	10,404.00
12	Earthing of Support (Coil Type)	EA	164.00	6	984.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	36	11,988.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	32.184	2,381.62
15	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00
A1				**Total Cost of materials**	**5,09,628.29**
A2				**Applicable Taxes to make it Landed Cost @18%**	**91,733.09**
A				**Total landed Cost (A=A1 + A2)**	**6,01,361.38**
B				Stock, Storage & Insurance i.e 3% of A	18,040.84
C				**Sub Total (A+B)**	**6,19,402.22**
D				Contigency @ 3% of C	18,582.07
E				Tools & Plants @ 2% of C	11,515.00
F				Transportation @ 7.5% of C	46,455.17
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				23,908.13
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,758.72
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**7,29,621.31**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.48	23,138.00
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**61,960.31**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,152.86**
K				**Total landed Cost (K=K1+ K2)**	**73,113.17**
L				**Total (J+K)**	8,02,734.48
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**8,02,734.48**
O				CESS 1% of N	8,027.34
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**8,10,761.82**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	8,10,761.82
Q	**Gross Total Material +Services**	**8,10,761.82**
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**8,10,761.82**

Annexure – 12

11kV Network Infrastructure

ANNEXURE-12

Summary of proposal details for 11kV Reliability Improvement:

Sl. No	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
1	BBSR-I	BED	Lingipur	Gangua	Proposal for augmentation for 3kms O/H line from Gangotri Nagar Lane-3 to Airtel Tower to Improve reliability.	₹ 0.46	Annexure -12.1
2	BBSR-I	BED	Uttara	KEC,Sardeipur,Dhauli	Proposal for construction 1.1km U/G from Uttara PSS to near Aastha Highway due to unsafe condition to improve reliability.	₹ 1.08	Annexure -12.2
3	BBSR-I	BED	Mulapadia	Mahavir Cottage	Proposal for construction of an interlinking line and installation of 2 Nos. of RMUs in the 11 kV Mahavir Cottage Feeder to improve network reliability .	₹ 0.76	Annexure -12.3
4	BBSR-I	BED	Lingipur	Kua Khai	Proposal for Augmentation of 3KM line strengthening for improving reliability of 11kV Shakti Nagar Feeder and installation of 1 no RMU for backfeeding of 11kV Sai and Sishupalagada feeder with Kuakhai Feeder	₹ 1.98	Annexure -12.4
5	BBSR-I	BED	Pradhan Sahi	Panchagaon	Proposal for augmentation and strengthening of the 11 kV Panchagaon Feeder for a length of 1.5 CKM to improve network reliability, along with the installation of 1 No. RMU for back-feeding arrangement .	₹ 0.59	Annexure -12.5
6	BBSR-I	BED	Pradhan Sahi	Kalyani Plaza	Proposal for augmentation and refurbishment of the 11 kV Kalyani Plaza Feeder for a length of 2.5 CKM using 100 sq. mm AAAC XLPE covered conductor, considering the dense vegetation along the feeder route, to improve network reliability and reduce vegetation-related interruptions.	₹ 0.25	Annexure -12.6
7	BBSR-I	BED	Pandra	Mangaraj	Proposal for augmentation and strengthening of the 11 kV Mangaraj Point Feeder for a length of 0.8 CKM to improve network reliability and ensure better supply continuity.	₹ 0.14	Annexure -12.7
8	BBSR-I	BCDD-I	Unit-2	Ashok Nagar	Proposal for bifurcation of the 11 kV Ashok Nagar Feeder by construction of a new 11 kV feeder from Kharvel Nagar to mitigate the existing feeder overloading issue, reduce feeder loading, and improve network reliability.	₹ 2.53	Annexure -12.8

Sl. No	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
9	BBSR-II	PED	Kacheri PSS	Swargadwar-1	Proposal for construction of a new 11 kV feeder of 0.82 CKM length, to bifurcate the load of the 11 kV Swargadwar-1 Feeder to enhance the reliability as well as to mitigate the overloading issue.	₹ 2.14	Annexure -12.9
10	BBSR-I	BCD D-I	Board Colony	JP RMU-37	Proposal for bifurcation of the 11 kV JPRMU-37 Feeder by construction of a new 11 kV feeder from Shanti Pali to mitigate the existing feeder overloading issue, reduce feeder loading, and improve network reliability.	₹ 1.56	Annexure -12.10
11	BBSR-I	BCD D-I	Unit-6	Unit-6	Proposal for augmentation of the 11 kV Medical OH Feeder using 100 sq. mm XLPE covered conductor and interlinking it with the 11 kV Unit-6 Feeder to improve the reliability and supply continuity of the Unit-6 Feeder.	₹ 0.84	Annexure -12.11
12	BBSR-I	BCD D-II	Ranasingh Pur	Aigenia	Proposal for bifurcation of 11 kV Aigenia Feeder by laying of new UG Line from Ranasingh Pur PSS to Ranasingh Pur Village 250 KVA DTR.	₹ 2.58	Annexure -12.12
13	BBSR-I	BCD D-II	Bharat Pur	Bharatpur	Proposal for bifurcation of 11 kV Bharat Pur Feeder by laying of new UG Line from Bharat Pur PSS to Lokayukta Bhawan Near GA Colony.	₹ 4.00	Annexure -12.13
14	BBSR-I	BCD D-II	Khandagiri	Kolthia	Proposal for bifurcation of 11 kV Kolathia Feeder by laying of new UG Line from Bharat Pur PSS to Manipal Hospital.	₹ 4.00	Annexure -12.14
15	BBSR-I	BCD D-II	Bharat Pur	PHD	Proposal for augmentation of existing 11kV PHD feeder using 100mm2 XLPE covered conductor.	₹ 3.58	Annexure -12.15
16	BBSR-I	BCD D-II	CS Pur-2	HB-3	Proposal for augmentation of 11 kV HB-3 Feeder using 100mm2 XLPE covered conductor & installation of RMU in T-off for reliability improvement.	₹ 1.24	Annexure -12.16
17	BBSR-I	NED	Kaktpur	Kaktpur-2	Construction of new 11kV Feeder from Astaranga PSS to bifurcate Kaktpur-2 Feeder	₹ 3.02	Annexure -12.17
18	BBSR-I	NED	Nimapada	Patapur	Proposal for line augmentation of 1 CKM line	₹ 1.15	Annexure -12.18
19	BBSR-II	PED	Sunamuhin	Brahmagiri	Proposal for refurbishment and augmentation of 11kV Brahmagiri feeder 3 CKM in Dadra kund and Gada rodanga by using 100 SQ.MM. AAA to enhance reliability.	₹ 1.06	Annexure -12.19

Sl. No	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
20	BBSR-II	PED	Sakhigopal	Sakhigopal Bajar	Proposal for augmentation of the 11 kV Sakhigopal Bajar Feeder to enhance reliability including to mitigate the overloading issue.	₹ 0.92	Annexure -12.20
21	BBSR-II	BAED	Balugaon	Singheswar	Proposal for refurbishment and augmentation of existing 11 KV Singheswar Feeder from Lambodarpur to khandewallkot to enhance reliability.	₹ 0.51	Annexure -12.21
22	BBSR-II	KHD	Tirimal	Taraboi	Proposal for refurbishment and augmentation of the existing 11 kV Taraboi Feeder for a length of 3.4 CKM near Anlajodi and Samantaraypur villages to improve feeder reliability.	₹ 0.50	Annexure -12.22
23	BBSR-II	KHD	Sunadeimundia	Rajiba	Proposal for refurbishment and augmentation of 11kV Rajiba Feeder 3.5 CKM by using 100 SQ.MM. AAA from Khandiabandha line AB switch to Kurum chain Line AB switch to improve reliability .	₹ 0.50	Annexure -12.23
24	BBSR-II	NYED	Gania	Koska	Proposal for construction of a new 11 KV Feeder from 33/11 KV Gania PSS and interlink with existing 11kV Kuska Feeder to bifurcate the length of the 11 KV Kuska Feeder.	₹ 0.60	Annexure -12.24
25	BBSR-II	NYED	Similisahi	Similisahi	Proposal for construction of a 0.04 CKM interlinking line between the 11 kV Similisahi Feeder and the 11 kV Old Town Feeder for reliability improvement and length reduction.	₹ 0.04	Annexure -12.25
26	Cuttack	CDD-1	Jobra PSS	College square UG	Proposal for refurbishment of 1 CKM O/H line of 11 kV collage square Fd	₹ 0.12	Annexure -12.26
27	Cuttack	CDD-1	DRDA PSS	GANESH GHAT	Proposal for refurbishment of1 .4 CKM O/H line of 11 kV ganeshghat Fdr	₹ 0.19	Annexure -12.27
28	Cuttack	CDD-2	Kandarpur PSS	AIR	Proposal for refurbishment of 1.8 CKM O/H line of 11 kV AIR Fdr. along with construction of 2.26 CKM new line for reliability improvement & safety issue mitigation	₹ 0.76	Annexure -12.28
29	Cuttack	AED	Badamba PSS	BADAMBA TOWN	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV Badamba town Fdr. along with construction of 0.08 CKM U/G line for N-1 connectivity between 11 kV Badamba town & Badabarsingha FDR	₹ 0.15	Annexure -12.29

Sl. No	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
30	Cuttack	AED	Tigiria PSS	PANCHAGAON	Proposal for refurbishment of 3 CKM O/H line of 11 kV panchgaon Fdr from 55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC	₹ 0.41	Annexure -12.30
31	Cuttack	SED	Erkana PSS	LAXMINARAYANPUR	Proposal for bifurcation of 11 kV Laxminarayanpur Fdr by construction of 01 No. of new 11 kV Indoor Bay at 33/11 kV Erkana PSS	₹ 0.34	Annexure -12.31
32	Cuttack	SED	Bahubram-1 PSS	BAHUGRAM GOPINATHPUR	Proposal for refurbishment of 1.5 CKM O/H line of 11 kV Bahugram Gopinathpur Fdr. Along with construction of 1.4 CKM new line for reliability improvement.	₹ 0.54	Annexure -12.32
33	Cuttack	SED	Orikanta PSS	GOPINATHPUR	Proposal for refurbishment of 4 CKM O/H line of 11 KV Orikanta Gopinathpur Fdr. using 100 Sq.mm AAA Conductor along with construction of 1 CKM 11 kV new line to improve reliability	₹ 0.62	Annexure -12.33
34	Cuttack	CED	Balikuda PSS	BARANGA	Proposal for refurbishment of 1.2 CKM O/H line of 11 kV Barang fdr . along with construction of 1.74 CKM new line for reliability improvement	₹ 1.12	Annexure -12.34
35	Cuttack	CED	Choudwar PSS	LOCAL	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV choudwar local Fdr. along with construction of 0.68 CKM U/G line for reliability improvement & safety issue mitigation.	₹ 0.67	Annexure -12.35
36	Cuttack	SED	Orikanta PSS	Bilahata	Proposal for augmentation of of 5 CKM O/H line of 11 kV Bilahata Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole (interposing)	₹ 0.68	Annexure -12.36
37	Cuttack	AED	MARDMUKHA PSS	KAMALADIHA OLD	Proposal for interlinking line of 1.2 CKM between 11 kV Kamaladiha and Kamaladiha Old feeder for length reduction of length of 11 kV Kamaladiha Old Fdr.	₹ 0.28	Annexure -12.37
38	Dhenkanal	DED	Nuabag	Naukhiyari	Construction of 1.4 CKM interlinking line between the 11 kV Naukiari Feeder and 11 kV Kalanga Feeder, connecting Alusingha to Sani Mandap and Kadalipal to CSC Centre, to improve network reliability and reduce the feeder length.	₹ 0.43	Annexure -12.38

Sl. No	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
39	Dhenkanal	ANED	Boinda	Handapa	Proposal for augmentation of the 11 kV Nakchi Feeder for a length of 4 CKM and construction of a 1.77 CKM interlinking line between the 11 kV Nakchi Feeder and 11 kV Handapa Feeder, to improve network reliability and reduce the feeder length.	₹ 1.05	Annexure -12.39
40	Dhenkanal	ANED	Daurapalli	Raniakata	Construction of a 2 CKM interlinking line between the 11 kV Raniakata Feeder and 11 kV Kadalimunda Feeder from Sanahula to Mundabeda, to improve network reliability and reduce the feeder length.	₹ 0.58	Annexure -12.40
41	Dhenkanal	DED	Bhapur	Bhapur	Proposal for refurbishment and augmentation of the 11 kV Bhapur Feeder for a length of 1 CKM from Sarakapatna Primary School to Chandrasekhar Prasad, to improve network reliability.	₹ 0.15	Annexure -12.41
42	Dhenkanal	TED	Khama	Sankhmur	Proposal for construction of a new 1.5 CKM interlinking line between the 11 kV Sankhmur Feeder and 11 kV Odaus Feeder from Hotel Kalia to Eknatala, to reduce feeder length and improve network reliability.	₹ 0.49	Annexure -12.42
43	Dhenkanal	TED	Banarpal	Banarpal Hindol	Proposal for construction of a new 2.5 CKM interlinking line between the 11 kV Banrapal-hindol Feeder and 11 kV Phulapada Feeder from Kusuna to Santapur, to reduce feeder length and improve network reliability.	₹ 0.55	Annexure -12.43
44	Paradeep	PDP	Garadpur	Garadpur-I	2.6 CKM interlinking line required between 11 kV Postal Fdr. and Garadpur-1 Fdr. for bifurcation of load of Garadpur-1 feeder.(At present Garadpur-1 Fdr. of KED-2 division feeding part load of PDP which made difficulties during maintenance)	₹ 0.69	Annexure -12.44
45	Paradeep	KED-II	Thauri PSS	Ortaghat	Proposal for diversion of existing O/H line of 11 kV Ortaghat Fdr. from Waterlogging area/dense forest area and construction of 2.3 CKM new 11 kV line to improve reliability.	₹ 0.63	Annexure -12.45

Sl. No	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
46	Paradeep	KED-II	Marsaghai PSS	Angulai & Kurtunga	Proposal for Augmentation of 3 CKM line of 11 Kv Angulai Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 2.5 CKM linking line for N-1 reliability with 11 kV Kurtanga Fdr.	₹ 0.78	Annexure -12.46
47	Paradeep	KED-II	Badhi/Babar PSS	Jamboo	Proposal for construction of 0.9 CKM 11 KV line using 100 Sq.mm AAA Conductor for N-1 connectivity between 11 kV Jamboo & Marine Fdr. and reduction of length of 11 kV Jamboo Fdr.	₹ 0.34	Annexure -12.47
48	Paradeep	KED-I	Ayatan PSS	Jaynagar	Proposal for refurbishment of 6 CKM O/H line of 11 kV Jaynagar Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole. (Aged conductor)	₹ 0.92	Annexure -12.48
49	Paradeep	KED-I	Indupur PSS	Bairi	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Bairi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement. (Aged conductor)	₹ 1.16	Annexure -12.49
50	BBSR-I	BCD D-II	Dumduma	Asian Plaza	Proposal for augmentation of existing 11kV Asian Plaza feeder using 100mm2 XLPE covered conductor & Linking with nearby Feeder for Load Diversion.	₹ 0.73	Annexure -12.50
51	Paradeep	KED-I	Kendrapada PSS	Thakurpatna& Chhata	Proposal for construction of 1.1 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Thakurpatna & Chhata Fdr	₹ 0.42	Annexure -12.51
52	Paradeep	KED-I	Rajnagar PSS	Rajnagar	Proposal for construction of 2 CKM 11 kV new line for N-1 reliability between 11 kV Rajnagar & Balarampur Fdr. along with installation of 01 No. of 11 kV 4-way RMU (LVVV) at Kurundi for improvement of reliability.	₹ 1.02	Annexure -12.52
53	Paradeep	PDP	Trilochanpur PSS	Sandhakuda	Proposal for Augmentation of 4.1 CKM O/H line of 11 kV Sandhakuda Fdr. from 80 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC along with shifting of 1 CKM 11 kV line from water logging area.	₹ 0.99	Annexure -12.53
54	Paradeep	PDP	Kujang PSS	Santara	Proposal for conversion of 11 kV O/H line to U/G line using 3CX400 Sq.mm. XLPE U/G cable for the length of 0.57 kM for unsafe to safe.	₹ 0.49	Annexure -12.54

Sl. No	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
55	Paradeep	PDP	Paradeepgarh PSS	Rangiagarh	Proposal for Augmentation of 1 CKM line of 11 kV Rangiagarh Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC. (short height pole & aged conductor)	₹ 0.18	Annexure -12.55
56	Paradeep	PDP	Erasma PSS	Ersama Bazar	Proposal for refurbishment of 1.2 CKM line of 11 kV Erasama Bazar Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.(short height pole & aged conductor)	₹ 0.24	Annexure -12.56
57	Paradeep	JED	Balikuda PSS	Dengapola	Proposal for refurbishment of 11.5 CKM O/H line of 11 kV Dengapola Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 1.5 CKM 11 kV line for N-1 connectivity between 11 kV Govindpur and Dengapola Fdr. for improvement of reliability.	₹ 2.36	Annexure -12.57
58	Paradeep	JED	Jagatsinghpur PSS	Chhapada	Proposal for refurbishment of 6.1 CKM line of 11 kV Chhapada Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC. (Rusted conductor due to aging effect)	₹ 0.97	Annexure -12.58
59	Paradeep	JED	Sova PSS	Macchegaon	Proposal for refurbishment of 6.12 CKM O/H line of 11 kV Machegaon Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC. (Rusted conducter due to aging effect)	₹ 0.94	Annexure -12.59
60	Paradeep	JED	Nabapatna PSS	Mansadahi	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Mandasahi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole along with construction of 1 CKM 11 kV line for N-1 connectivity between 11 kV Mandasahi & Jankothi Fdr. for length reduction of Mandasahi Fdr.	₹ 1.29	Annexure -12.60
61	Paradeep	JED	Nabapatna PSS	Tarikund	Proposal for refurbishment of 4.5 CKM O/H line of 11 kV Tarikund Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	₹ 0.65	Annexure -12.61
62	Paradeep	PDP	Bijaychandrapur PSS	Atharbanki Medical	Proposal for refurbishment of 0.5 CKM line of 11 kV Atharabanki Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for unsafe to safe.	₹ 0.19	Annexure -12.62
Total						**60**	

1.0 Proposal for Reliability improvement of 11kV Gangua Feeder:

Proposal:

Proposal for augmentation for 3kms O/H line from Gangotri Nagar Lane-3 to Airtel Tower.

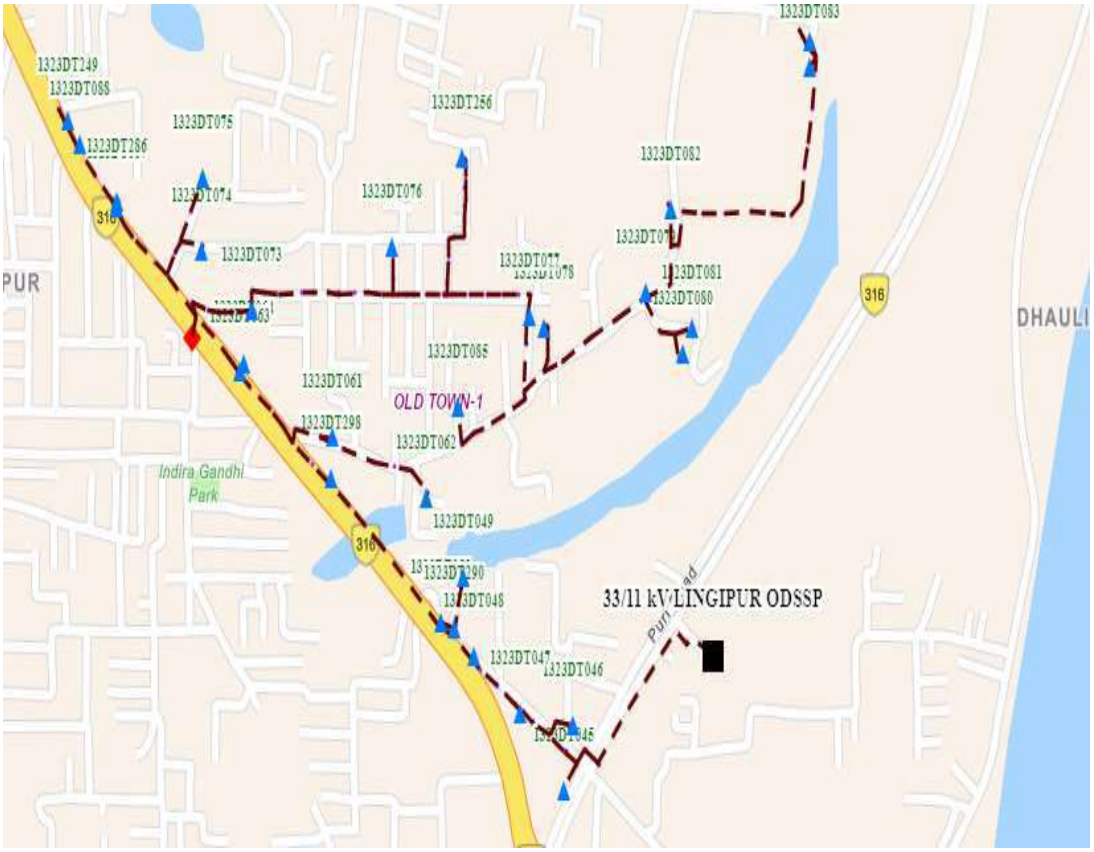
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Gangua Feeder.

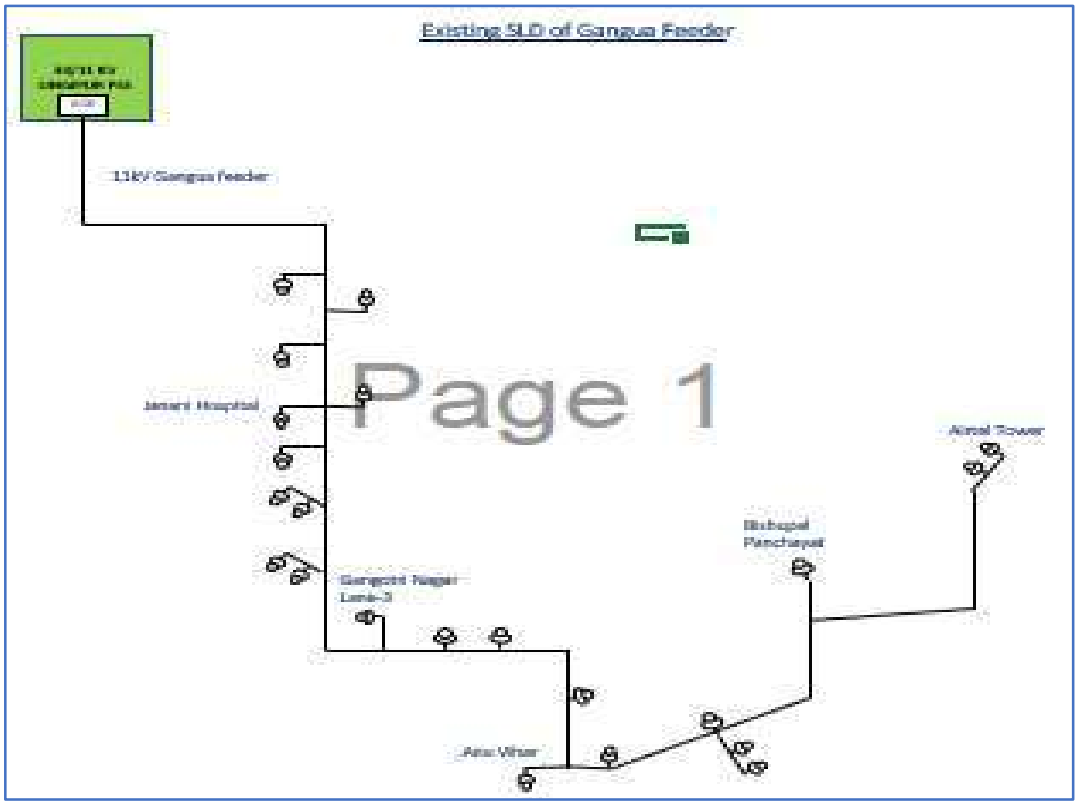
Existing Scenario:

- 11kV Gangua feeder is emanating from 33/11kV Lingipur PSS. The total length of the feeder including spur feeders is 4.4 CKM with peak load of 2.28 MVA.
- The trunk conductor size of 11 kV Gangua feeder is 100 sq.mm AAAC is bare & have multiple tripping because of vegetation & transient faults
- Because of tripping/maintenance activities major commercial consumers remains out of service

GIS MAP



Existing SLD:



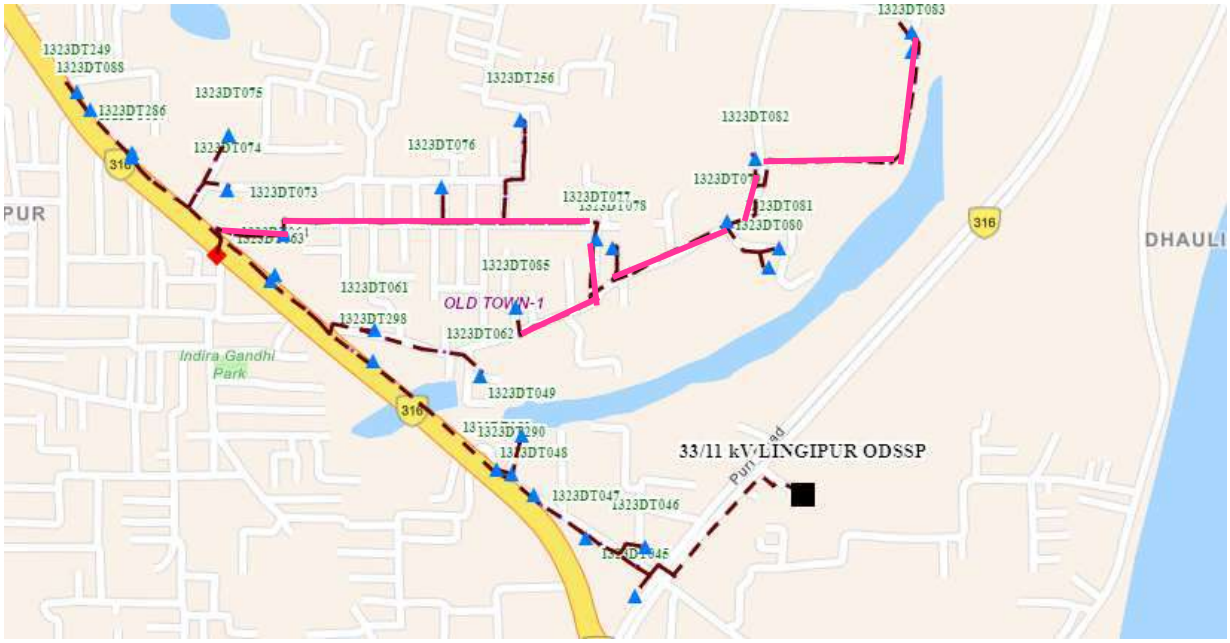
Priority of the Project:

Priority: Since the 11kV Gangua feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last two year was 101 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

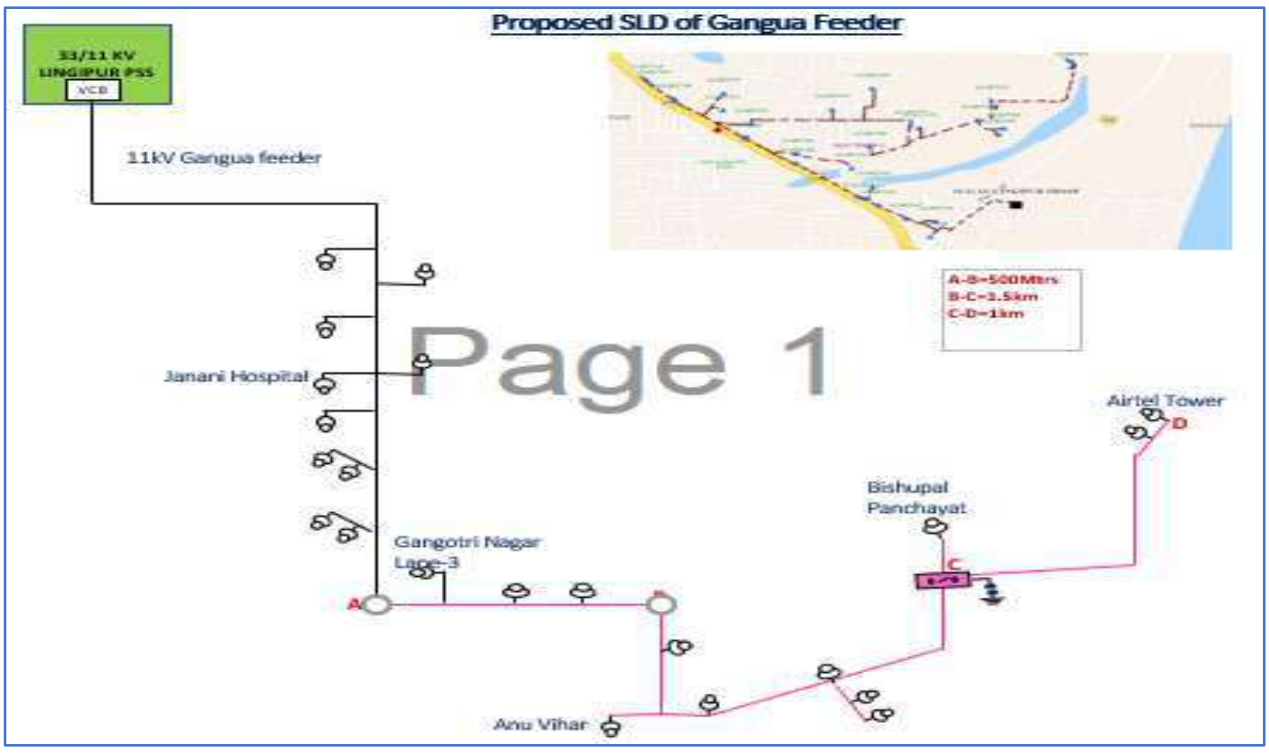
Proposed Scenario:

- Augmentation for 3km using 100sqmm Covered Conductor for 11kV O/H line strengthening from Gangotri Nagar Lane-3 to Airtel
- Covered conductor is proposed in order to reduce transient tripping.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation.

GIS Map Proposed:-



Proposed SLD:



Page 1

Scope of Work:

- Augmentation of 3Kms O/H line due to dense vegetation area and damaged conductor.
- Installation of 2 no. of Line DP with AB Switch.

Proposed Cost with Estimate Break-up:

Annexure- 12.1		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		OT-1
Name of the Feeder: -		11kV Gangua Feeder
Name of the Work :-		Proposal for augmentation for 3kms O/H line from Gangotri Nagar Lane-3 to Airtel Tower
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:- 1. Installation of 2 no. of Line DP with AB Switch 2. Augmentation of 3Kms O/H line due to dense vegetation area and damaged conductor.	45,34,974.47
2	PART-C:- Dismantling	1,02,850.61
3	**Total Gross**	**46,37,825.08**
Total estimated cost is Rs. 0.46Cr.		

Cost Estimate: ₹ 0.46Cr. (For detailed BoQ refer Annexure-12.1)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Gangua feeder.
- Augmented with Covered conductor to aviod transient tripping.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential commercial consumers.

2.0 Proposal for Reliability improvement of 11kV Dhauli Feeder:

Proposal:

Proposal for construction 1.1km U/G from Uttara PSS to near Aastha Highway due to unsafe condition

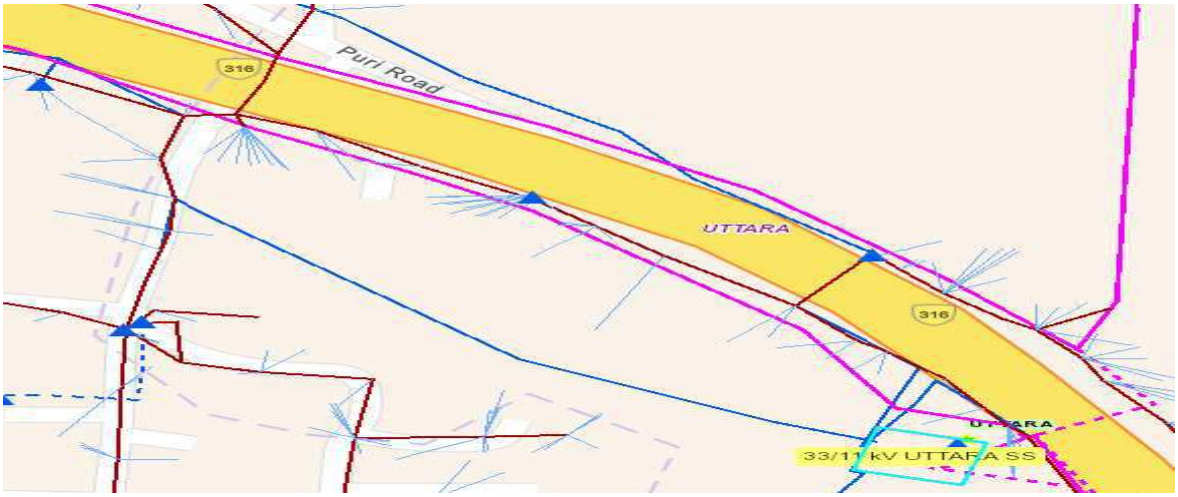
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV KEC,Dhauli and Sardeipur Feeders.

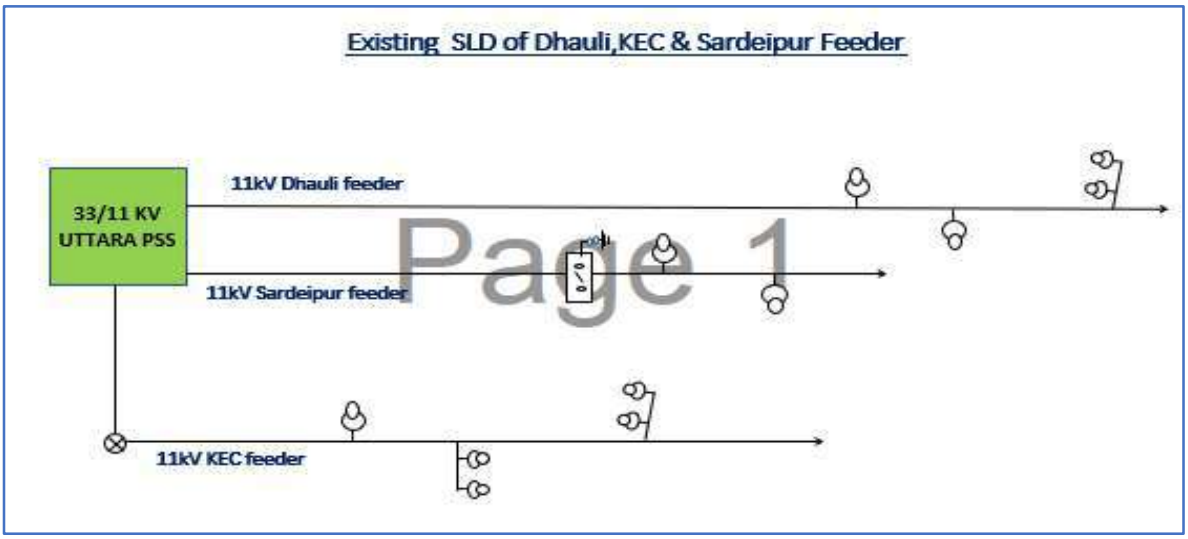
Existing Scenario:

- At present, the 11 kV KEC, Dhauli, and Sardeipur feeders are emanating from 33/11 kV Uttara PSS.
- The existing feeders are overhead (O/H) lines passing through areas in the vicinity of Uttara PSS.
- Due to the construction of buildings near Uttara PSS, the existing O/H feeders are in an unsafe and vulnerable condition.
- The proximity of the buildings to the O/H lines poses safety risks and potential operational hazards.
- To ensure safe and reliable power supply, conversion of the existing overhead network to underground (U/G) cable is proposed.

GIS MAP



Existing SLD:



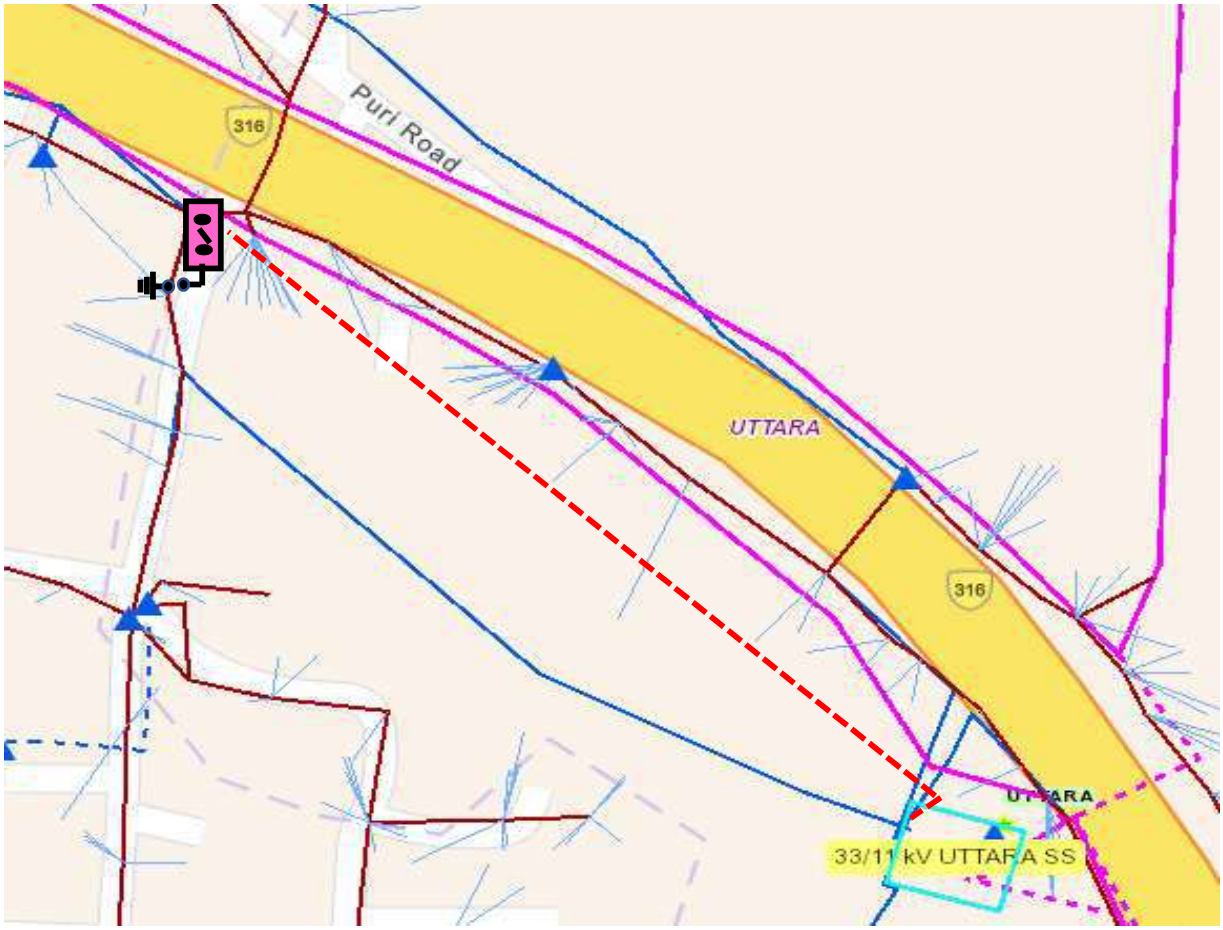
Priority of the Project:

Priority: Since the 11 kV Dahuli, 11 kV KEC, and 11 kV Sardeipur feeders cater to urban consumers and are presently passing through an unsafe condition, with buildings being constructed in close proximity to Uttara PSS, the existing overhead network poses a potential safety risk to the public and operating personnel. The no. of trippings during the last two year was 352 nos for 11kV Dhauli Feeder,108 nos for 11kV KEC feeder and 167 nos for 11kV Sardeipur Feeder. In addition, the existing overhead arrangement remains vulnerable to faults and accidental contact with nearby structures, which may result in supply interruptions and safety incidents. Therefore, undergrounding of the affected 11 kV feeders is proposed to eliminate the safety risk associated with the existing overhead network and improve the reliability and continuity of power supply to the connected urban consumers.

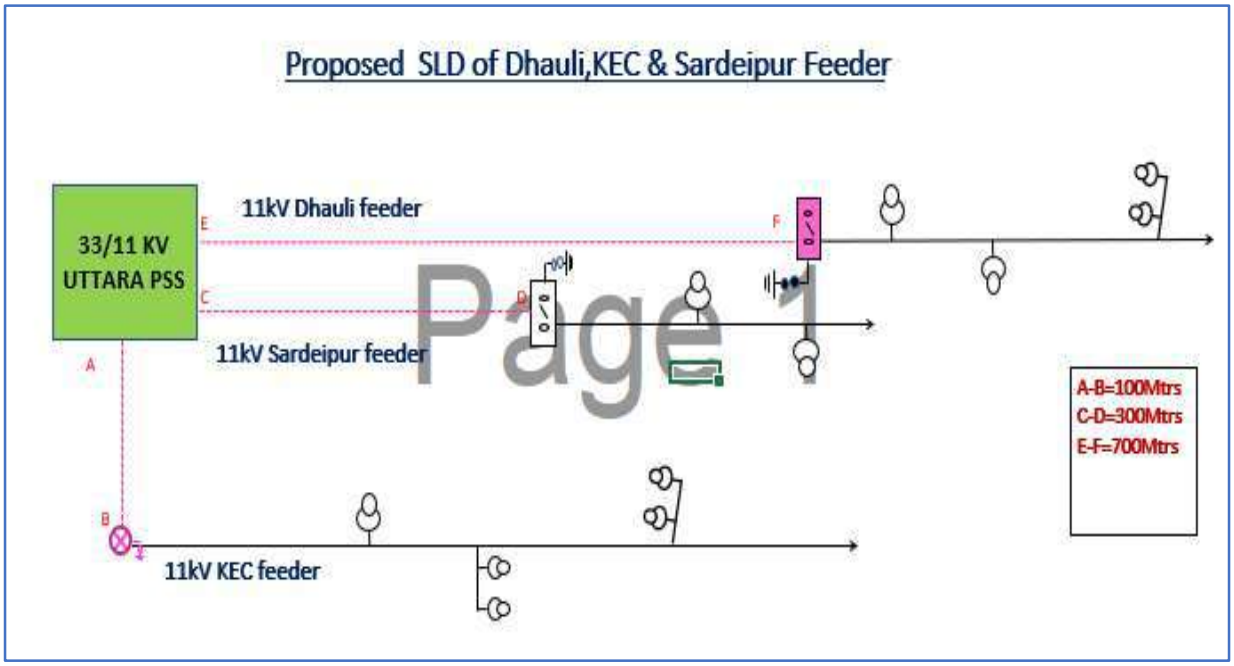
Proposed Scenario:

- It is proposed to Construct 1.1 km of 11 kV U/G cable from Uttara PSS to near Aastha Highway to avoid any accident due to unsafe condition of existing OH Line which are adjacent to buildings.
- To Installation of 1 No. DP structure near Aastha Highway for rising of UG Cable.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 1.1 km of 11 kV U/G cable from Uttara PSS to near Aastha Highway.
- Installation of 1 No. DP structure near Aastha Highway and Installation of 1no of DP with Isolator with Earth Switch at Uttara PSS.

Proposed Cost with Estimate Break-up:

Annexure- 12.2		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		Uttara
Name of the Feeder: -		11kV Dhauli Feeder
Name of the Work :-		Proposal for construction 1.1km U/G from Uttara PSS to near Aastha Highway due to unsafe condition
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:- Installation of 1no of DP with Isolator with Earth Switch at Uttara PSS.	10,30,036.56
2	PART-B:- Proposed 1.1km U/G cable for 11kV KEC,Sardeipur and Dhauli feeder due to unsafe condition	94,00,713.31
3	PART-C:- Installation of 1 no 11 KV DP With AB Switch for U/G Cable Raising	2,51,873.57
4	PART-D:- Installation of 1no cable rising pole	1,19,198.11
5	PART-E:- Dismantling	47,052.42
6	**Total Gross**	**1,08,48,873.97**
Total estimated cost is Rs. 1.08Cr.		

Cost Estimate: ₹ 1.08Cr. (For detailed BoQ refer Annexure-12.2)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved safety by replacing the existing unsafe O/H network with U/G cable.
- Reduced risk of faults and outages due to external interference.
- Reduced maintenance requirements and operational hazard
- Improved reliability and continuity of power supply.

3.0 Proposal for Reliability improvement of 11kV Mahavir Cottage Feeder:

Proposal:

Proposal for installation of 2nos of RMU for reliability improvement of 11kV Mahavir cottage feeder

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Mahavir Cottage Feeder.

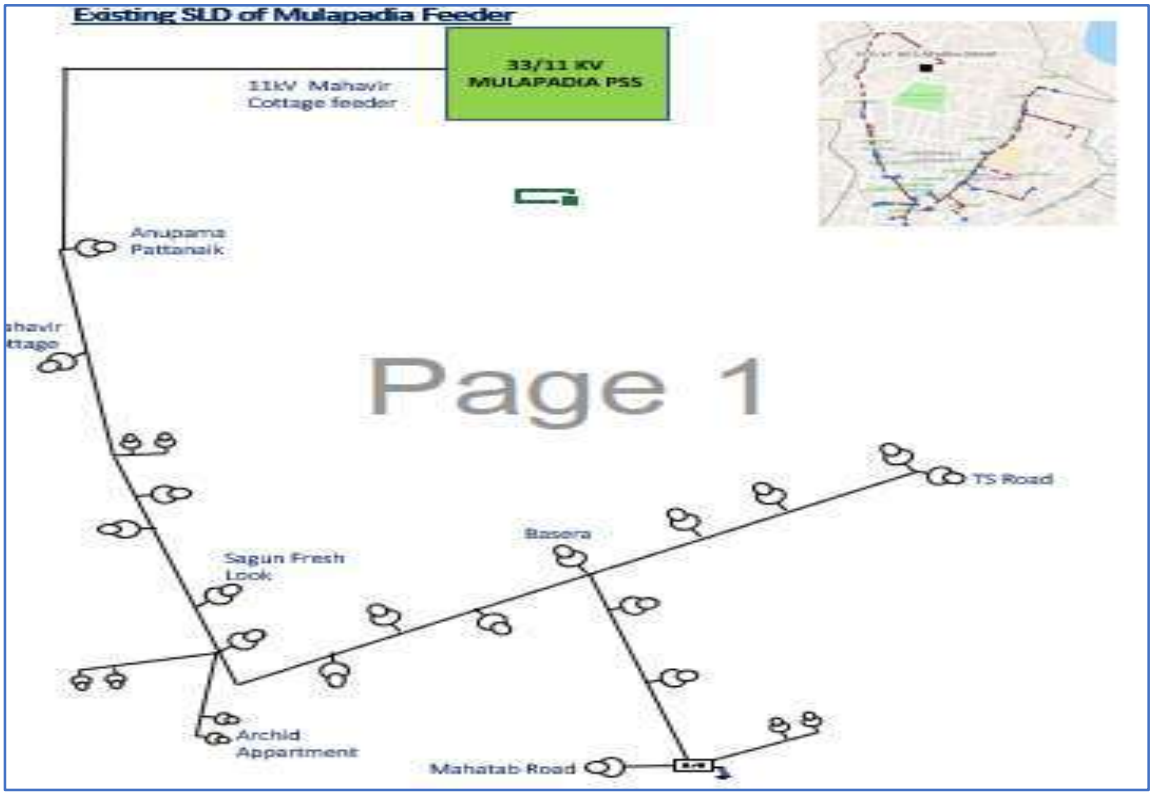
Existing Scenario:

- At present, 11kV Mahavir Cottage feeder is emanating from 33/11kV Mulapadia PSS. The total trunk length of 11kV Mahavir Cottage is 3.14 km and peak load is 2.62 MVA.
- The trunk conductor size of 11 kV feeder is 100 sq.mm AAAC
- At present frequent shutdowns are required for maintaining this feeder & there is no bifurcation/isolation arrangements while maintaining feeder
- Because of tripping/maintenance activities major commercial consumers remains out of service.

- **GIS MAP**



Existing SLD:



Priority of the Project:

Priority: Since the 11kV Mahavir Cottage feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last two year was 95 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

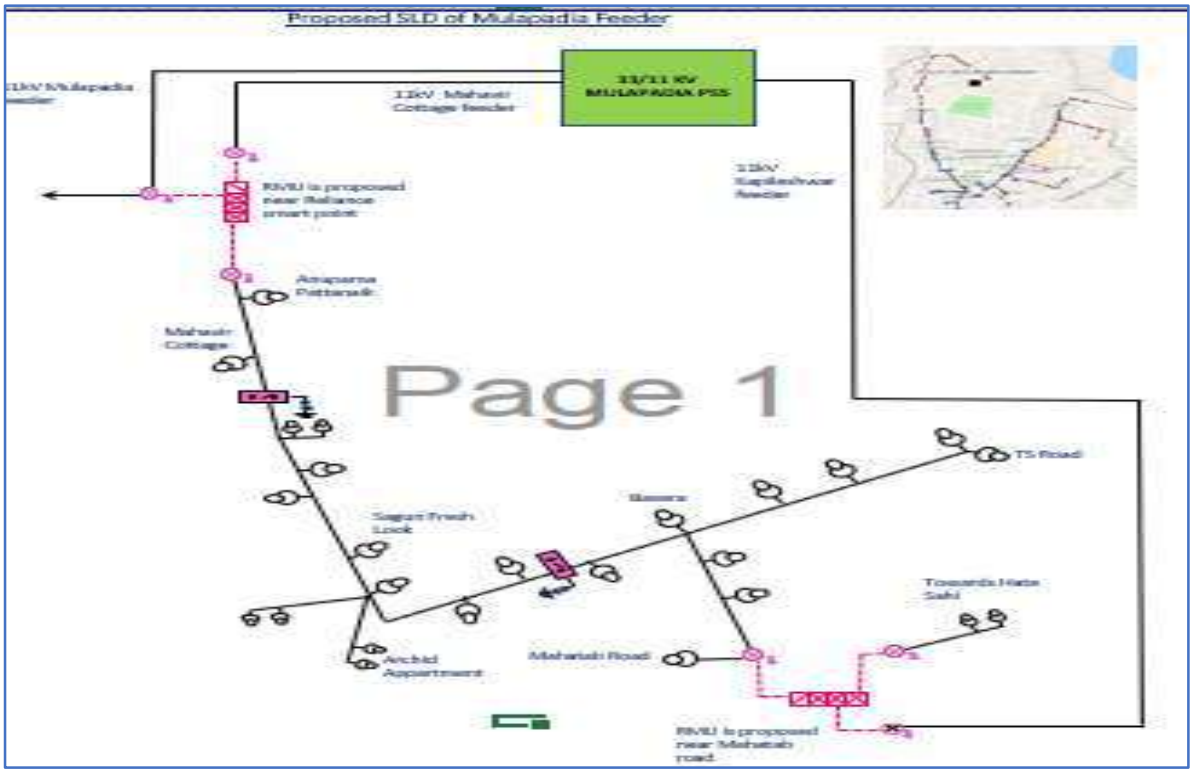
Proposed Scenario:

- It is proposed for connecting 11KV Mahavir Cottage feeder with 11 kV Mulapadia Feeder and Kapileshwar Feeder to share load as well N-1 Connectivity to improve reliability.
- Installation of 2nos of RMU for reliability near Reliance Fresh and Mahatab Road to establish ring connectivity.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Installation of 11kV 4way RMU- 2 Nos near Reliancemart and Mahatab road for linking of Mahavir Cottage feeder with Mulapadia and Kapileshwar feeder for back feeding purpose.
- Installation of 2nos of DP with AB switch near Mahavir Cottage and Premlata Apartment

Proposed Cost with Estimate Break-up:

Annexure- 12.3		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		OT-3
Name of the Feeder: -		11kV Mahavir Cottage Feeder
Name of the Work :-		Proposal for installation of 2nos of RMU for reliability
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:- Installation of 11kV 4way RMU- 2 Nos near Reliancemart and Mahatab road for linking of Mahavir Cottage feeder with Mulapadia and Kapileshwar feeder for back feeding purpose	65,58,367.70
2	PART-B:- Installation of 2nos of DP with AB switch near Mahavir Cottage and Premlata Apartment	10,19,118.20
3	Part-C:- Dismantling	3,291.55
4	**Total Gross**	**75,80,777.45**
Total estimated cost is Rs. 0.76Cr.		

Cost Estimate: ₹ 0.76Cr. (For detailed BoQ refer Annexure-12.3)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Mahavir Cottage feeder.
- Feeder tripping will be reduced as the feeder is linked with other
- Enables easier switching operations during faults or planned outages.
  The above arrangement will help to release power supply to upcoming potential commercial consumers.

4.0 Proposal for Reliability improvement of 11kV Kuakhai Feeder:

Proposal:

Proposal for Augmentation of 3 KM line strengthening for improving reliability of 11kV Shakti Nagar Feeder and installation of 1 no RMU for backfeeding of 11kV Sai and Sishupalagada feeder with Kuakhai Feeder.

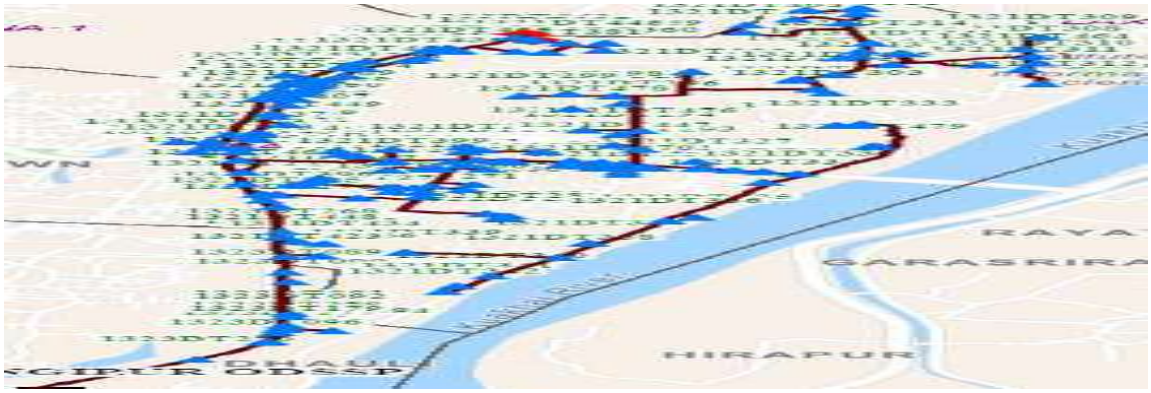
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Kuakhai Feeder.

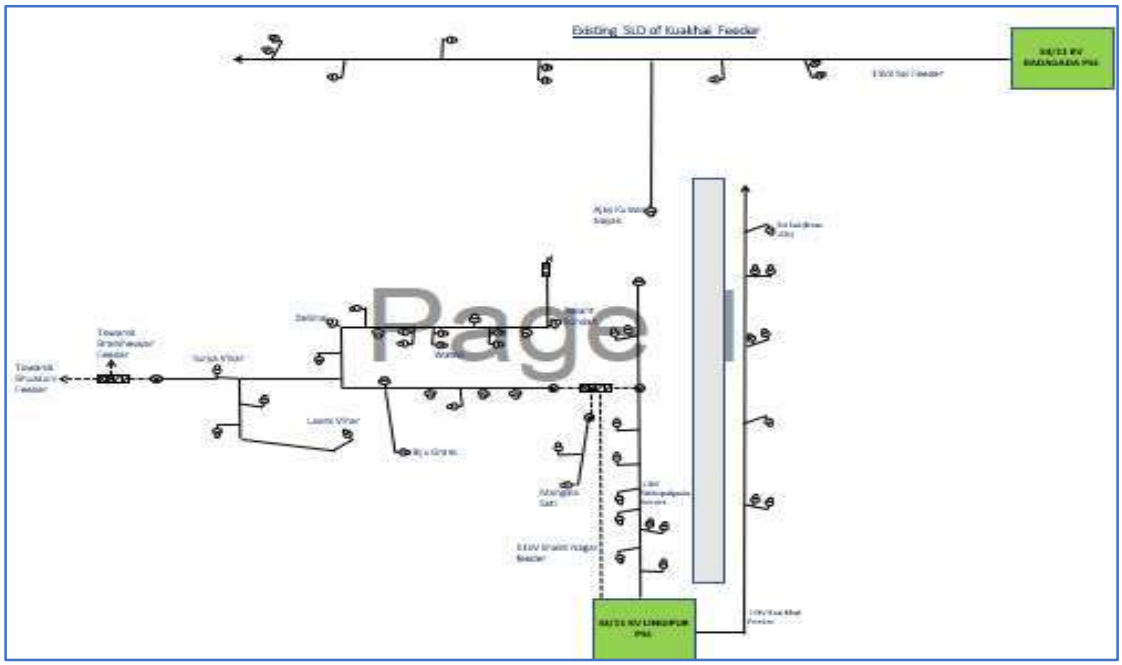
Existing Scenario:

- 11kV Kuakhai Village feeder is emanating from 33/11kV Lingipur PSS.Total length of this feeder is 2.5CKM and the peak load is 3.54 MVA.
- The trunk conductor size of 11 kV feeder is 3CX300sqmm & have multiple tripping because of vegetation & transient faults
- Frequent shutdowns are required for maintaining this feeder & there is no bifurcation/isolation arrangements while maintaining feeder
- Because of tripping/maintenance activities major commercial consumers remains out of service.

- **GIS MAP**



- **Existing SLD:**



Priority of the Project:

Priority: Since the 11 kV Kuakhai feeder,11kV Shakti Nagar feeder, 11kV Sai feeder and 11kV Sishupalagada feeder cater to urban consumers and are experiencing frequent interruptions due to repeated feeder tripping, they have recorded 516, 153, 116 and 72 trippings respectively, during the last two years. The frequent tripping result in repeated supply interruptions and restoration activities, affecting the reliability of supply.

To improve system reliability, load diversion from the 11 kV Kuakhai feeder to the 11 kV Sishupalagada feeder and conductor augmentation of the 11 kV Shakti Nagar feeder are proposed. These measures will reduce feeder loading, minimize trippings and improve continuity of supply to consumers.

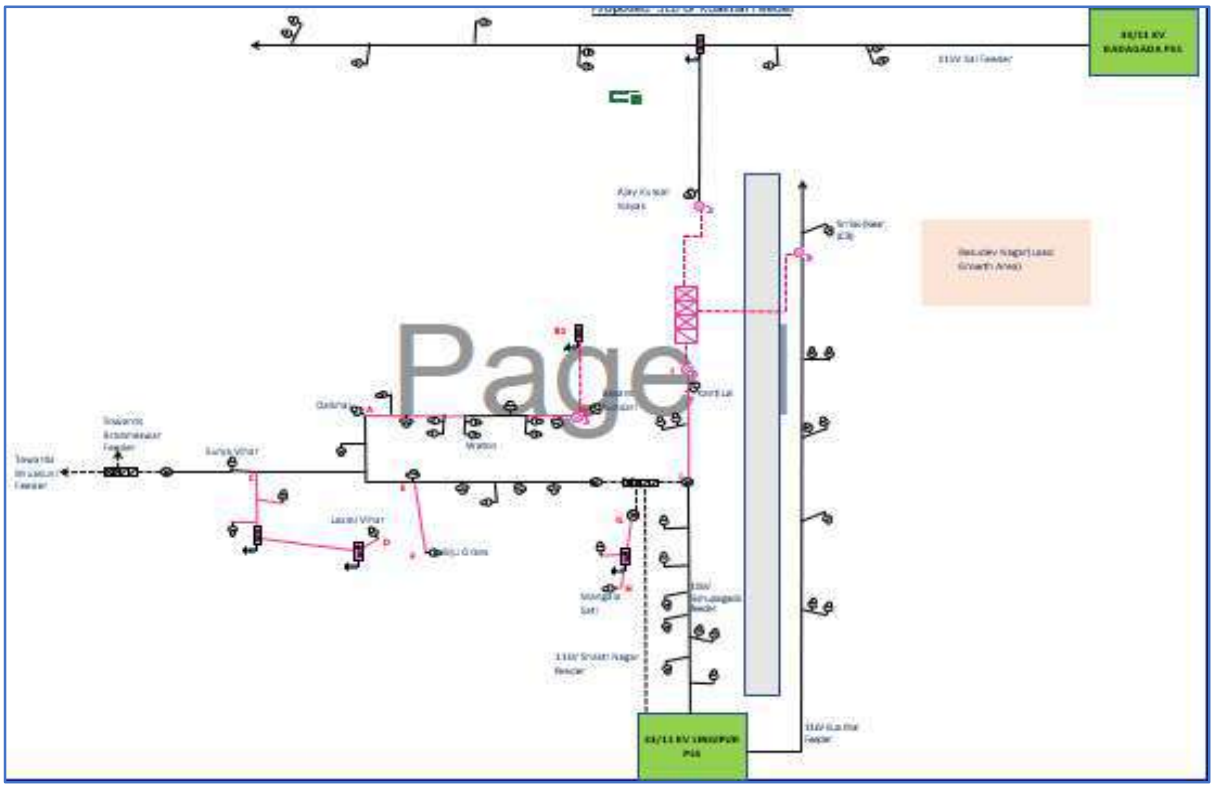
Proposed Scenario:

- Proposal of connecting 11KV Kuakhai feeder with 11 kV Sishupalagada Feeder and 11kV Sai Feeder so as to share load as well N-1 Connectivity.
- Installation of 1no of RMU for establishing ring connectivity.
- Covered conductor is proposed in order to reduce transient tripping.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Installation of 1 no 11kV 4way RMU near Kantilal DSS to divert Basudev Nagar Load under 11kV Kuakhai Feeder to 11kV Sishupalgada Feeder and linking with 11kV Sai feeder for backfeeding.
- Installation of 4 nos. of Line DP with AB Switch
- Augmentation of 3Kms O/H line due to dense vegetation area and damaged conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.4		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		OT-1
Name of the Feeder: -		11kV Kua Khai Feeder
Name of the Work :-		Proposal for Augmentation of 3KM line strengthening for improving reliability of 11kV Shakti Nagar Feeder and installation of 1 no RMU for backfeeding of 11kV Sai and Sishupalagada feeder with Kuakhai Feeder
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:- Installation of 1 no 11kV 4way RMU near Kantilal DSS to divert Basudev Nagar Load under 11kV Kuakhai Feeder to Sishupalgada Feeder and linking with 11kV Sai feeder for backfeeding	1,44,06,502.21
2	PART-B:- 1. Installation of 4 nos. of Line DP with AB Switch 2. Augmentation of 3Kms O/H line due to dense vegetation area and damaged conductor	53,11,388.88
3	PART-C:- Dismantling	1,07,619.54
4	**Total Gross**	**1,98,25,510.63**
Total estimated cost is Rs. 1.98Cr.(On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 1.98Cr. (For detailed BoQ refer Annexure-12.4)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Panchagaon feeder.
- Feeder tripping will be reduced as the feeder is linked with other PSS and augmented with Covered conductor to aviod transient tripping.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential commercial consumers.

5.0 Proposal for Reliability improvement of 11kV Panchagaon Feeder:

Proposal:

Proposal for Augmentation of 1.5KM line strengthening for improving reliability and installation of 1 no RMU for backfeeding

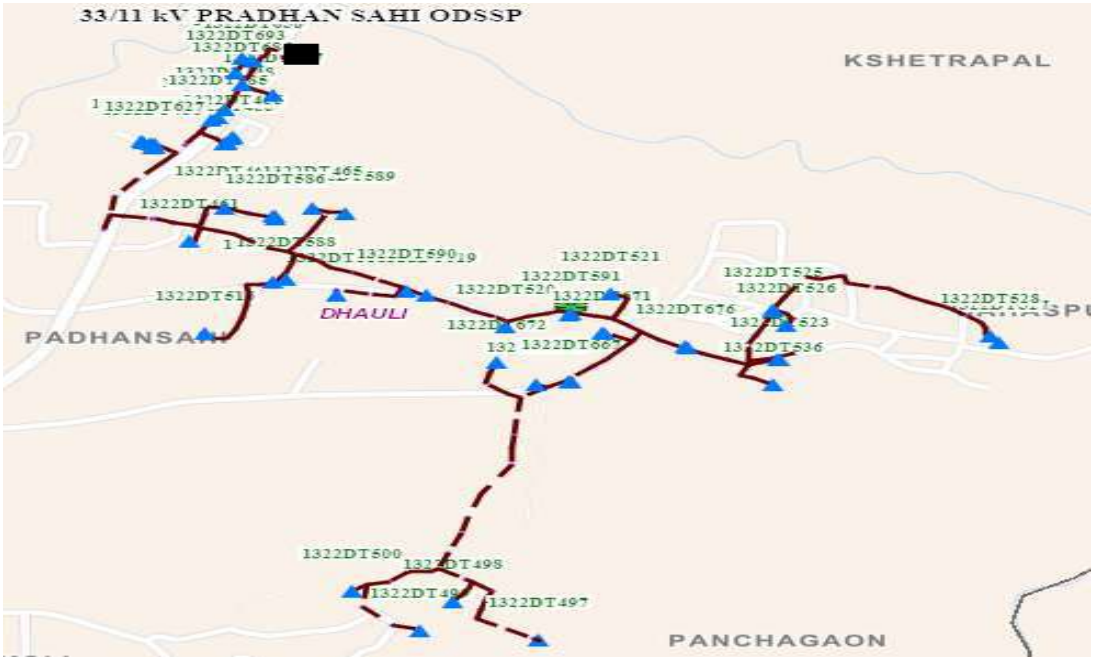
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Panchagaon Feeder.

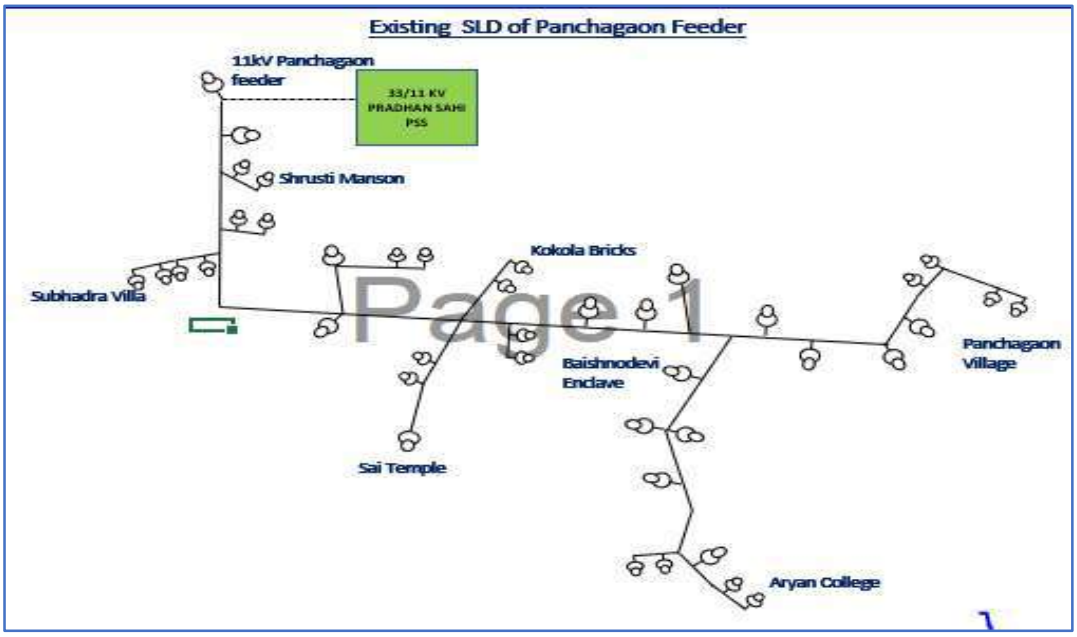
Existing Scenario:

- At present, 11kV Panchagaon feeder is emanating from 33/11kV Pradhan Sahi PSS. The total trunk length of 11kV Panchagaon is 7.3 km and peak load is 1.15 MVA.
- The trunk conductor size of 11 kV feeder is 3CX300sqmm & have multiple tripping because of vegetation & transient faults
- Frequent shutdowns are required for maintaining this feeder & there is no bifurcation/isolation arrangements while maintaining feeder
- Because of tripping/maintenance activities major commercial consumers remains out of service

- **GIS MAP**



Existing SLD:



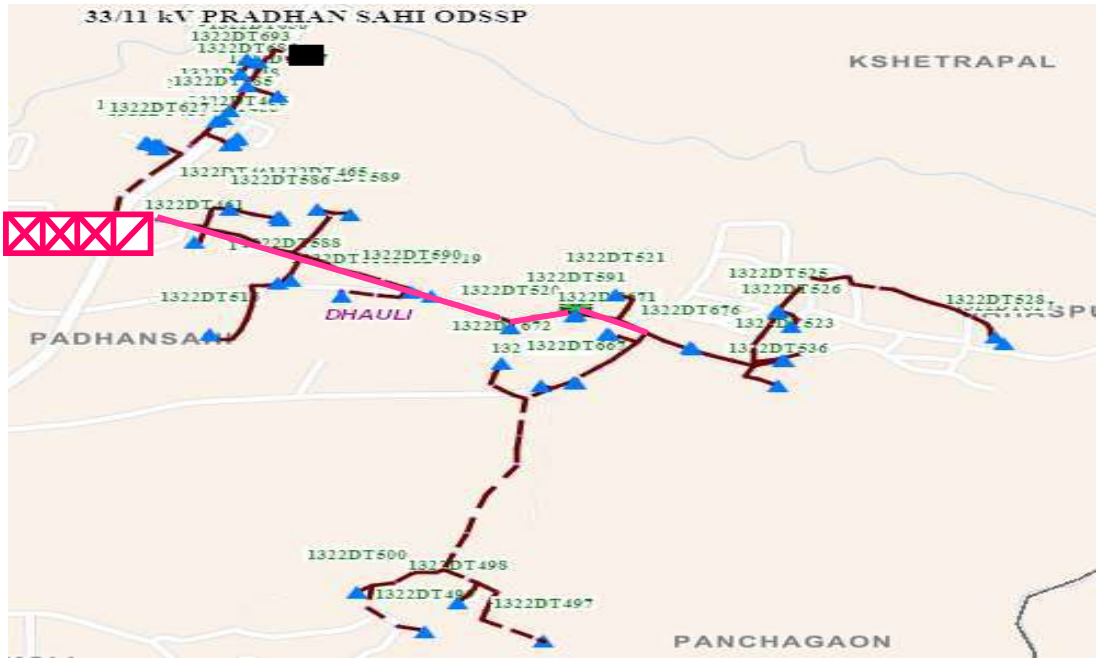
Priority of the Project:

Priority: Since the 11kV Panchagaon feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last two year was 130 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

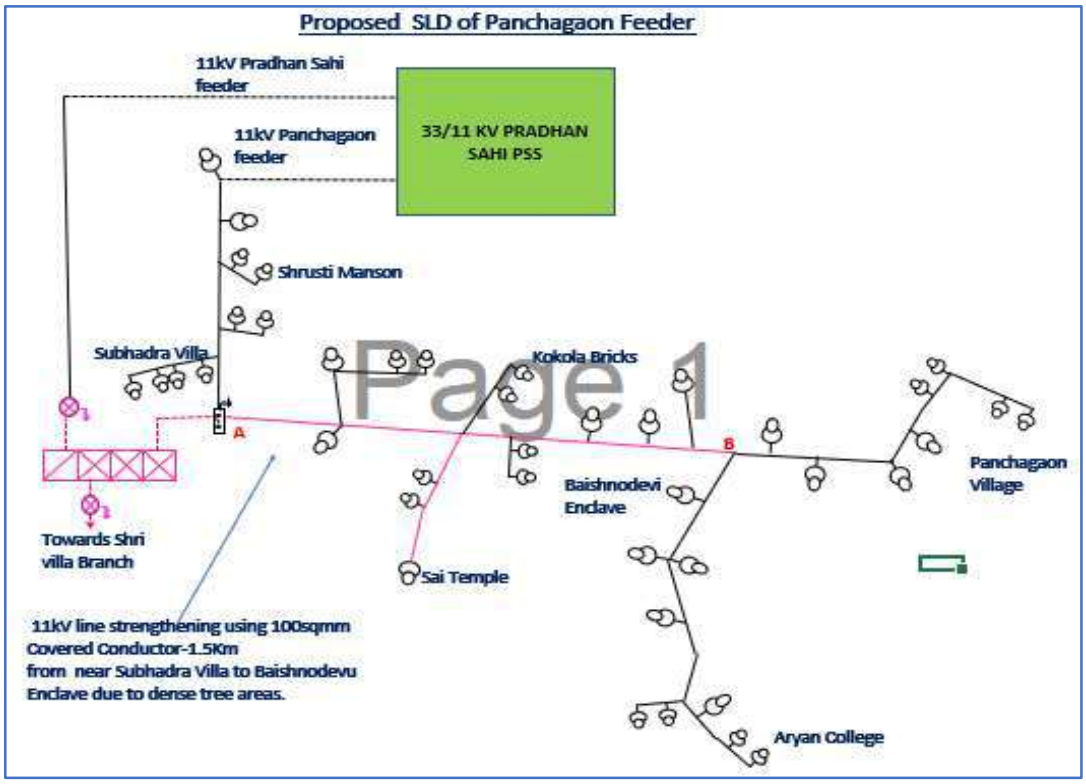
Proposed Scenario:

- It is proposed for connecting 11KV Panchagaon feeder with 11 kV Pradhan Sahi Feeder so as to share load as well N-1 Connectivity.
- It is proposed for Installation of 1no of RMU for reliability to establish ring connectivity.
- Covered conductor is proposed in order to reduce transient tripping.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Installation of 11kV 4way RMU- 1Nos near Sumitra Realcon for linking of Panchagaon feeder with Pradhan Sahi feeder for backfeeding purpose
- Installation of 2 nos. of Line DP with AB Switch
- Augmentation of 1.5Kms O/H line due to dense vegetation area and damaged conductor

Proposed Cost with Estimate Break-up:

Annexure- 12.5		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		DHAULI
Name of the Feeder: -		11kV Panchagaon Feeder
Name of the Work :-		Proposal for Augmentation of 1.5KM line strengthening for improving reliability and installation of 1 no RMU for backfeeding
Names of Schemes: -		**CAPEX 26-27**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**

1	PART-A:- Installation of 11kV 4way RMU- 1Nos near Sumitra Realcon for linking of Panchagaon feeder with Pradhan Sahi feeder for backfeeding purpose	28,71,326.59
2	PART-B:- 1. Installation of 2 nos. of Line DP with AB Switch 2. Augmentation of 1.5Kms O/H line due to dense vegetation area and damaged conductor	29,93,388.37
3	PART-C:- Dismantling	60,781.80
4	**Total Gross**	**59,25,496.76**
Total estimated cost is Rs. 0.59Cr.		

Cost Estimate: ₹ 0.59Cr. (For detailed BoQ refer Annexure-12.5)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Panchagaon feeder.
- Feeder tripping will be reduced as the feeder is linked with other PSS and augmented with Covered conductor to aviod transient tripping.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential commercial consumers

6.0 Proposal for Reliability improvement of 11kV Kalyani Plaza Feeder:

Proposal:

Augmentation of 11KV line using 100Sq.mm AAAC XLPE covered conductor for 2.5CKM due to dense vegetation areas.

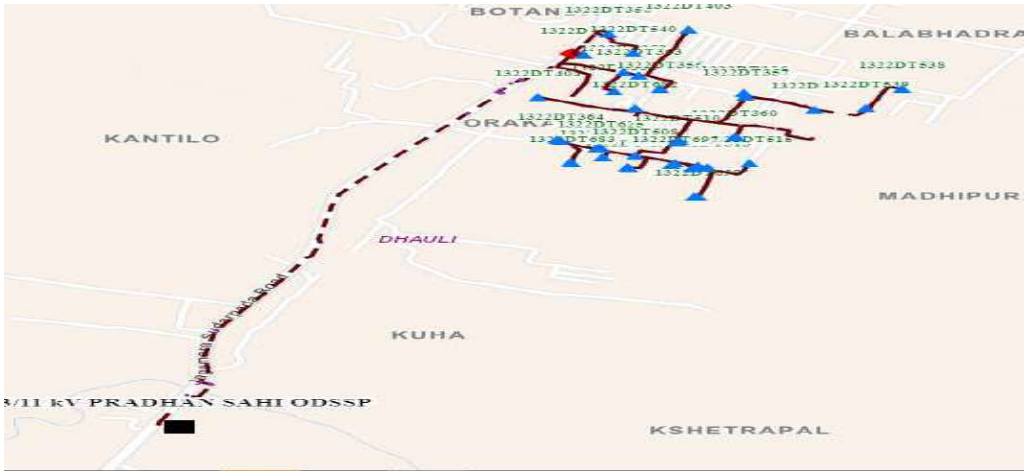
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Kalyani Plaza Feeder.

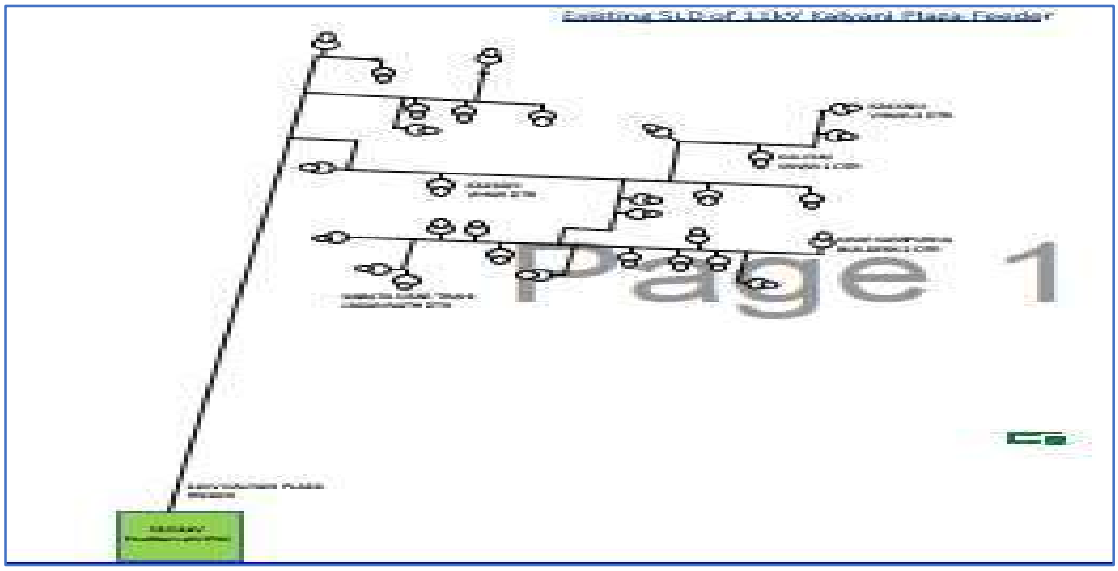
Existing Scenario:

- At present, 11kV Kalyani Plaza feeder is emanating from 33/11kV Pradhan Sahi PSS. The total trunk length of 11kV Kalyani Plaza is 6.5 Ckm and peak load is 2.05 MVA.
- The trunk conductor size of 11 kV Kalyani feeder is 3CX300sqmm & have multiple tripping because of vegetation & transient faults
- Frequent shutdowns are required for maintaining this feeder
- Because of tripping/maintenance activities major commercial consumers remains out of service

- **GIS MAP**



Existing SLD:



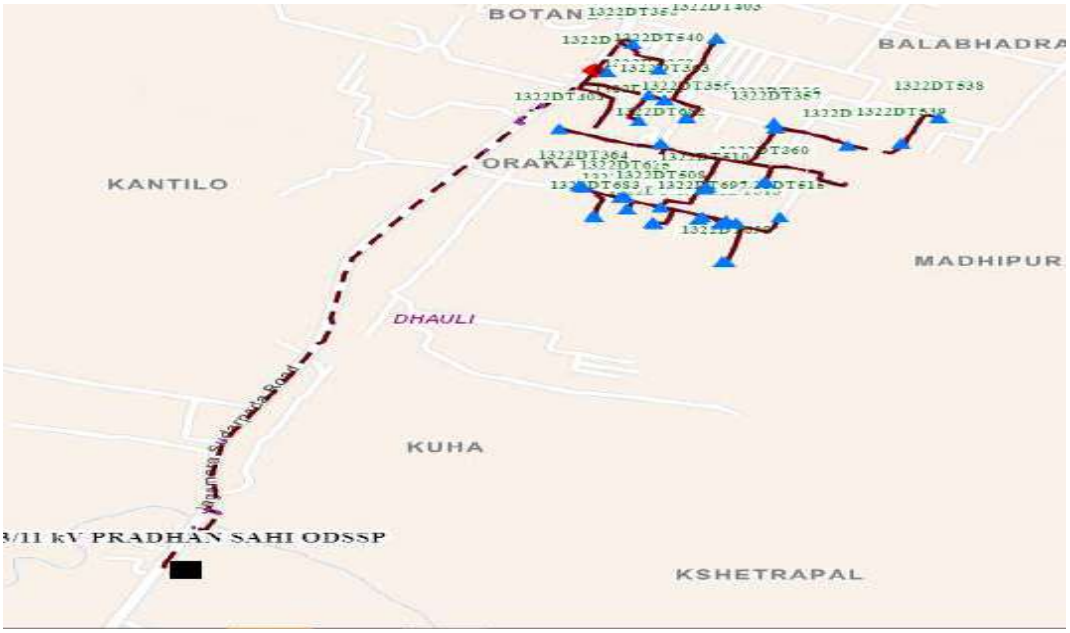
Priority of the Project:

Priority: Since the 11kV Kalyani Plaza feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder tripping, ageing network and repeated shutdown for restoration and maintenance activities. The no. of tripping during the last two year was 98 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

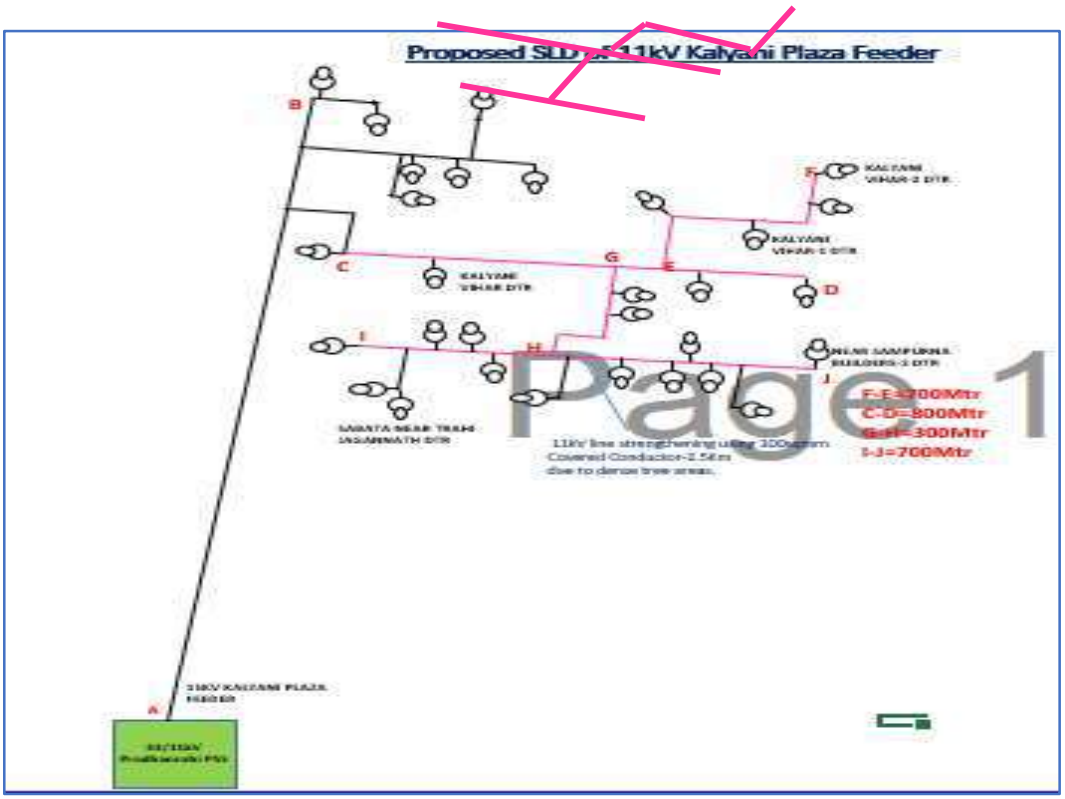
Proposed Scenario:

- It is proposed for Augmentation for 1km using 100sqmm Covered Conductor for 11kV O/H line strengthening from Kalyani Vihar to near Sampurna DSS.
- Covered conductor is proposed in order to reduce transient tripping.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 11KV line using 100Sq.mm AAAC XLPE covered conductor for 2.5CKM due to dense tree areas.

Proposed Cost with Estimate Break-up:

Annexure-12.6		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		DHAULI
Name of the Feeder: -		11kV Kalyani Plaza Feeder (Pradhansahi PSS)
Name of the Work :-		Augmentation of 11KV line using 100Sq.mm AAAC XLPE covered conductor for 2.5CKM due to dense vegetation areas.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:- Augmentation of 11KV line using 100Sq.mm AAAC XLPE covered conductor for 2.5CKM due to dense tree areas.	24,75,733.55
	PART-B:- Dismantling of Materials	70,316.20
4	**Total Gross**	**25,46,049.75**
Total estimated cost is Rs. 0.25Cr.		

Cost Estimate: ₹ 0.25Cr. (For detailed BoQ refer Annexure-12.6)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Kalyani Plaza feeder.
- Augmented with Covered conductor to aviod transient tripping.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential commercial consumers.

7.0 Proposal for Reliability improvement of 11kV Mangaraj Point Feeder:

Proposal:

Augmentation of 0.8cKM line of 11kV Mangaraj Point feeder for strengthening as well as improving reliability**.**

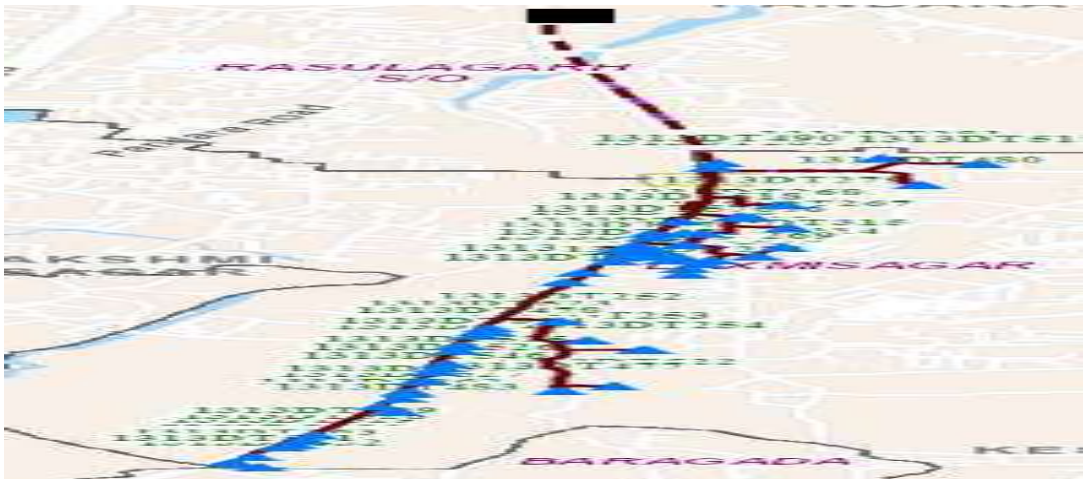
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Mangaraj Point Feeder.

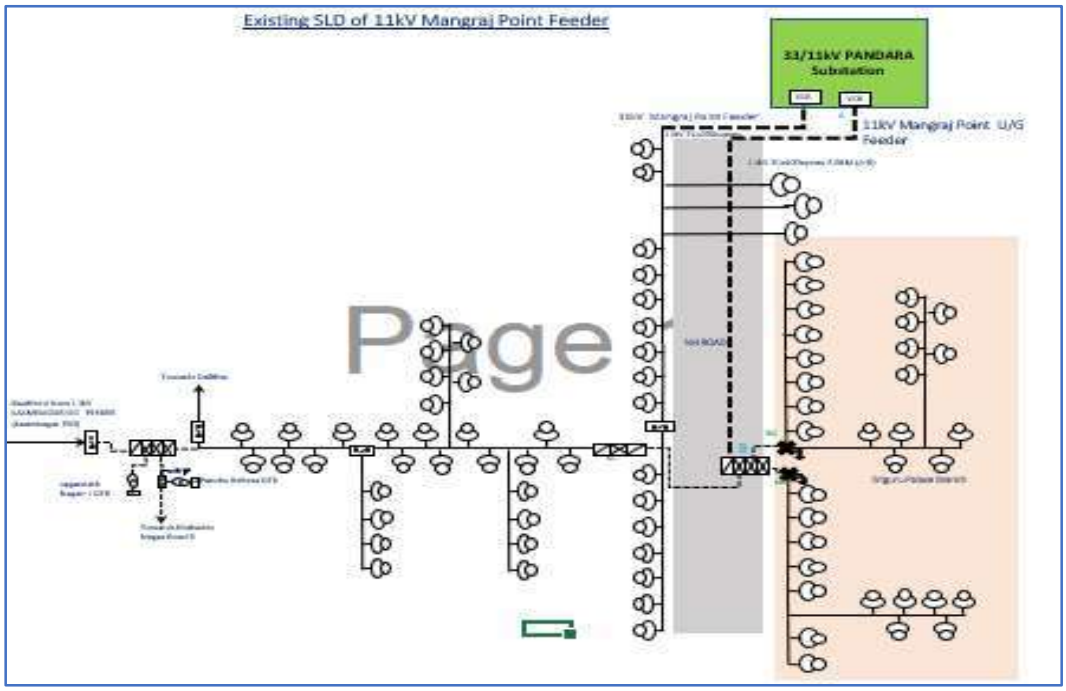
Existing Scenario:

- At present, 11kV Mangaraj Point feeder is emanating from 33/11kV Pandra PSS. The total trunk length of 11kV Mangaraj Point is 9.7 Ckm and peak load is 3.7 MVA.
- The trunk conductor size of 11 kV Mangaraj is 3CX400sqmm & have multiple tripping because of vegetation & transient faults
- Frequent shutdowns are required for maintaining this feeder
- Because of tripping/maintenance activities major commercial consumers remains out of service

GIS MAP



Existing SLD:



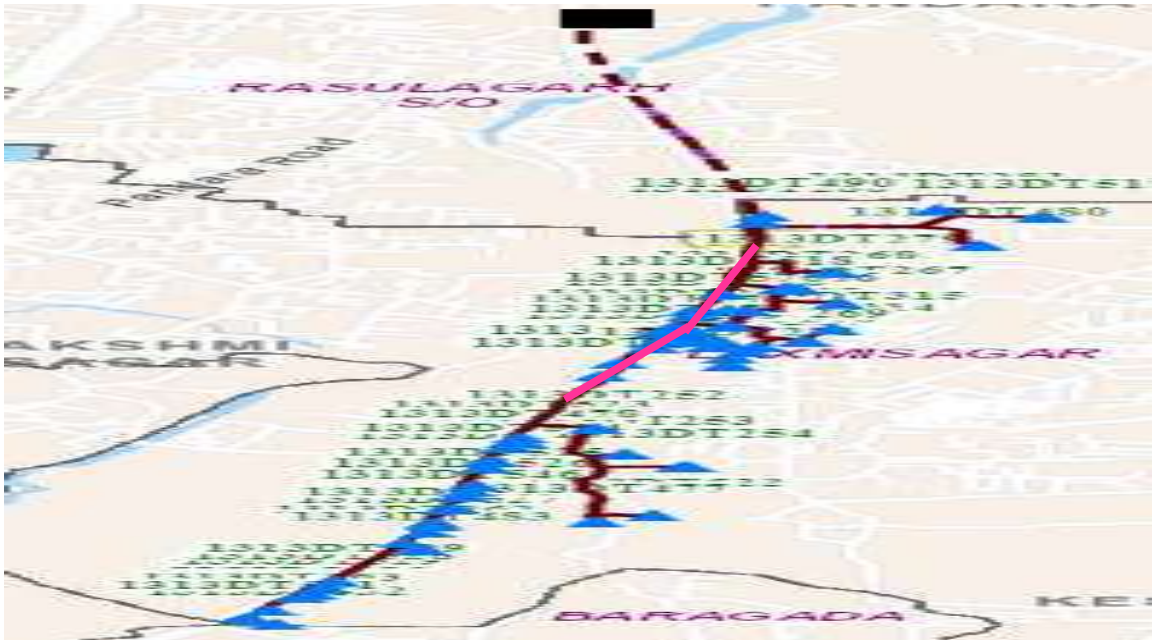
Priority of the Project:

Priority: Since the 11kV Mangaraj Point feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last two year was 228 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

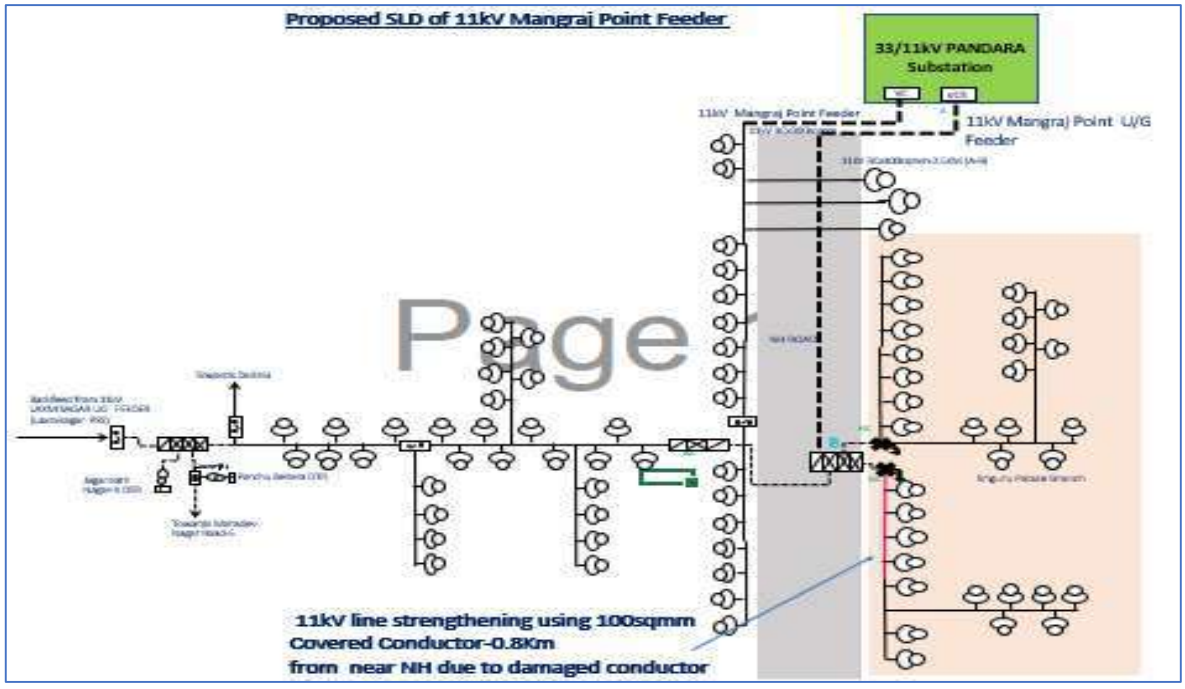
Proposed Scenario:

- It is proposed for Augmentation for 0.8km using 100sqmm Covered Conductor for 11kV O/H line from Absolute DSS to near NH for strengthening as well as improving reliability.
  - Covered conductor is proposed in order to reduce transient tripping.
  - This location is growing with new commercial & Residential Buildings and requires reliable power supply for smooth operation.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation for 0.8ckm using 100sqmm Covered Conductor for 11kV O/H line strengthening from Absolute DSS to near NH.
- Covered conductor is proposed in order to reduce transient tripping.
- This location is growing with new commercial & Residential Buildings and requires reliable power supply for smooth operation

Proposed Cost with Estimate Break-up:

Annexure-12.7		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		RASULGARH
Name of the Section : -		LAXMISAGAR
Name of the Feeder: -		11kV Mangaraj Point Feeder
Name of the Work :-		Proposal for Augmentation of 0.8KM line strengthening for improving reliability
Names of Schemes: -		**CAPEX 26-27**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-B:- 1. Installation of 1nos. of Line DP with AB Switch 2. Augmentation of 0.8Kms O/H line due to damaged conductor	13,68,995.80
2	PART-B:- Dismantling	32,774.50
4	**Total Gross**	**14,01,770.30**
Total estimated cost is Rs. 0.14Cr.		

Cost Estimate: ₹ 0.14Cr. (For detailed BoQ refer Annexure-12.7)

i) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Mangaraj Point feeder.
- Augmented with Covered conductor to aviod transient tripping.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential commercial consumers.

8.0 Proposal for Reliability improvement along with Over loading mitigation of 11kV Ashok Nagar Feeder:

Proposal:

Proposal for Bifurcation of 11kV Ashok Nagar Feeder for reliability improvement along with overloading mitigation.

Requirement/ Need of the proposal:

Objective: Reliability improvement along with overloading mitigation of 11kV Ashok Nagar Feeder.

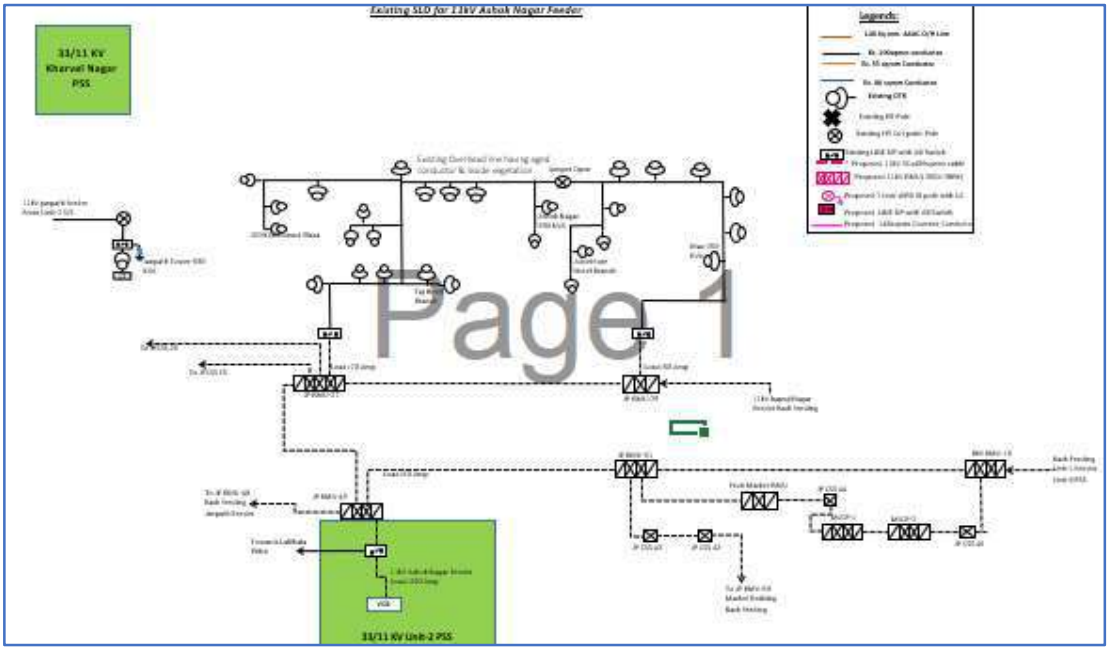
Existing Scenario:

- At present, 11kV Ashok Nagar feeder is emanating from 33/11kV Unit-2 PSS. The total feeder length of11kV Ashok Nagar feeder is 6.2CKM and peak load is 3.2MVA.
- The trunk size of the cable is 3CX120sqmm.
- Frequent tripping is observed in the 11KV Ashok Nagar feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Ashok Nagar feeder caters to an urban consumer and is experiencing frequent interruptions due to feeder tripping's, ageing network and repeated shutdown for restoration and maintenance activities. The no. of tripping's during the last year was 27 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions

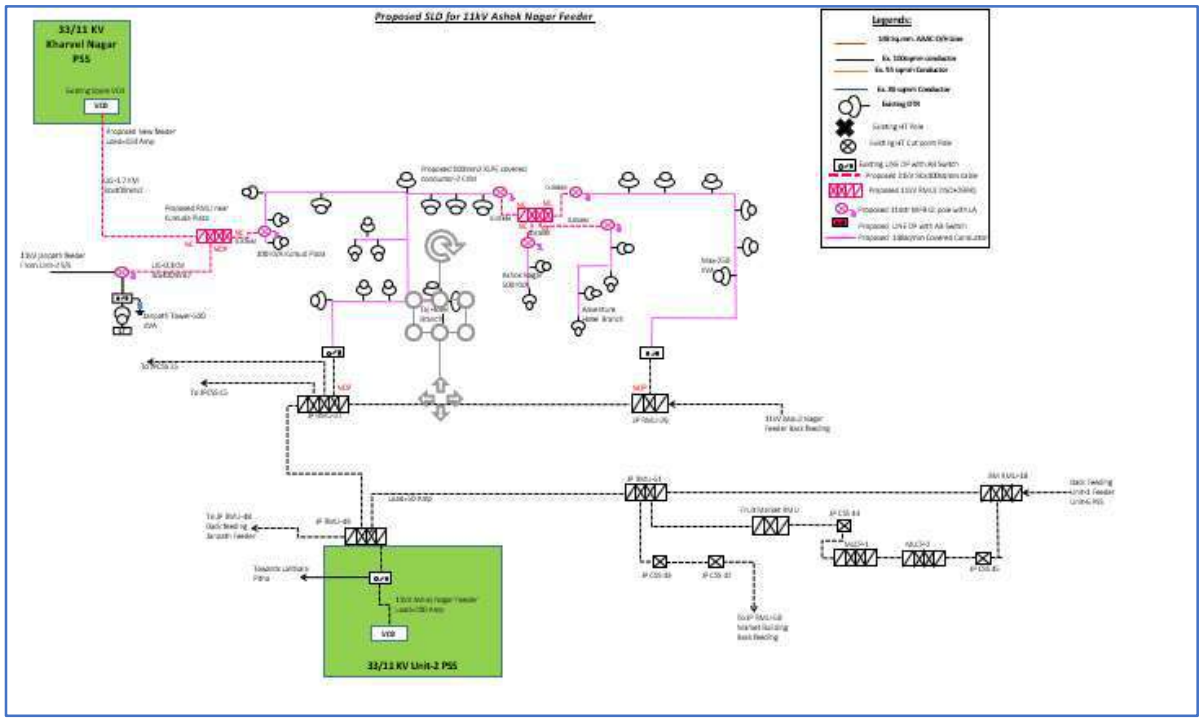
Proposed Scenario:

- It is proposed for construction of new feeder of length 1.7CKM from Kharavela Nagar PSS to improve reliability as along with overloading mitigation.
- Installation of 2nos of RMU for establishing ring connectivity.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation
- The New feeder will help for maintaining reliable power supply for smooth operation.

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Laying of 11kV UG cable of length- 2 CKM using 3Cx400mm2 XLPE UG cable from kharvel nagar PSS to Kumuda Plaza RMU
- Installation of 2 Nos. of RMU in 11kV Ashok nagar Feeder in different location
- Augmentation of 11kV Ashok Nagar Feeder of length 2 CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.8		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-2
Name of the Section : -		Unit-2
Name of the Feeder: -		11kV Ashok Nagar
Name of the Work :-		Proposal for Bifurcation of 11kV Ashok Nagar Feeder for reliability improvement along with overloading mitigation.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**

1	Part-A:- 1. Laying of 11kV UG cable of length- 2 CKM using 3Cx400mm2 XLPE UG cable from kharvel nagar PSS to Kumuda Plaza RMU. 2. Installation of 2 Nos. of RMU in 11kV Ashok nagar Feeder in different location.	2,11,08,403.20
2	Part-B:-Augmentation of 11kV Ashok Nagar Feeder of length 2 CKM.	41,35,173.50
3	Part-C Dismantling.	98,037.47
4	**Total Gross**	**2,53,41,614.16**
Total estimated cost is Rs. 2.53 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 2.53Cr. (For detailed BoQ refer Annexure-12.8)

I) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

a) The proposal has been made to maintain essential compliances with statutory safety regulations

b) Compliance with electrical safety regulation for distribution system.

c) Reduction of electrocution risk and public safety hazards.

d) Safe operation and isolation of the feeder.

e) Protection of electrical assets against lightening and surge related failure.

f) Improvement in operational safety for maintenance personnel and public

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Ashok Nagar feeder.
- Feeder tripping will be reduced
- The above arrangement will help to release power supply to upcoming potential commercial consumers.

9.0 Proposal Reliability improvement along with overloading mitigation of 11kV Swargadwar-I Feeder:

Proposal:

Proposal for Bifurcation of existing 11 KV Swargadwar-I Feeder load emanating from 33/11kV Kacheri PSS by construction of 1no. of new 11kV feeder from 33/11kV Kacheri PSS by construction of new 11kV bay and 0.82 Ckm 11KV new line.

Requirement/ Need of the proposal:

Objective: To enhance reliability as well as mitigation of overloading by bifurcating the existing feeder with construction of new 11kV feeder.

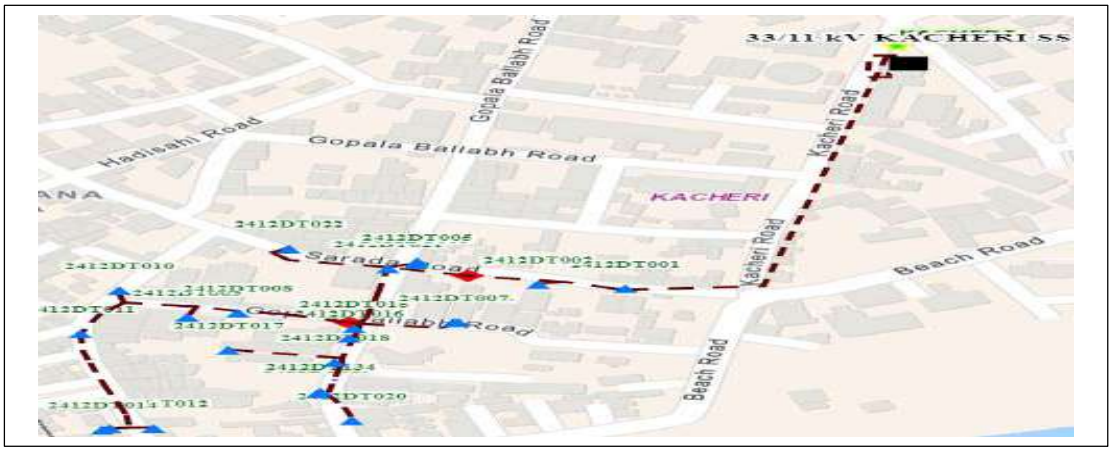
Existing Scenario:

- 11kV Swargadwar-I feeder is emanating from 33/11kV Kacheri PSS. Total length of this feeder is 1.29 CKM and the peak load is 2.21 MVA.
- 11kV Prachi U/G feeder is emanating from 33/11kV Baliapanda PSS. Total length of this feeder is 5.7 CKM and the peak load is 2.51 MVA.
- During Car Festival the entire load of 11 kV Prachi U/g feeder is added to the 11 KV Swargadwar-I feeder and hence this feeder is become overload.
- Conductor size of 11kV Swargadwar-I feeder is 100 sq.mm & the feeder is 43% loaded w.r.t the current carrying capacity of the conductor but during Car Festival the feeder is 91% loaded and 116% loaded considering 13% load growth for urban feeders.
- This feeder is completely feeding commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

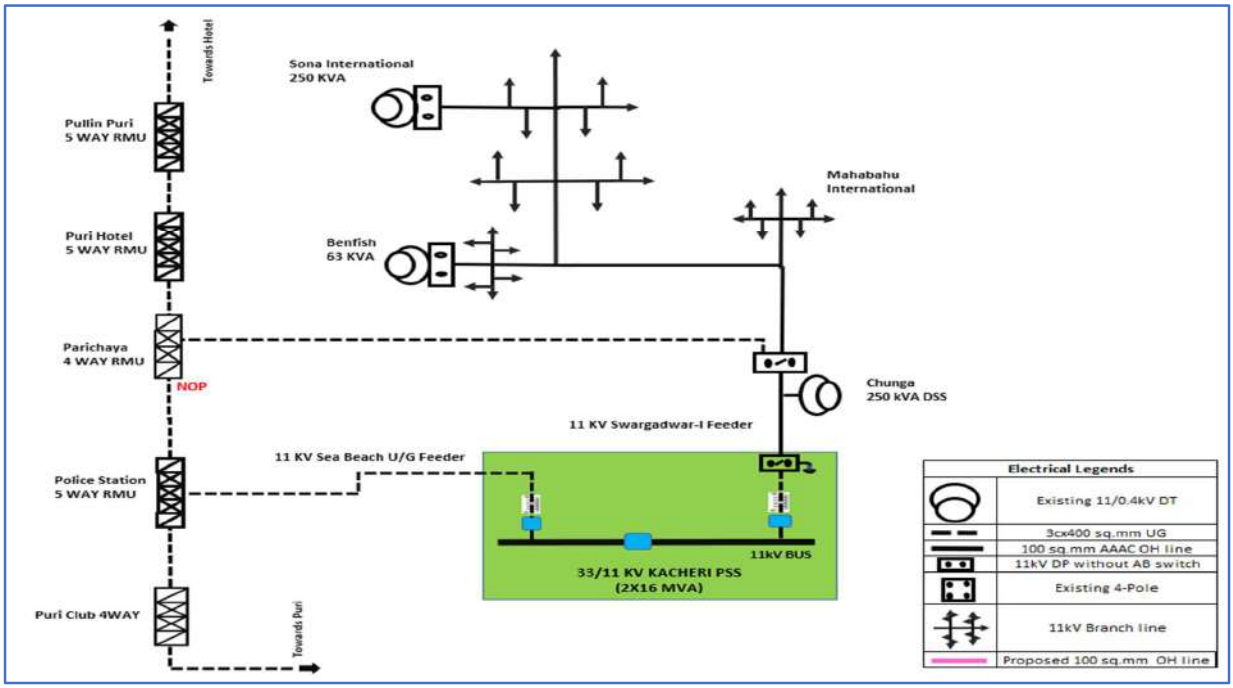
Existing Summer'26 Loading and projected load at 11kV Swargadwar-I Feeder

Existing Scenario								
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer'28**
Kacheri	Swargadwar-I	5.18	2.21	43%	2.82	54%	Under load	44.73
Baliapanda	Prachi U/G	5.75	2.51	44%	3.21	56%	Under load	54.3
During Car Festival								
Kacheri	Swargadwar-I	5.18	4.72	91%	6.03	116%	OVERLOAD	163.37

GIS Map:-



Existing SLD:



Priority of the Project:

Priority:

Since the 11kV Swargadwasr-1 feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 132nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

In addition to this the feeder loading has reached 91% loading in ASIS scenario during Car Festival, with load growth In Summer'28, the feeder loading will reach 116%. In case the issue is not addressed, there will be load shedding of 1588nos. consumers for prolonged period

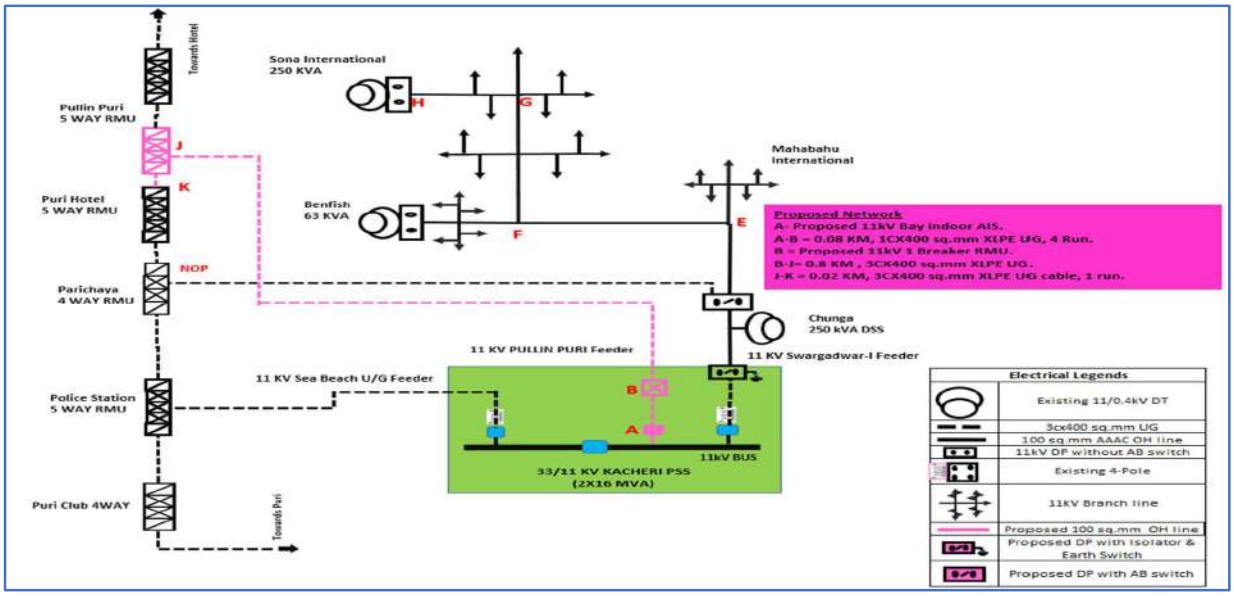
Proposed Scenario:

- It is proposed to construct 1 no. 11 kV Indoor line Bay at Kacheri PSS for emanating a new 11kV feeder.
- For construction of new 11kV feeder 0.08 KM new U/G line using 1CX630 sqmm XLPE U/G cable with one run spare to be laid inside PSS.
- Out side the PSS It is proposed to lay 0.82 KM new U/G line using 3CX400 sqmm XLPE U/G cable without spare run for constructing the new feeder with ring connectivity to enhance reliability along with over loading mitigation.

Proposed Summer'28 Loading and projected load at 11kV Swargadwar-1 Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Kacheri	Swargadwar-I	5.18	3.45	67%	Under load	45.60
Kacheri	Proposed Parichaya	5.18	0.00	0%	Under load	52.49
Baliapanda	Prachi U/G	5.75	2.51	44%	Under load	0

Proposed SLD:



Scope of Work:

- Construction of One No. 11 kV Indoor Bay at Kacheri PSS .
- Supply and laying of 0.08 KM new U/G line using 1CX630 sqmm XLPE U/G cable with one run spare.
- Supply and laying of 0.82 KM new U/G line using 3CX400 sqmm XLPE U/G cable without spare run.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.9		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Circle :-		BBSR-2
Name of the Division :-		PED
Name of the Sub-Division : -		PURI-I
Name of the Section : -		Swargadwar-1
Name of the Work :-		Proposal for construction of a new 11 kV feeder of 0.82 CKM length, to bifurcate the load of the 11 kV Swargadwar-1 Feeder to mitigate the overloading issue.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of One No. 11 kV Indoor Bay	32,73,345.56
2	PART B: Supply & Laying of 11kV 1C, 630sqmm UG Cable of length= 0.08 KM with one run spare.	2,99,987.03
3	PART C: Supply & laying of 11kV 3CX400sqmm UG Cable of length= 0.82 km without spare run.	1,77,94,210.18
5	**Total Gross**	**2,13,67,542.76**
Total estimated cost is Rs. 2.14 Cr.		

Cost Estimate: ₹ 2.14 Crore (For detailed BoQ refer Annexure-12.9)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation of 11kV Swargadwar-1 feeder.
2. Improved capability of Network by use of UG Cable, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.

4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

10.0 Proposal for Reliability improvement of 11kV JP RMU 37:

Proposal:

Proposal for Bifurcation of 11kV JP RMU 37 Feeder for reliability improvement along with overloading mitigation.

Requirement/ Need of the proposal:

Objective: Reliability improvement along with overloading mitigation of 11kV Shatabdi Nagar Feeder.

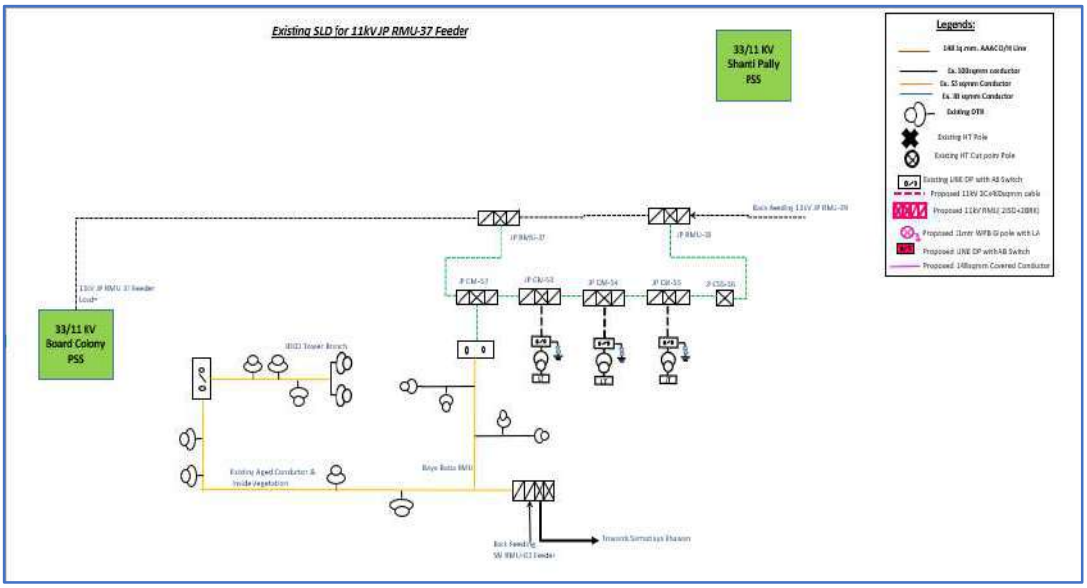
Existing Scenario:

- At present, 11kV JP RMU 37 feeder is emanating from 33/11kV Board Colony PSS. The total feeder length of 11kV JP RMU 37 feeder is 3.55CKM and peak load is 3.2MVA.
- The trunk size of the cable is 3CX120sqmm.
- Frequent tripping is observed in the 11KV JP RMU 37 feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV JP RMU 37 feeder caters to an urban consumer and is experiencing frequent interruptions due to feeder tripping's, ageing network and repeated shutdown for restoration and maintenance activities. The no. of tripping's during the last year was 27nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

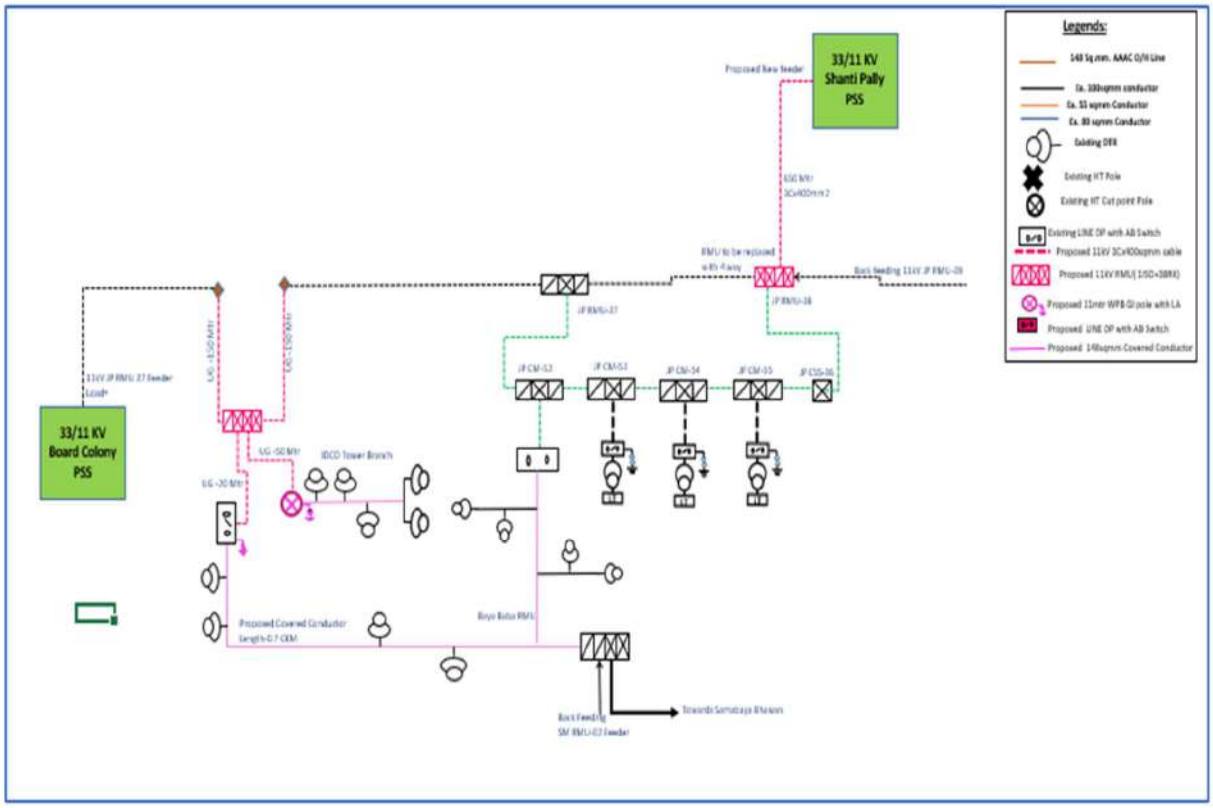
Proposed Scenario:

- It is proposed for construction of new feeder of length 0.65CKM from 33/11kV Shanti Pally PSS
- Proposal for Installation of 2nos of RMU for reliability enhancement by establishing ring connectivity between networks.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation
- The New feeder will help for maintaining reliable power supply for smooth operation

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Supply and Laying of 11kV UG cable of length- 0.65 CKM using 3Cx400mm2 XLPE UG cable from Shantipalli PSS to IDBI Square .
- Supply and Laying of 11kV UG cable of length- 0.3 CKM using 3Cx400mm2 XLPE UG cable from Rupali Square to Rupali LABS for LILO arrangements
- Installation of 2 Nos. of RMU in 11kV JPRMU-37 Feeder (Near Rupali LABS & JPRMU 38).

- Augmentation of 11kV JP RMU-37 Feeder of length 0.7 CKM

Proposed Cost with Estimate Break-up:

ANNEXURE-12.10		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-3
Name of the Section : -		Unit-9 Flat
Name of the Feeder: -		11kV JP RMU-37
Name of the Work :-		Proposal for Bifurcation of 11kV JP RMU-37 Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 0.65 CKM using 3Cx400mm2 XLPE UG cable from Shantipalli PSS to IDBI Square. 2. Laying of 11kV UG cable of length- 0.3 CKM using 3Cx400mm2 XLPE UG cable from Rupali Square to Rupali LABS for LILO arrangements. 2. Installation of 2 Nos. of RMU in 11kV JPRMU-37 Feeder (Near Rupali LABS & JPRMU 38).	1,43,36,345.91
2	Part-B:-Augmentation of 11kV JP RMU-37 Feeder of length 0.7 CKM.	12,02,989.59
3	Part-C Dismantling.	25,791.74
4	**Total Gross**	**1,55,65,127.24**
Total estimated cost is Rs. 1.56 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 1.56Cr. (For detailed BoQ refer Annexure-12.10)

i.) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii.) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Ashok Nagar feeder.
- Feeder tripping will be reduced
- The above arrangement will help to release power supply to upcoming potential commercial consumers.

11.0 Proposal for Reliability improvement of 11kV Unit-6 Feeder:

Proposal:

Proposal for installation of RMU & linking with nearby Feeder for reliability improvement of 11kV Unit-6 Feeder.

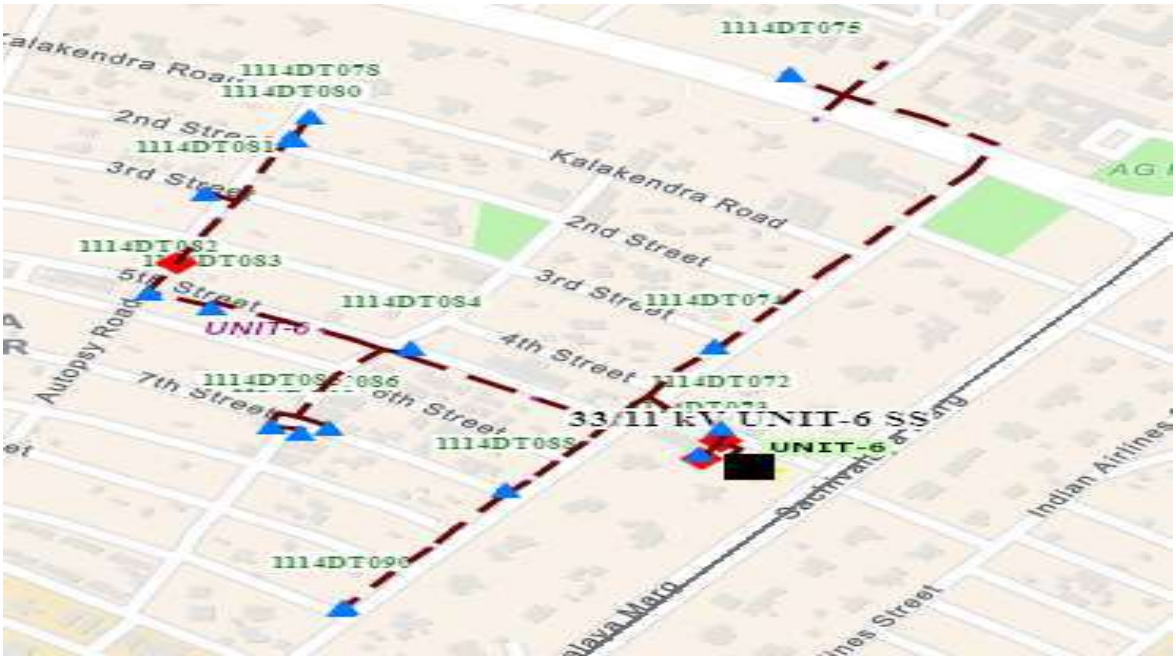
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Unit-6 Feeder.

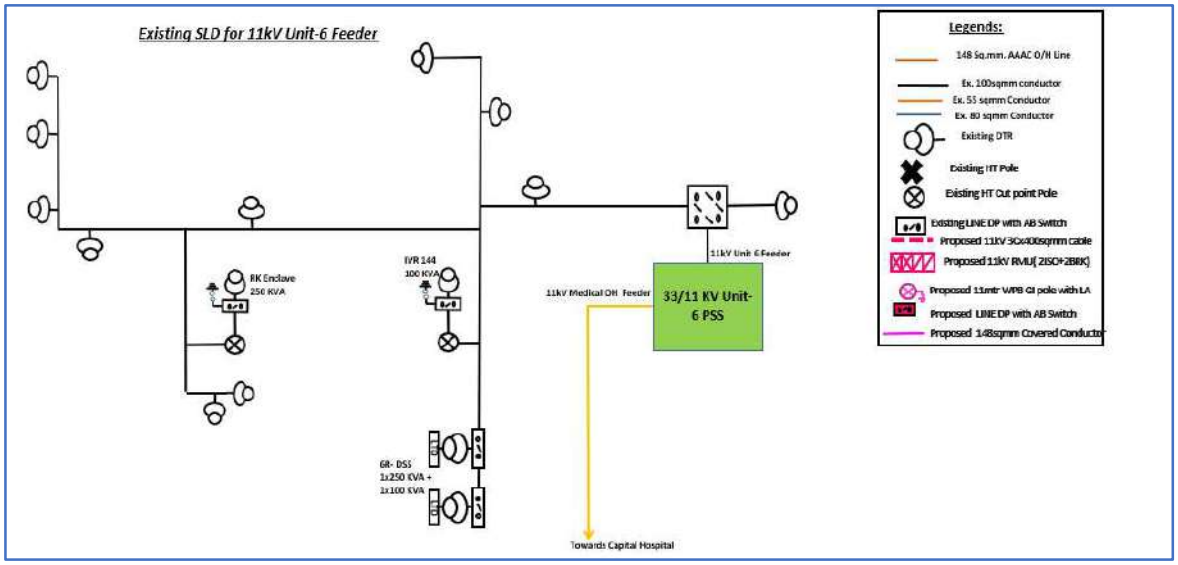
Existing Scenario:

- At present, 11kV Unit-6 feeder is emanating from 33/11kV Unit-6 PSS. The total trunk length of 11kV unit 6 feeder is 2.2 km and peak load is 1.25 MVA.
- The trunk conductor size of 11 kV feeder is 100 sq.mm AAAC
- At present frequent shutdowns are required for maintaining this feeder & there is no bifurcation/isolation arrangements while maintaining feeder
- Because of tripping/maintenance activities major commercial consumers remains out of service.

GIS MAP



Existing SLD:



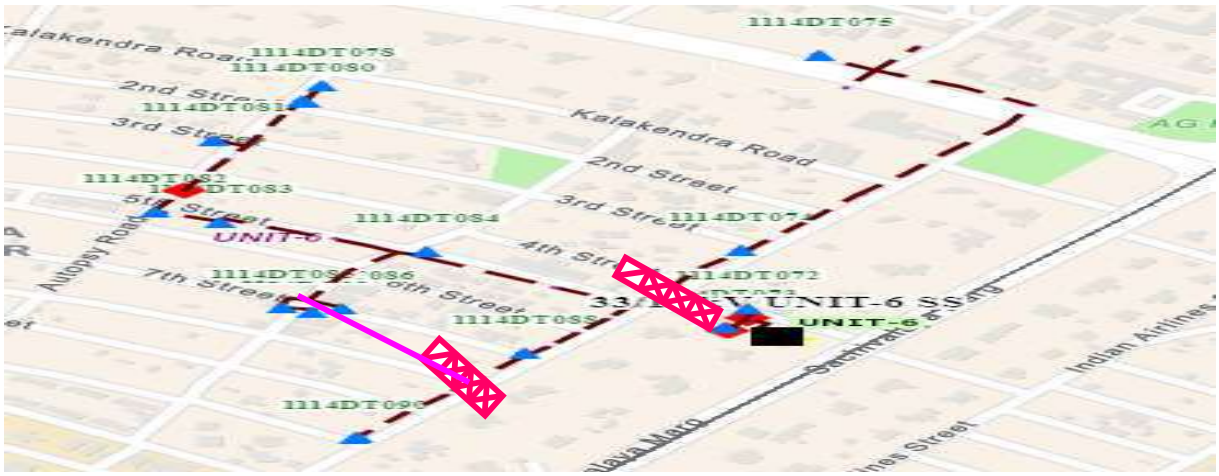
Priority and Timeline of the Project:

Priority: Since the 11kV Unit-6 feeder caters to an urban consumer and is experiencing frequent interruptions due to feeder tripping's, ageing network and repeated shutdown for restoration and maintenance activities. The no. of tripping's during the last year was 47 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions

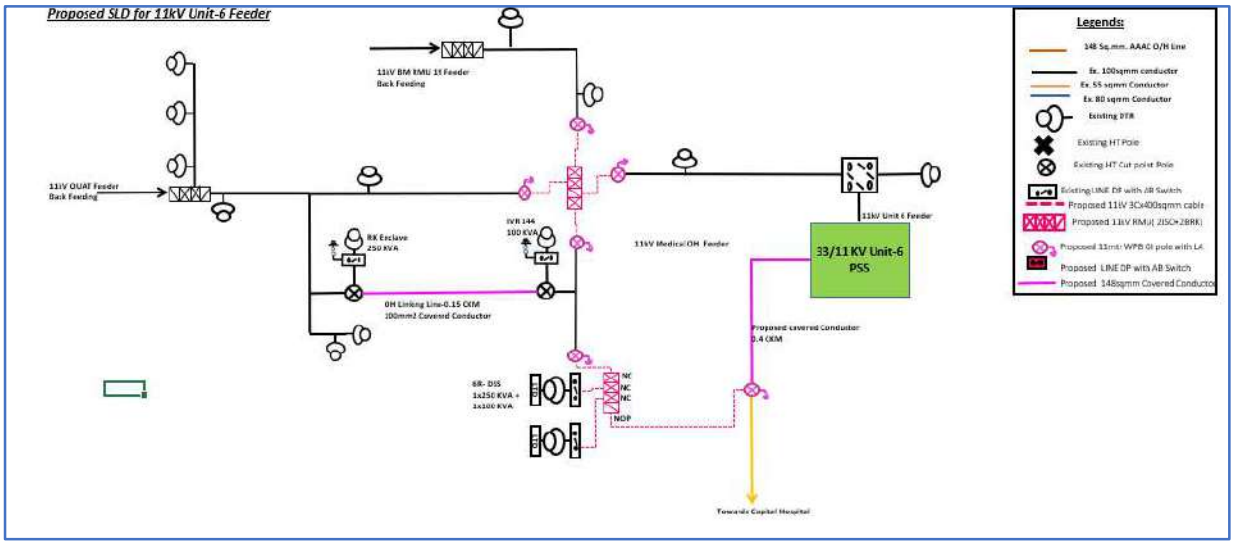
Proposed Scenario:

- Proposal of connecting 11KV Unit-6 feeder with 11 kV Medical Feeder to mitigate N-1 issues along with over loading issues.
- Installation of 2nos of RMU to establish ring connectivity.
- This location is growing with new commercial& Residential Buildings and requires reliable power supply for smooth operation

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Installation of 2 Nos. of RMU in 11kV Unit-6 Feeder in different location.
- Construction of 11kV OH line of length- 0.15 CKM from VIR DSS to RK Enclave DSS
- Augmentation of back feeding 11kV Medical OH feeder of length 0.4 CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.11		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Unit-6
Name of the Feeder: -		11kV Unit-6
Name of the Work :-		Proposal for installation of RMU & linking with nearby Feeder for reliability improvement of 11kV Unit-6 Feeder.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Installation of 2 Nos. of RMU in 11kV Unit-6 Feeder in different location.(Refer Proposed SLD)	68,02,167.03

2	Part-B:-Construction of 11kV OH line of length- 0.15 CKM from VIR DSS to RK Enclave DSS. 2. Augmentation of back feeding 11kV Medical OH feeder of length 0.4 CKM.	15,73,583.30
3	Part-C Dismantling.	18,058.15
4	**Total Gross**	**83,93,808.48**
Total estimated cost is Rs. 0.84 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 0.84Cr. (For detailed BoQ refer Annexure-12.11)

i.) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii.) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for commercial consumers after strengthening of the line of 11kV Unit-6 feeder.
- Feeder tripping will be reduced as the feeder is linked with other
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential commercial consumers.

12.0 Proposal for Reliability improvement along with overloading mitigation of 11kV Aiginia Feeder:

Proposal:

Proposal for Bifurcation of existing 11 KV Aiginia Feeder load emanating from 33/11kV Ranasinghpur PSS by construction of 1no. of new 11kV feeder from 33/11kV Ranasingh Pur PSS through existing 11kV bay and 0.65km new line from Ranasingh Pur PSS to Ranasingh Pur Village 250 KVA DTR for reliability improvement.

Requirement/ Need of the proposal:

Objective: Reliability improvement along with overloading mitigation of 11kV Aiginia Feeder.

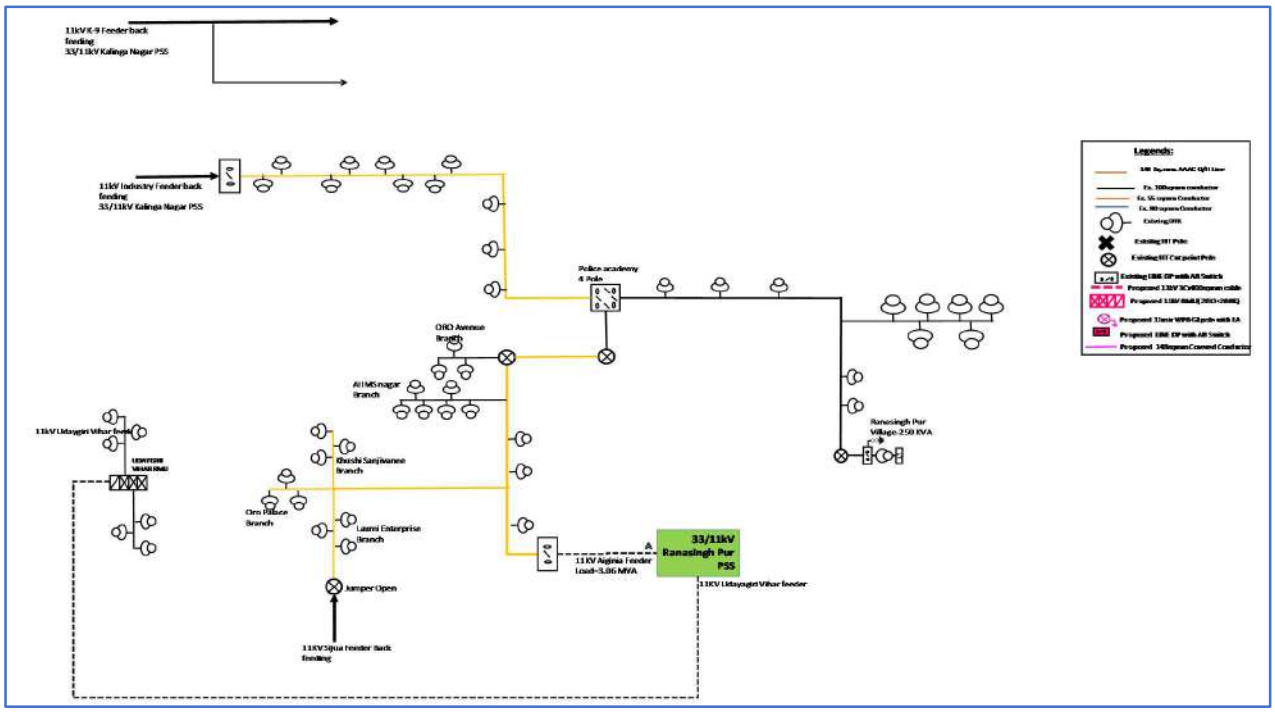
Existing Scenario:

- At present, 11kV Aiginia feeder is emanating from 33/11kV Ranasingh Pur PSS. The total feeder length of 11kV Aiginia Feeder is 9.19 km and peak load is 3.37 MVA.
- The trunk conductor size of feeder is 55 sqmm and it passes through vegetation which is cause tripping due to tree touching.
- Frequent tripping is observed in the 11KV Aiginia feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Aiginia feeder caters to an urban consumer and is experiencing frequent interruptions due to feeder tripping's, ageing network and repeated shutdown for restoration and maintenance activities. The no. of tripping's during the last year was 308 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

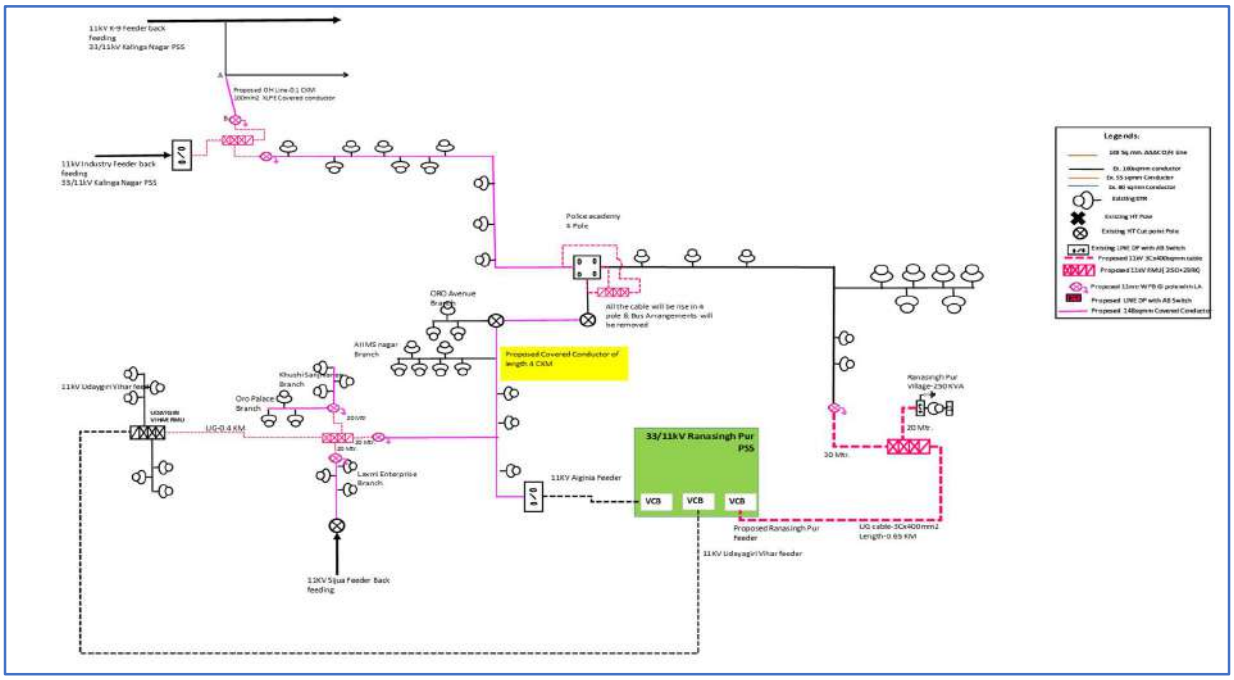
Proposed Scenario:

- Laying of 11kV UG cable of length-0.6 KM using 3Cx400mm2 XLPE UG cable from Ranasingh pur PSS to Ranasingh Pur Village 250 KVA DTR.
- Installation of 4 Nos. of RMU in different location of 11kV Aiginia Feeder.
- Laying of 11kV UG cable of length 0.4 KM using 3Cx400mm2 XLPE UG cable for linking with Udaygiri Vihar RMU & Proposed RMU near Khusi Sannjivani T-off.
- Augmentation of 11kV Aiginia feeder of length 4 CKM.
- Construction of 11kV O/H Linking line from K-9 feeder to Aiginia RMU of length 0.1 CKM using 100mm2 XLPE Covered conductor.
- The New feeder will help for maintaining reliable power supply for smooth operation

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Laying of 11kV UG cable of length-0.6 KM using 3Cx400mm2 XLPE UG cable from Ranasingh pur PSS to Ranasingh Pur Village 250 KVA DTR.
- Installation of 4 Nos. of RMU in different location of 11kV Aiginia Feeder.
- Laying of 11kV UG cable of length 0.4 KM using 3Cx400mm2 XLPE UG cable for linking with Udaygiri Vihar RMU & Proposed RMU near Khusi Sannjivani T-off.
- Augmentation of 11kV Aiginia feeder of length 4 CKM.
- Construction of 11kV O/H Linking line from K-9 feeder to Aiginia RMU of length 0.1 CKM using 100mm2 XLPE Covered conductor (Refer Proposed SLD A-B).

Proposed Cost with Estimate Break-up:

ANNEXURE-12.12	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BCDD-II
Name of the Sub-Division : -	Khandagiri
Name of the Section : -	Kalinga Nagar
Name of the Feeder: -	11kV Aiginia
Name of the Work :-	Proposal for Bifurcation of existing 11kV AIginia feeder for reliability improvement along with mitigation of overloading.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	

Sl. No.	Description	Gross
1	Part-A:- 1. Laying of 11kV UG cable of length-0.6 KM using 3Cx400mm2 XLPE UG cable from Ranasingh pur PSS to Ranasingh Pur Village 250 KVA DTR. 2. Installation of 4 Nos. of RMU in different location of 11kV Aiginia Feeder. 3. Laying of 11kV UG cable of length 0.4 KM using 3Cx400mm2 XLPE UG cable for linking with Udaygiri Vihar RMU & Proposed RMU near Khusi Sannjivani T-off.	1,83,69,092.58
2	Part-B:-Augmentation of 11kV Aiginia feeder of length 4 CKM. 2. Construction of 11kV O/H Linking line from K-9 feeder to Aiginia RMU of length 0.1 CKM using 100mm2 XLPE Covered conductor (Refer Proposed SLD A-B)	72,40,263.19
3	Part-C Dismantling.	1,65,088.14
4	Total Gross	2,57,74,443.90
Total estimated cost is Rs. 2.58 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 2.58 Cr. (For detailed BoQ refer Annexure-12.12)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved Reliability there by overloading mitigation.
- Feeder restoration will be quick.
- By linking 11KV Aiginia feeder and 11KV new ranasingh Pur feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.

- The above arrangement will help to release power supply to upcoming potential urban consumers.

13.0 Proposal for Reliability improvement along with overloading mitigation of 11kV Bharat Pur Feeder:

Proposal:

Proposal for Bifurcation of existing 11 Bharat Pur Feeder emanating from 33/11kV Bharat Pur PSS by construction of new feeder & conductor augmentation of Branch Feeder.

Requirement/ Need of the proposal:

Objective: To ensure reliability improvement along with overloading mitigation by load diversion of the existing feeder with construction of new Linking line.

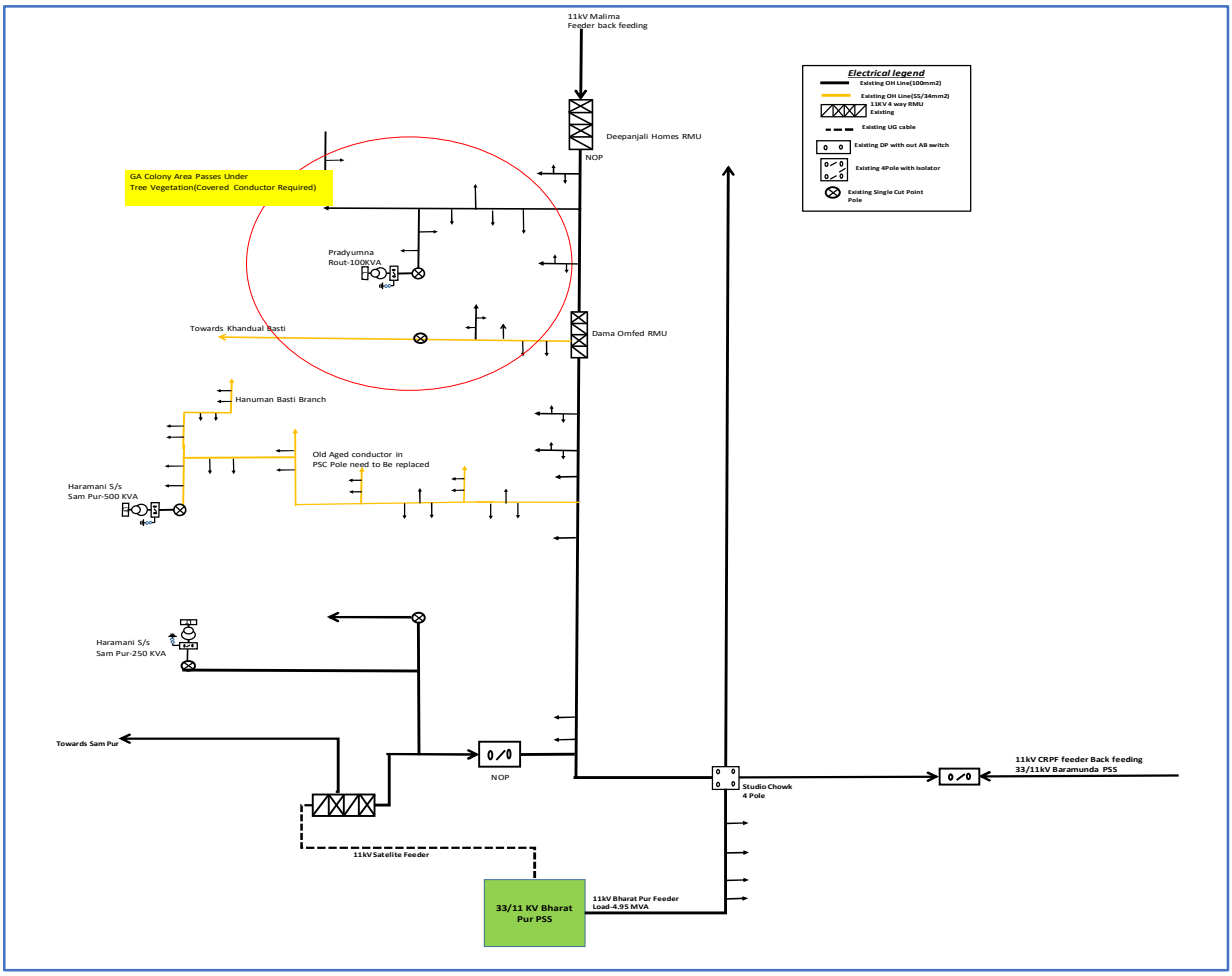
Existing Scenario:

- At present, 11kV Bharat Pur feeder is emanating from 33/11kV Bharat Pur PSS. The total length of 11kV Bharat Pur Feeder is 13.5 Ckm and peak load is 5.48 MVA.
- The trunk conductor size of feeder is 100 sqmm and branch having 55/34 mm2 conductor. It passes through vegetation which is cause tripping due to tree touching.
- Frequent tripping is observed in the 11KV Bharat Pur feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority :

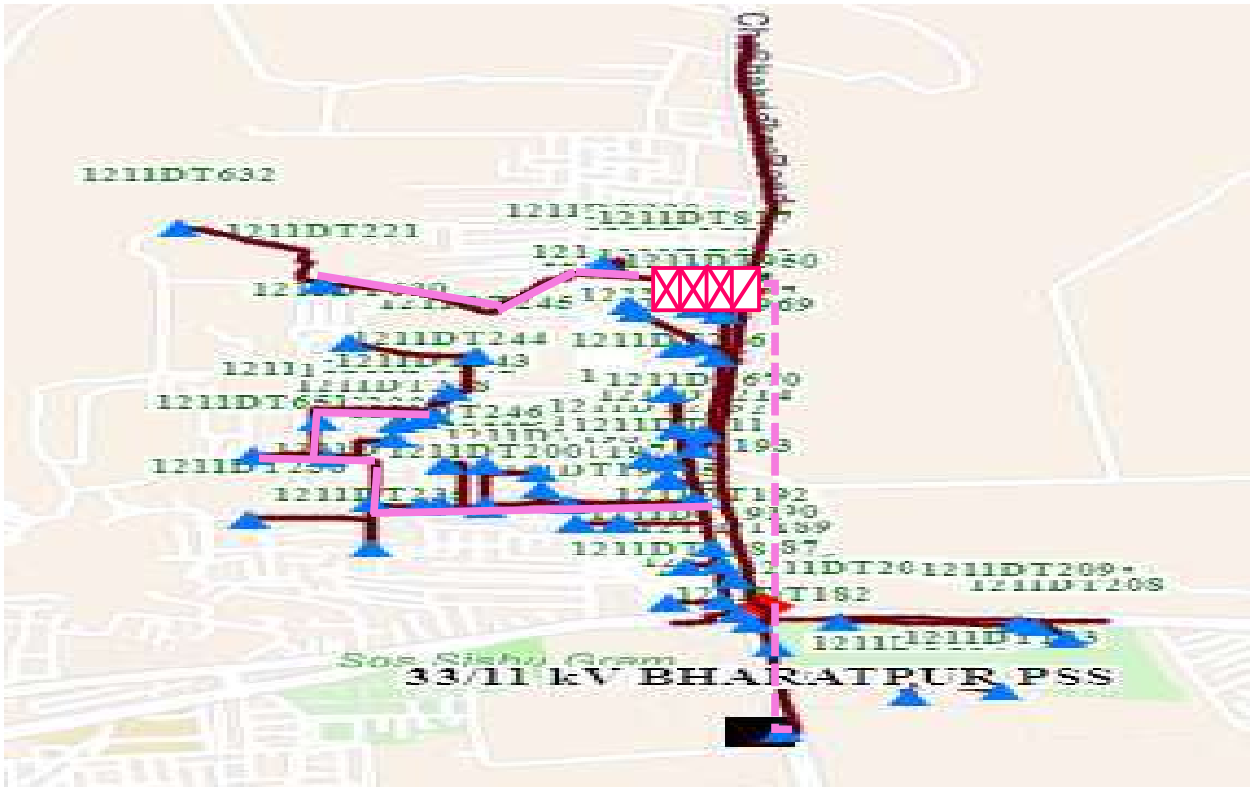
Priority: Since the 11kV Bharat Pur feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last 2 year was 387 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

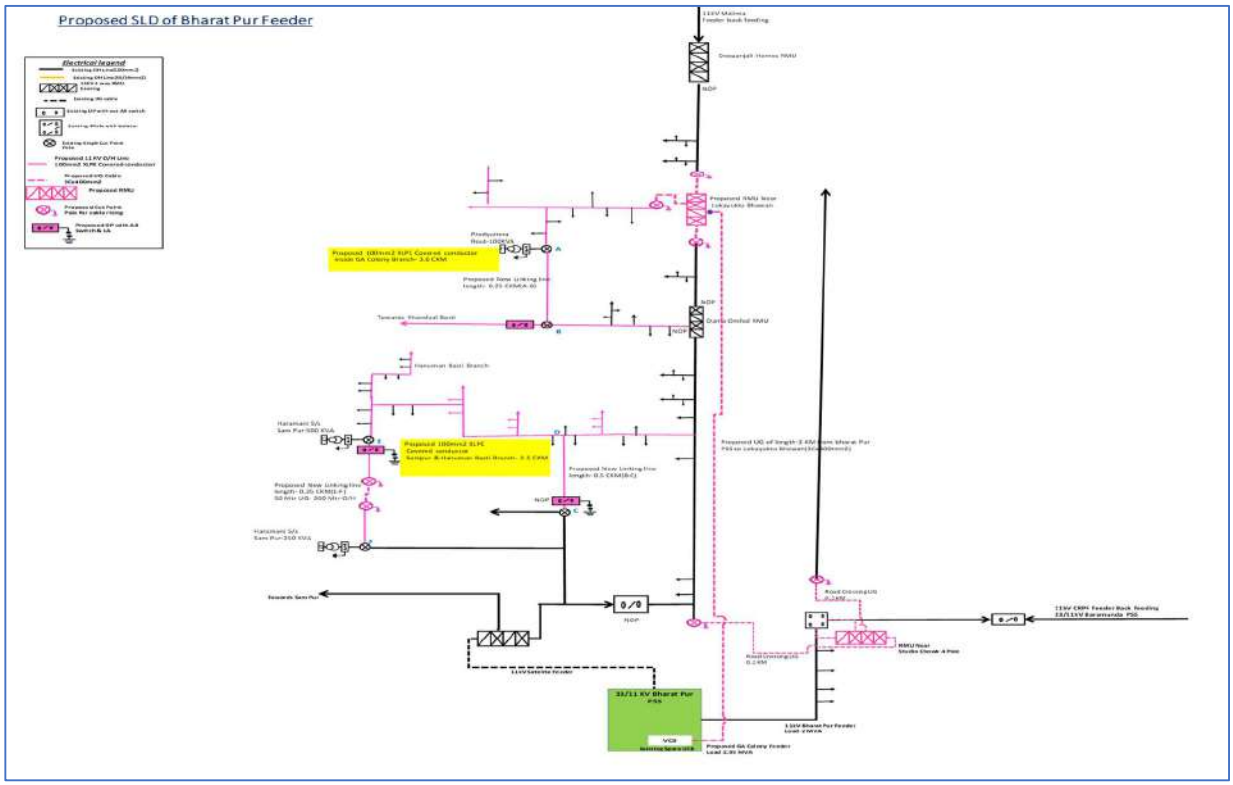
- Laying of 11kV UG cable of length-3 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Lokayukta Bhawan.
- Installation of 2 Nos. of RMU near Lokayukta Bhawan & Studio Chowk.
- Augmentation of 11kV Bharat Pur feeder Branch Line of length 6.1 CKM (GA Colony Branch & Hanuman Basti Sampur Area Branch)

- Construction of 11kV O/H Linking line of length 1.05 CKM using 100mm2 XLPE Covered conductor (Refer Proposed SLD A-B, C-D, E-F)
- The New feeder will help for maintaining reliable power supply for smooth operation

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Laying of 11kV UG cable of length-3 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Lokayukta Bhawan.
- Installation of 2 Nos. of RMU near Lokayukta Bhawan & Studio Chowk.
- Augmentation of 11kV Bharat Pur feeder Branch Line of length 6.1 CKM (GA Colony Branch & Hanuman Basti Sampur Area Branch)
- Construction of 11kV O/H Linking line of length 1.05 CKM using 100mm2 XLPE Covered conductor (Refer Proposed SLD A-B, C-D, E-F)

Proposed Cost with Estimate Break-up:

ANNEXURE-12.13		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Khandagiri
Name of the Section : -		Bharat Pur
Name of the Feeder: -		11kV Bharat Pur
Name of the Work :-		Proposal for Bifurcation of existing 11kV Bharat Pur feeder & augmentation for reliability improvement along with overloading mitigation.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length-3 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Lokayukta Bhawan. 2. Installation of 2 Nos. of RMU near Lokayukta Bhawan & Studio Chowk.	2,79,00,458.68
2	Part-B:-Augmentation of 11kV Bharat Pur feeder Branch Line of length 6.1 CKM(GA Colony Branch & Hanuman Basti Sampur Area Branch) 2. Construction of 11kV O/H Linking line of length 1.05 CKM using 100mm2 XLPE Covered conductor(Refer Proposed SLD A-B, C-D, E-F)	1,17,88,054.32
3	Part-C Dismantling.	3,13,472.60
4	**Total Gross**	**4,00,01,985.60**

Total estimated cost is Rs. 4 Crore. (On TPCODL CAPEX Scheme)

Cost Estimate: ₹ 4 Cr. (For detailed BoQ refer Annexure-12.13)

i) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

iii) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved Reliability there by overloading mitigation.
- Feeder restoration will be quick.
- By linking 11KV Bharat Pur feeder and 11KV New feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential urban consumers.

14.0 Proposal for Reliability improvement along with overloading mitigation of 11kV Kolathia Feeder:

Proposal:

Proposal for Bifurcation of existing 11 KV Kolathia Feeder load emanating from 33/11kV Khandagiri PSS by construction of 1no. of new 11kV feeder from 33/11kV Bharat Pur PSS through existing 11kV bay and 3.3 km 11KV new line from Bharat Pur PSS to Manipal Hospital & augmentation of 11kV Kolathia Feeder using 100mm2 XLPE Covered conductor.

Requirement/ Need of the proposal:

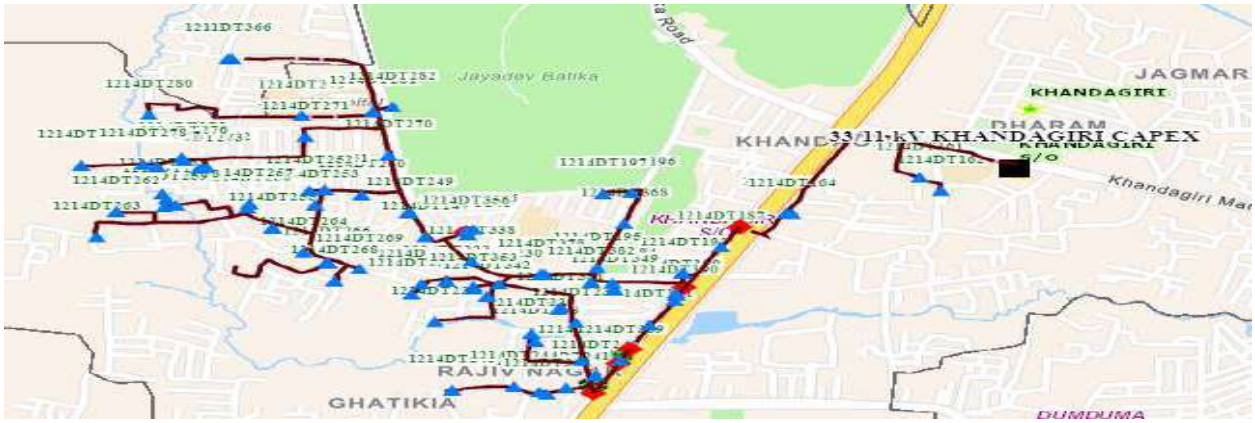
Objective: To ensure reliability improvement along with overloading mitigation by bifurcating the existing feeder with construction of new 11kV feeder & refurbishment of existing feeder.

Existing Scenario:

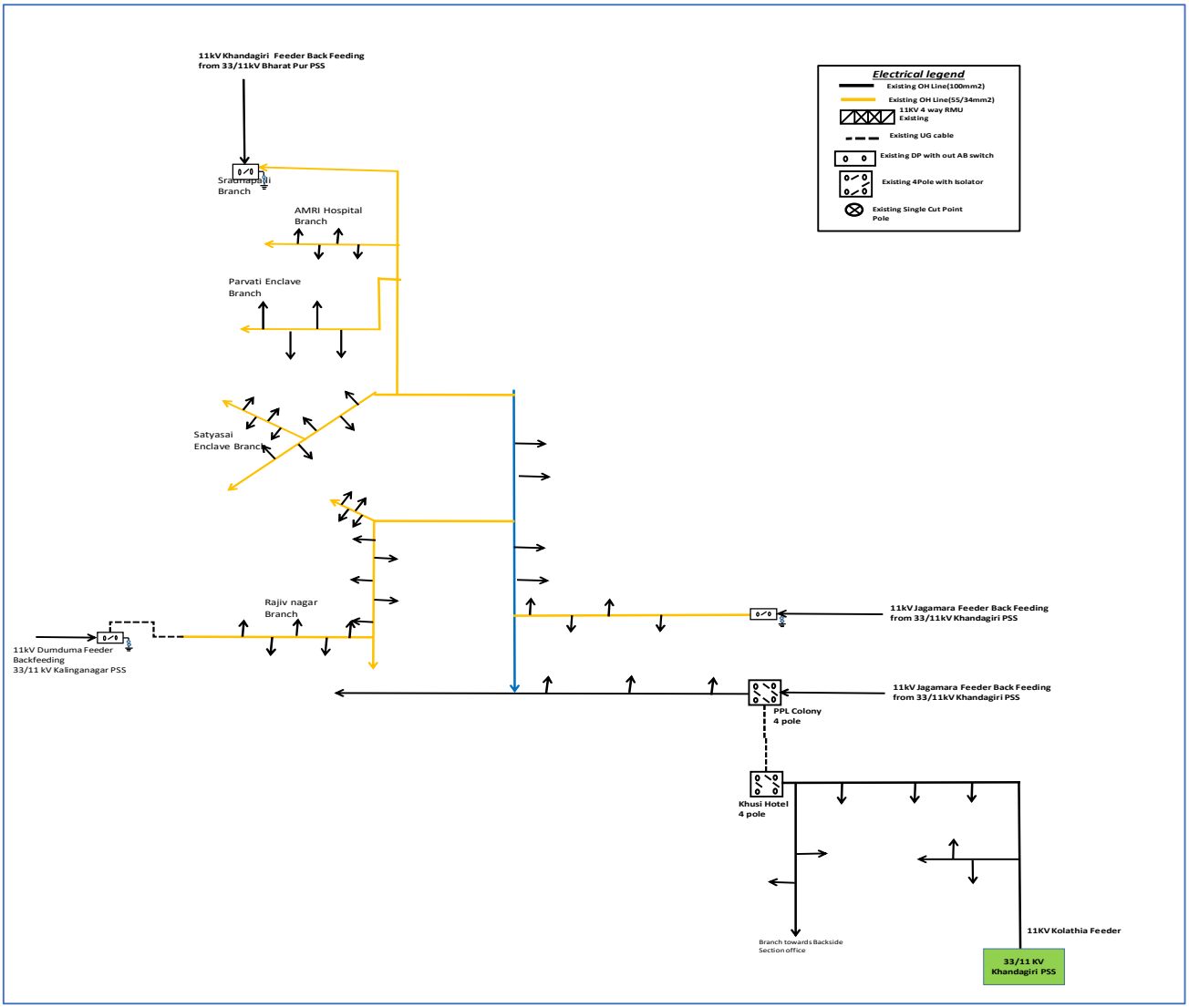
- At present, 11kV Kolathia feeder is emanating from 33/11kV Khandagiri PSS. The total length of 11kV Kolathia Feeder is 16 Ckm and peak load is 6.17 MVA.
- The trunk conductor size of feeder is 100 sqmm and branch having 80/55 mm2 conductor. It passes through vegetation which is cause tripping due to tree touching.

- Frequent tripping is observed in the 11KV Kolathia feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



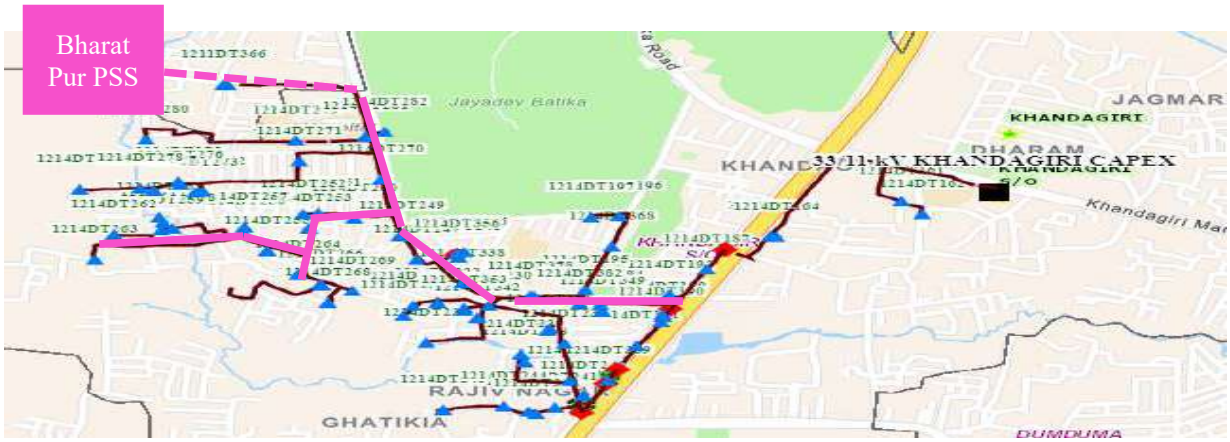
Priority and Timeline of the Project:

Priority: Since the 11kV Kolathia feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last 2 year was 266 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

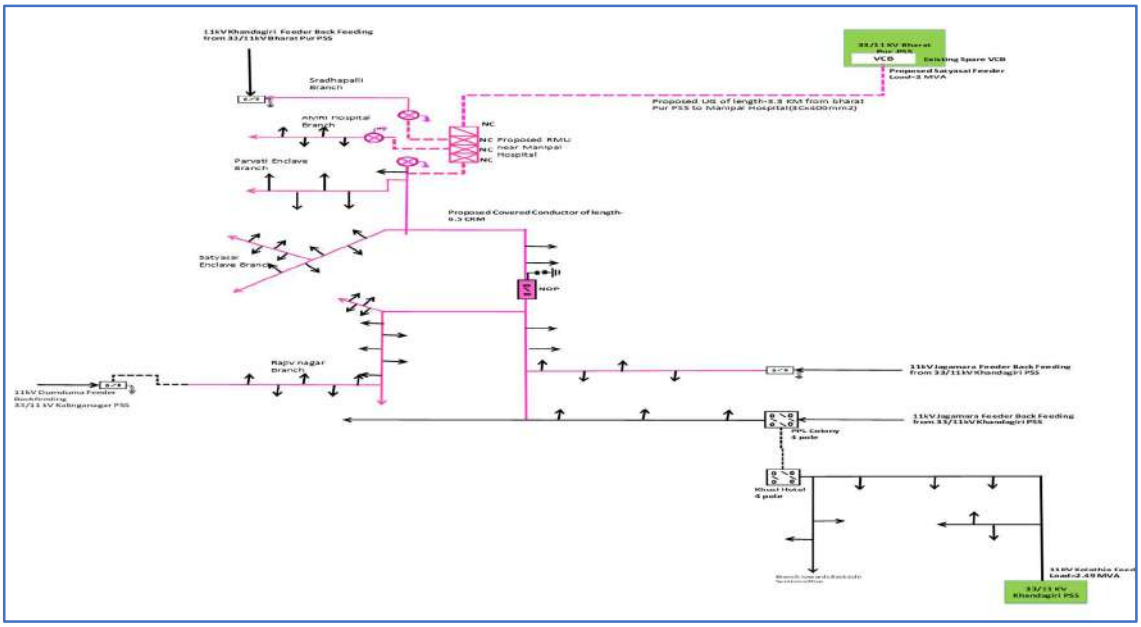
Proposed Scenario:

- Laying of 11kV UG cable of length-3.5 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Manipal Hospital.
- Installation of 1 No. of RMU near Manipal Hospital.
- Augmentation of 11kV Kolathia Feder Branch Line of length 6.5 CKM.

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Laying of 11kV UG cable of length-3.5 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Manipal Hospital.
- Installation of 1 No. of RMU near Manipal Hospital.
- Augmentation of 11kV Kolathia Feder Branch Line of length 6.5 CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.14		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division: -		BCDD-II
Name of the Sub-Division: -		Khandagiri
Name of the Section: -		Khandagiri
Name of the Feeder: -		11kV Kolathia
Name of the Work: -		Proposal for Bifurcation of existing 11kV Kolathia feeder & conductor augmentation for Reliability improvement along with mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length-3.5 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Manipal Hospital. 2. Installation of 1 No. of RMU near Manipal Hospital.	2,80,27,297.79
2	Part-B:-Augmentation of 11kV Kolathia Feder Branch Line of length 6.5 CKM(Refer proposed SLD)	1,16,71,994.31
3	Part-C Dismantling.	3,22,495.12
4	**Total Gross**	**4,00,21,787.22**
Total estimated cost is Rs. 4 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 4 Cr. (For detailed BoQ refer Annexure-12.14)

i) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved Reliability there by overloading mitigation.
- Feeder restoration will be quick.
- By linking 11KV Kolathia feeder and 11KV New feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential urban consumers.

15.0 Proposal for Reliability improvement along with overloading mitigation of 11kV PHD Feeder:

Proposal:

Proposal for Augmentation of existing 11 kV PHD Feeder load emanating from 33/11kV Bharat Pur PSS by conductor augmentation.

Requirement/ Need of the proposal:

Objective: To ensure reliability improvement along with overloading mitigation by augmentation of the existing feeder

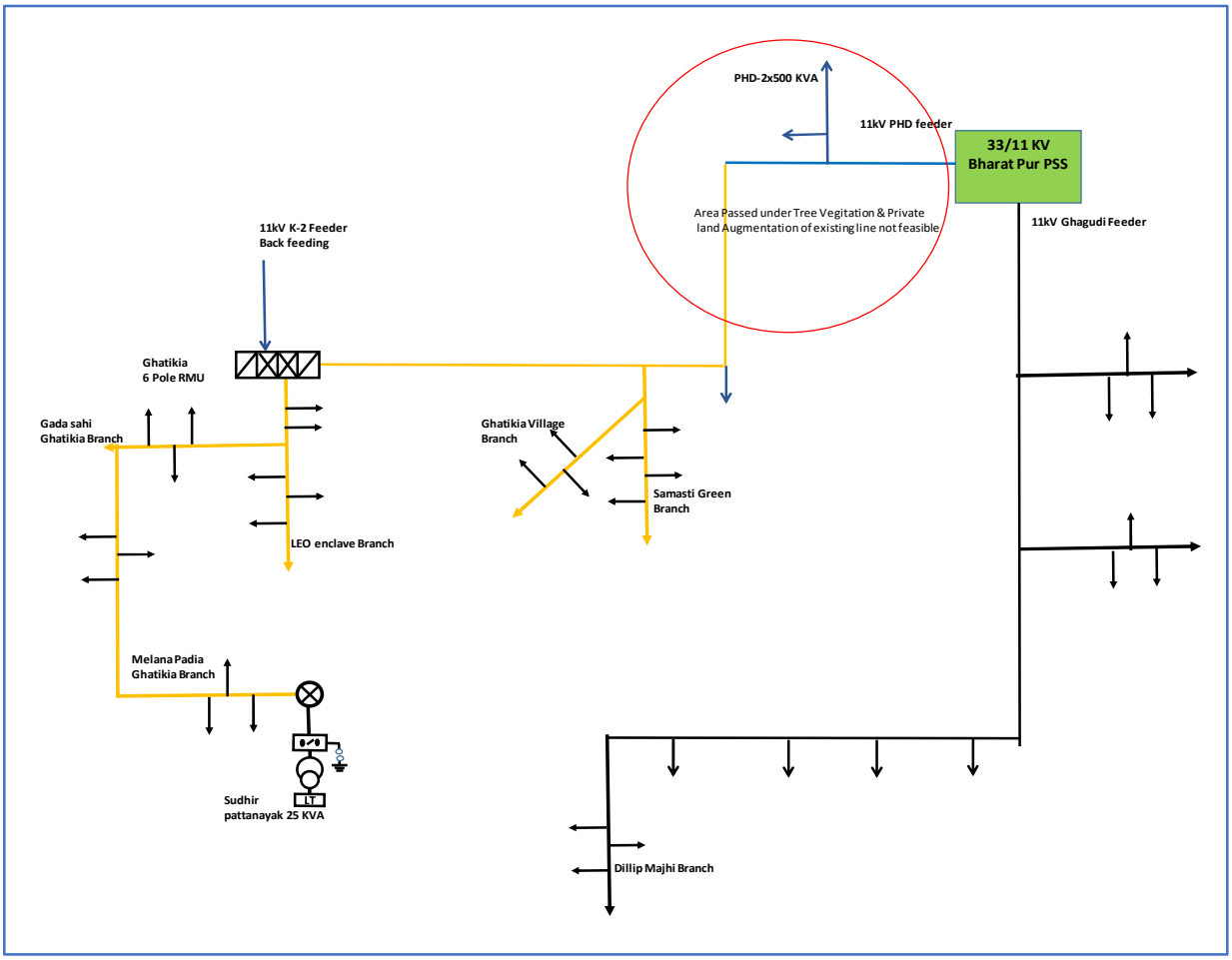
Existing Scenario:

- 11kV PHD feeder is emanating from 33/11kV Bharat Pur PSS. Total length of this feeder is 7.61 CKM and the peak load is 3.12 MVA.
- The trunk conductor size of feeder is 55 sqmm and branch having 55/34 mm2 conductor. It passes through vegetation which is cause tripping due to tree touching.
- Frequent tripping is observed in the 11KV PHD feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



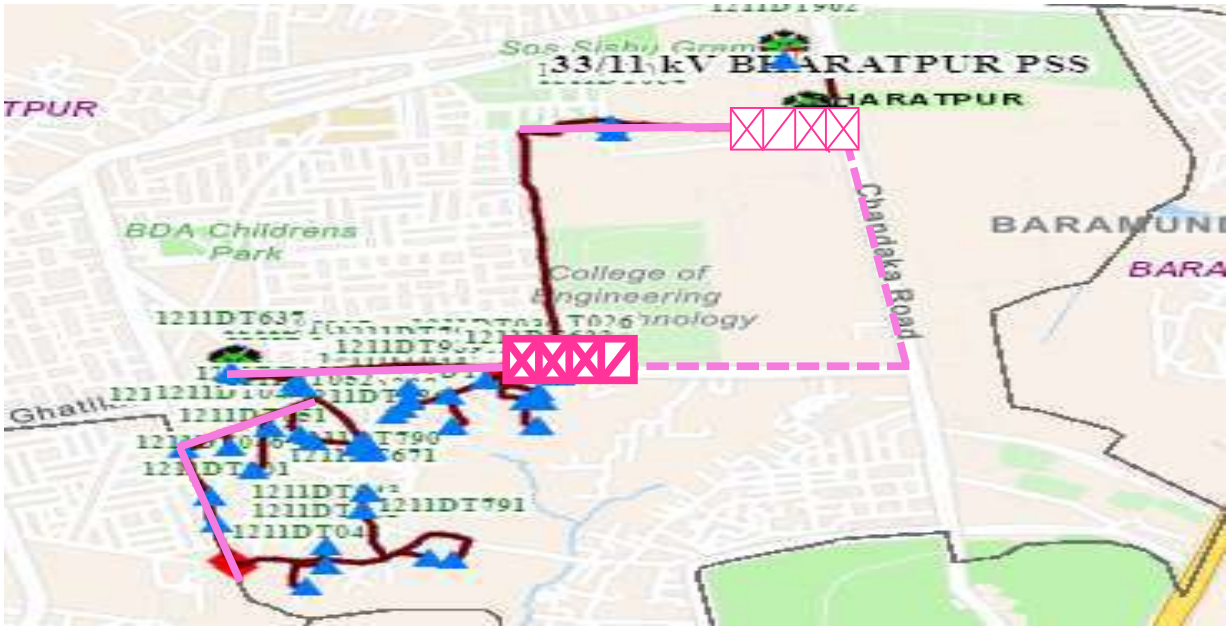
Priority and Timeline of the Project:

Priority: Since the 11kV PHD feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last 2year was 203 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

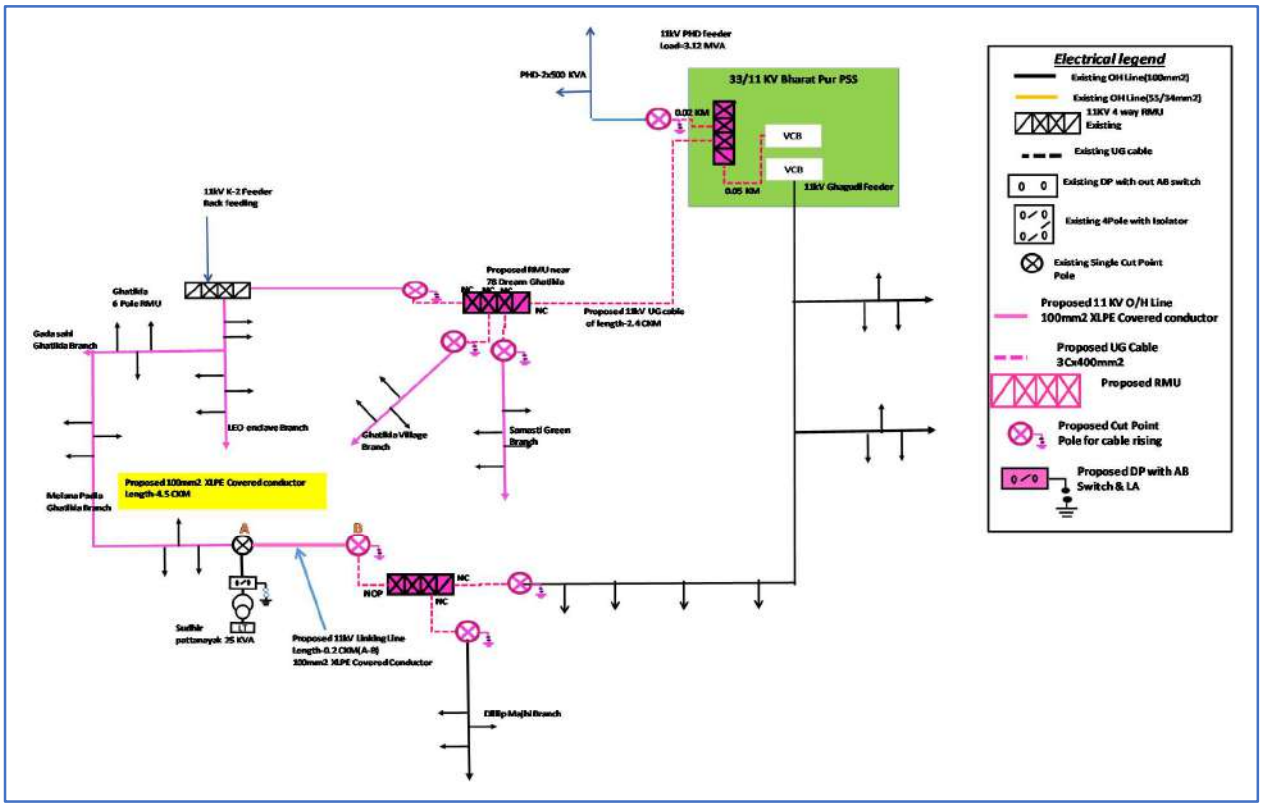
Proposed Scenario:

- Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to 78 Dreams Ghatikia.
- Installation of 3 Nos. of RMU in 11kV PHD Feeder in different location.
- Augmentation of 11kV PHD feeder Branch Line of length 4.5 CKM (Ghatikia Village Branch)
- Construction of 11kV O/H Linking line of length 0.2 CKM using 100mm2 XLPE Covered conductor (Refer Proposed SLD A-B)

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to 78 Dreams Ghatikia.
- Installation of 3 Nos. of RMU in 11kV PHD Feeder in different location.
- Augmentation of 11kV PHD feeder Branch Line of length 4.5 CKM (Ghatikia Village Branch)
- Construction of 11kV O/H Linking line of length 0.2 CKM using 100mm2 XLPE Covered conductor (Refer Proposed SLD A-B)

Proposed Cost with Estimate Break-up:

ANNEXURE-12.15	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division: -	BCDD-II
Name of the Sub-Division: -	Khandagiri
Name of the Section: -	Bharat Pur
Name of the Feeder: -	11kV PHD
Name of the Work: -	Proposal for augmentation of 11kV PHD Feeder for reliability improvement.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	

Sl. No.	Description	Gross
1	Part-A: - 1. Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to 78 Dreams Ghatikia. 2. Installation of 3 Nos. of RMU in 11kV PHD Feeder in differen location.	2,81,87,767.90
2	Part-B: -Augmentation of 11kV PHD feeder Branch Line of length 4.5 CKM (Ghatikia Village Branch) 2. Construction of 11kV O/H Linking line of length 0.2 CKM using 100mm2 XLPE Covered conductor (Refer Proposed SLD A-B)	73,60,908.74
3	Part-C Dismantling.	2,08,964.25
4	**Total Gross**	**3,57,57,640.90**
Total estimated cost is Rs. 3.58 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 3.58 Cr. (For detailed BoQ refer Annexure-12.15)

i) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved Reliability there by overloading mitigation.
- Feeder restoration will be quick by installation of RMU in T-off.
- By linking 11KV PHD feeder and 11KV Ghagudi feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential urban consumers.

16.0 Proposal for Reliability improvement of 11kV HB-3 Feeder:

Proposal:

Proposal for Augmentation of existing 11kV HB-3 feeder using 100mm2 XLPE Covered conductor & installation of RMU for reliability improvement.

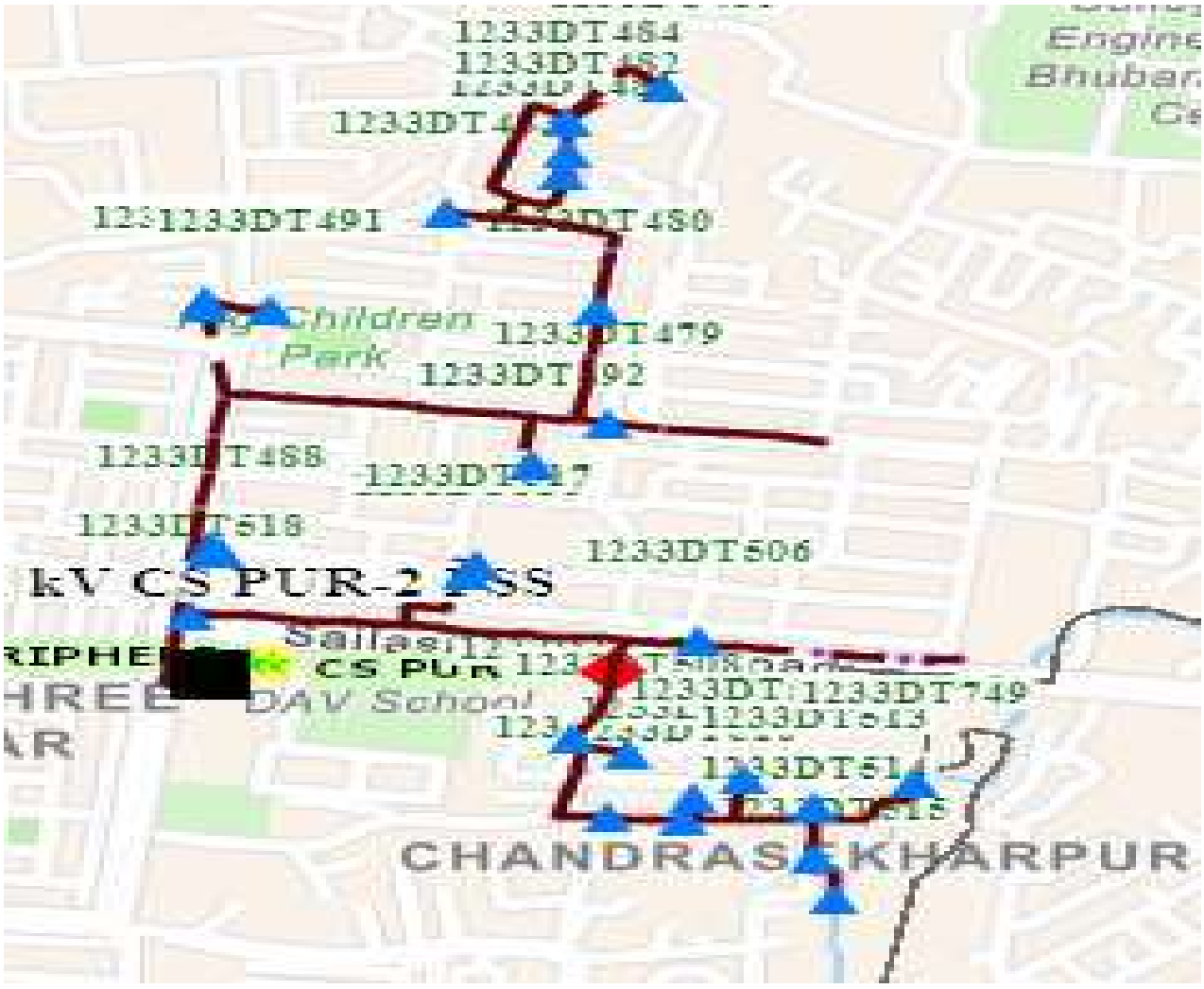
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV HB-3 Feeder.

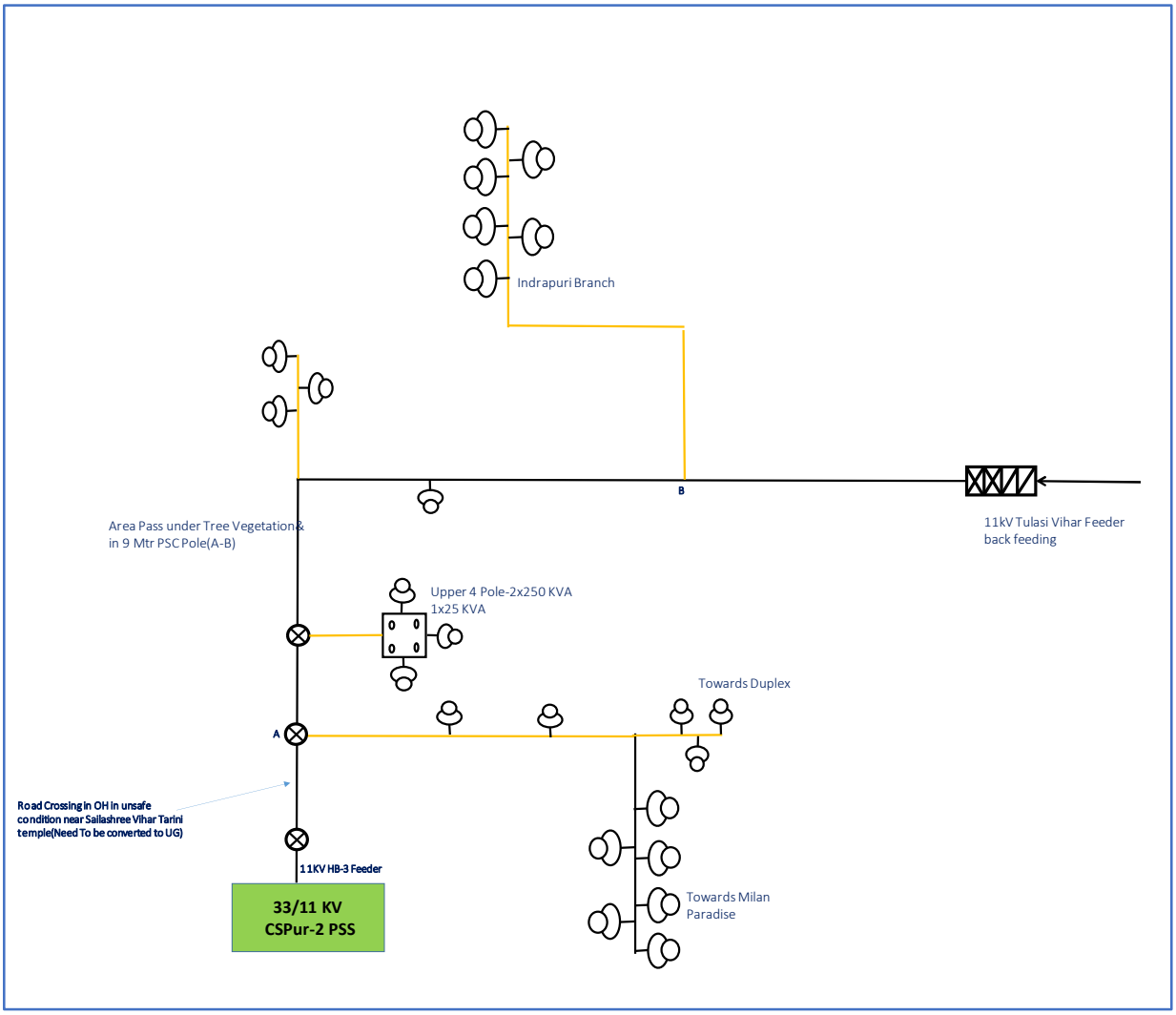
Existing Scenario:

- At present, 11kV HB-3 feeder is emanating from 33/11kV CS PUR-2 PSS. The total trunk length of 11kV HB-3 Feeder is 4.73 km and peak load is 3.35 MVA.
- The trunk conductor size of feeder is 100/80 sqmm and it passes through vegetation which is cause tripping due to tree touching.
- Frequent tripping is observed in the 11KV HB-3 feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



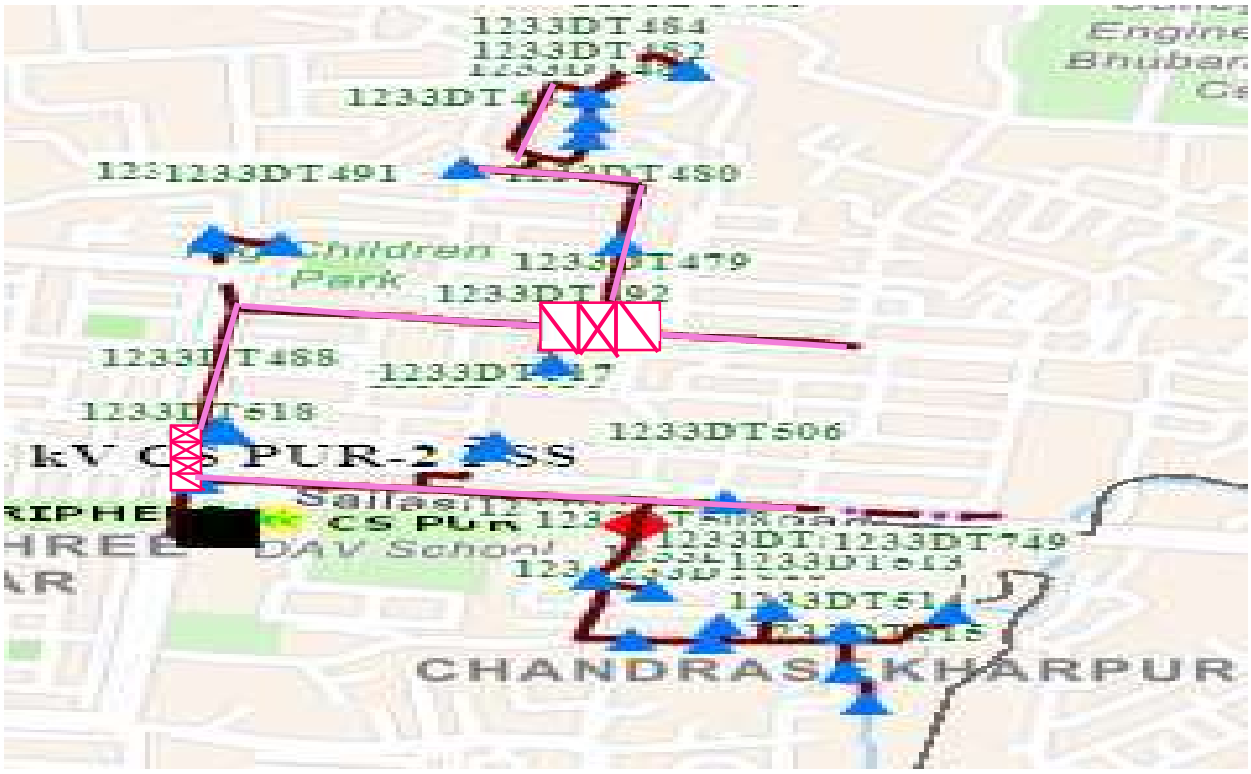
Priority and Timeline of the Project:

Priority: Since the 11kV HB-3 feeder caters to a urban consumers and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 125 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

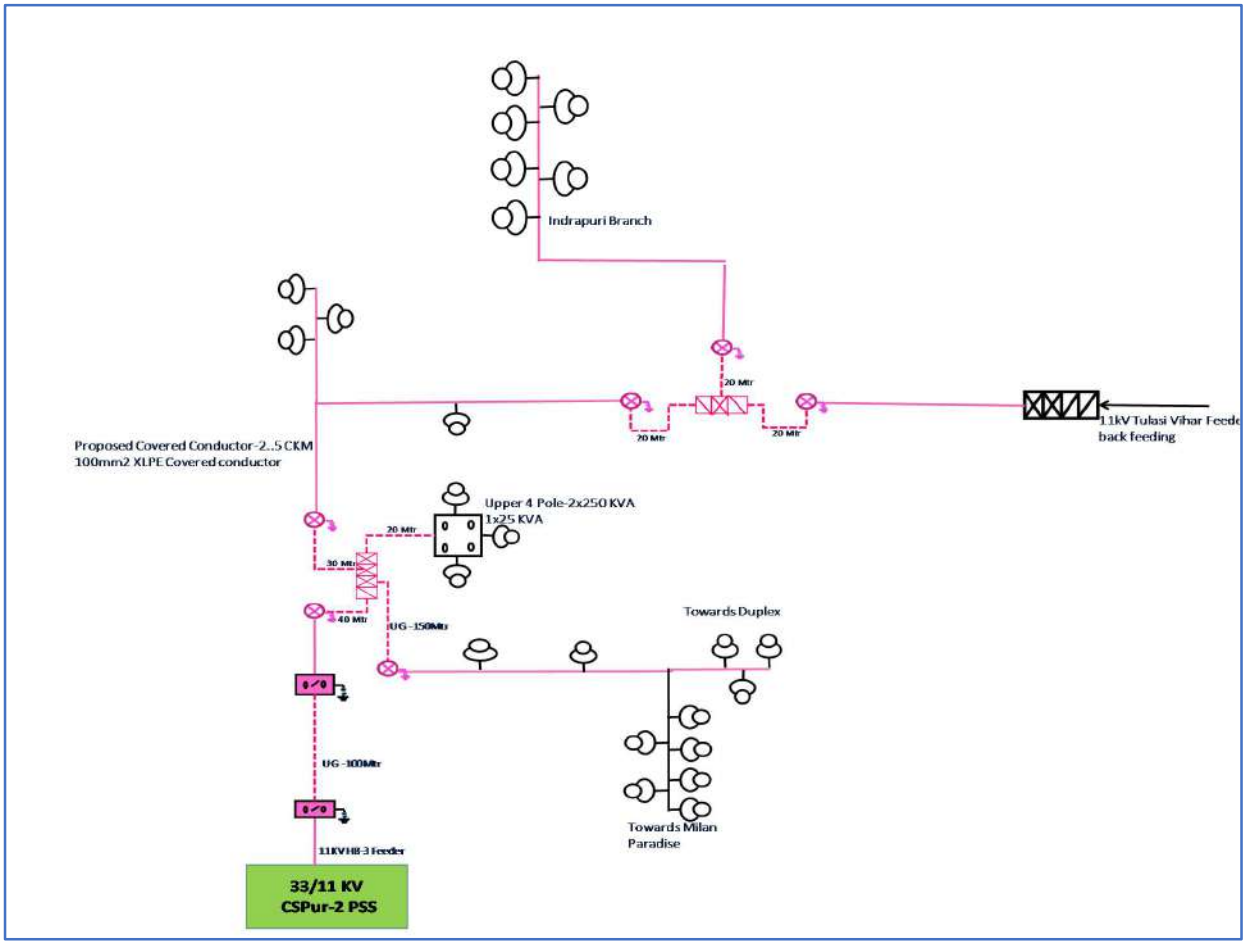
Proposed Scenario:

- Laying of 11kV UG cable of length-0.1 KM using 3Cx400mm2 XLPE UG cable near Sailashree Vihar Tarini Temple for avoid unsafe Road Crossing.
- Installation of 2 Nos. of RMU in different location of 11kV HB-3 Feeder.
- Augmentation of 11kV HB-3 feeder of length 2.5CKM using 100mm2 XLPE Covered conductor.
- The New feeder will help for maintaining reliable power supply for smooth operation

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Laying of 11kV UG cable of length-0.1 KM using 3Cx400mm2 XLPE UG cable near Sailashree Vihar Tarini Temple for avoid unsafe Road Crossing.
- Installation of 2 Nos. of RMU in different location of 11kV HB-3 Feeder.
- Augmentation of 11kV HB-3 feeder of length 2.5CKM using 100mm2 XLPE Covered conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.16		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division: -		BCDD-II
Name of the Sub-Division: -		Periphery
Name of the Section: -		CS Pur-2
Name of the Feeder: -		11kV HB-3
Name of the Work: -		Proposal for Augmentation of existing 11kV HB-3 feeder using 100mm2 XLPE Covered conductor & installation of RMU for reliability improvement.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A: - 1. Laying of 11kV UG cable of length-0.1 KM using 3Cx400mm2 XLPE UG cable near Sailashree Vihar Tarini Temple for avoid unsafe Road Crossing. 2. Installation of 2 Nos. of RMU in different location of 11kV HB-3 Feeder.	71,69,294.13
2	Part-B: -Augmentation of 11kV HB-3 feeder of length 2.5CKM.	51,17,317.47
3	Part-C Dismantling.	1,21,057.09
4	**Total Gross**	**1,24,07,668.69**
Total estimated cost is Rs. 1.24 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 1.24 Cr. (For detailed BoQ refer Annexure-12.16)

i. All rates considered in the estimate as per the Cost Data Book (DB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved Reliability of urban consumers.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.

The above arrangement will help to release power supply to upcoming potential urban consumers.

17.0 Proposal for Reliability Improvement along with overloading mitigation of 11KV Kakatpur-2 Feeder

Proposal:

Proposal for construction of 2 Nos. of new 11 kV feeders of 3.5 CKM and 0.5 CKM lengths to bifurcate the load of the existing 11 kV Kakatpur-2 Feeder, mitigate the overloading of the 11 kV Kakatpur Feeder and the 8 MVA PTR-1 at Kakatpur PSS, and bifurcate the lengthy 11 kV Juinty Feeder.

Requirement/ Need of the proposal:

Objective: To enhance reliability and overloading mitigation of 11 kV Kakatpur-2 Feeder along with bifurcate the lengthy 11 kV Juinty Feeder.

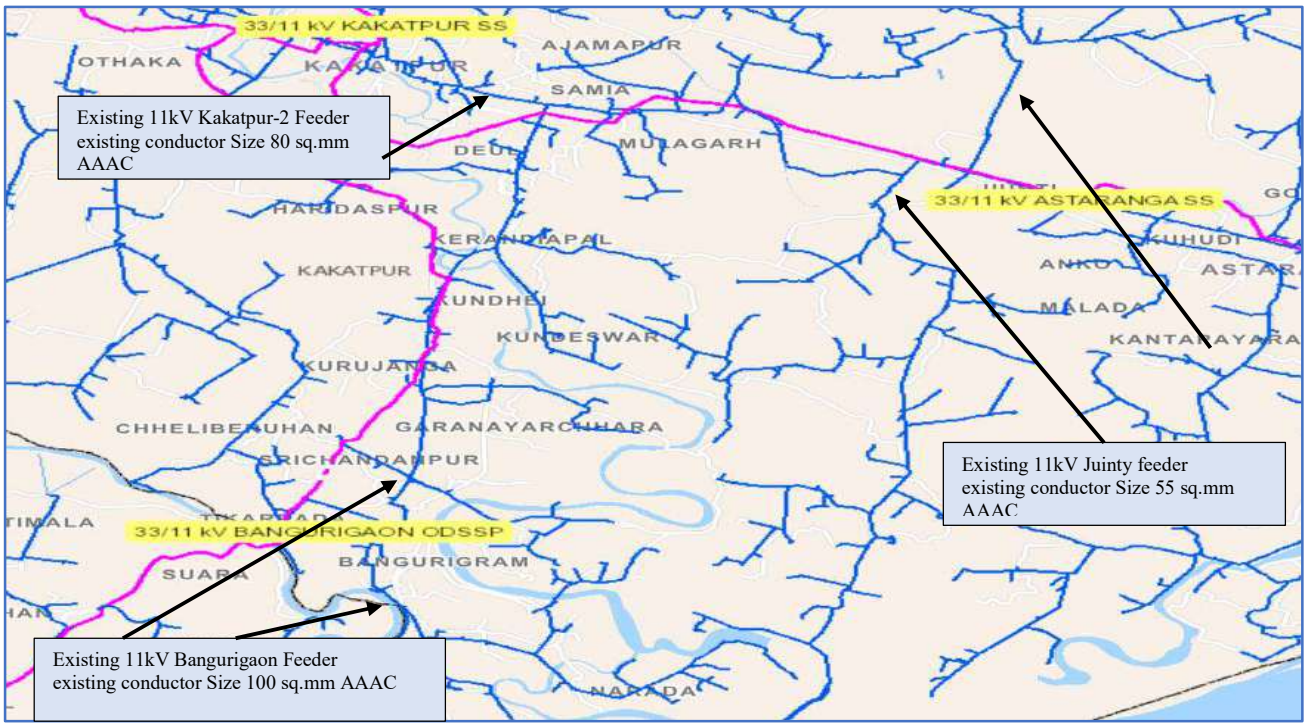
Existing Scenario:

- At present, 11kV Kakatpur-2 Feeder is emanating from 33/11kV Kaktpur PSS. Total length of this feeder is 50.89 km and the peak load is 4.24 MVA.
- 11kV Juinty Feeder is emanating from 33/11kV Astaranga PSS. Total length of this feeder is 55.47 km and the peak load is 4.24 MVA.
- In the existing scenario, conductor size of 11kV Kakatpur-2 Feeder is 80 sq mm & the feeder is 107% loaded w.r.t the current carrying capacity of the conductor.
- Considering 6% load growth for next 2Yrs. the feeder loading will reach 120% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic as well as commercial consumers.
- This feeder is mainly feeding rural consumers and some urban consumers of Kaktpur area, several breakdown on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the urban area, conductor augmentation proposed for overloading mitigation & to improving reliability.
- 11kV Juinty feeder is lengthy and radial in nature, and passes through paddy field area, for which during any beakedown it becomes very difficault for patrolling and fault rectification.

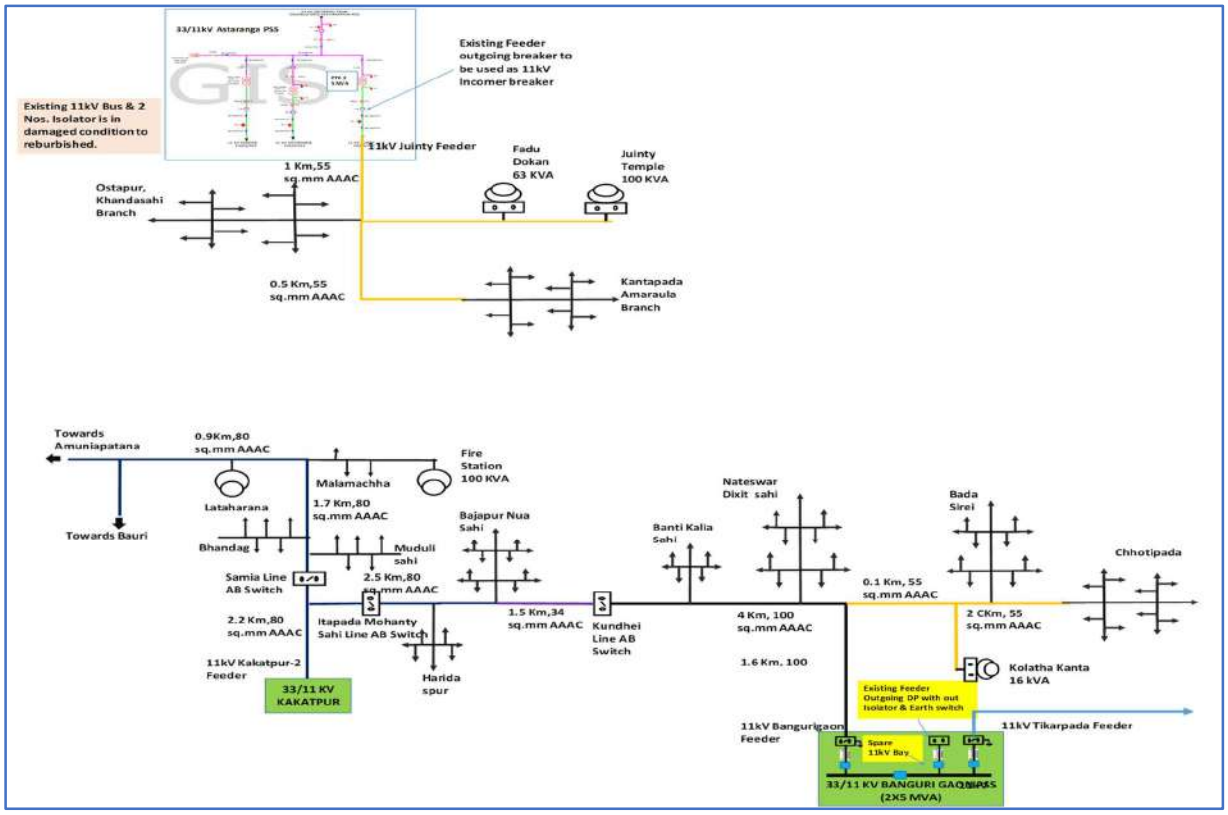
Existing Summer'26 Loading and projected load at 11 kV Kaktpur-2 Feeder:

Existing Scenario								
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer'28**
Kaktpur	Kaktpur-2	4.52	4.85	107%	5.87	130%	Over load	487.09
Astaranga	Juintl	3.55	2.08	59%	2.52	71%	Under load	154.44
Banguriga on	Banguriga on	3.55	1.47	41%	1.78	50%	Under load	61.68

GIS SLD:



Existing SLD



Priority of the Project:

- Since the feeder loading has reached 97% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 109%. In case the issue is not addressed, there will be load shedding of 9161nos. consumers for prolonged period.
- In addition to this since the 11kV Kakatpur-2 feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 132nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 107% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

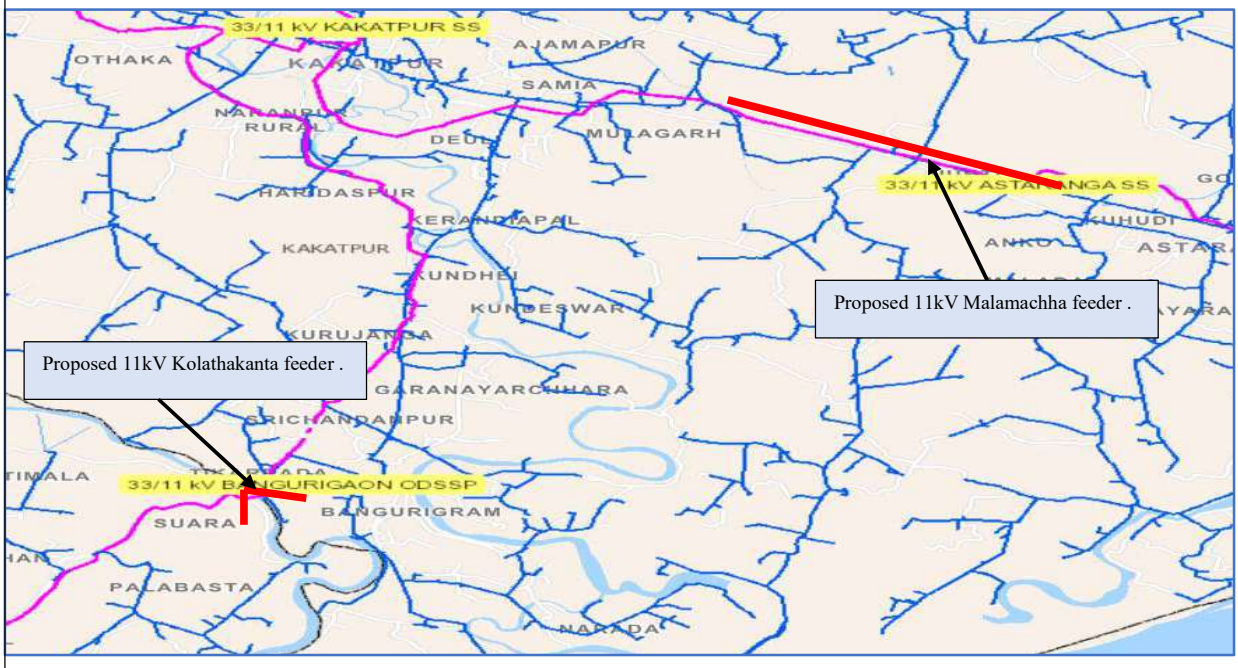
- Proposal for construction 3.1 CKM OH line using 100 sq.mm XLPE Covered conductor and 0.4 KM UG line using 11kV 3Cx400 sq.mm XLPE U/G cable from Astaranga PSS to Malamachha.
- Installation of 4 Nos. 11kV DP with Ab switch and construction of 0.1 KM UG interlinking line with for 11kV Juinty feeder bifurcation and load diversion from 11kV kakatpur-2 feeder.
- Construction 0.3 CKM OH line using 100 sq.mm XLPE Covered conductor and 0.2 KM UG line using 11kV 3Cx400 sq.mm XLPE U/G cable from Bangurigaon PSS to Kolathakanta, 16 KVA.
- Divert load of 11kV Kakatpur-2 feeder to 11kV Bangurigaon feeder emanated from 33/11kV Banguriga PSS and proposed 11kV Malamachha Feeder emanated from 33/11kV Astaranga Feeder.

Proposed Summer'28 Loading and projected load at 11 kV Kakatpur-2 Feeder:

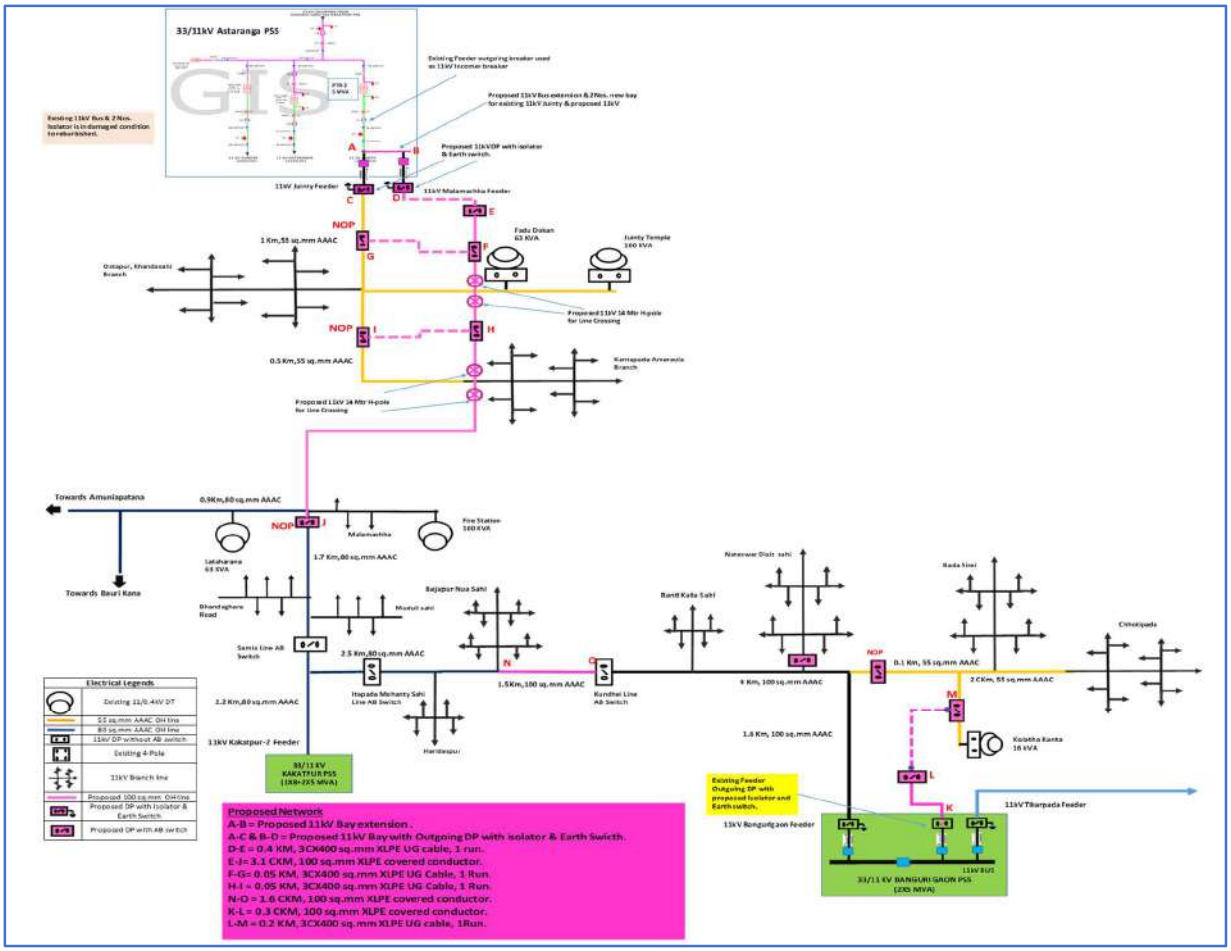
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Kaktpur	Kaktpur-2	4.52	3.60	80%	Under load	186.3
Astaranga	JuintI	3.55	1.90	54%	Under load	123.2
Bangurigaon	Bangurigaon	3.55	0.90	25%	Under load	19.33
Bangurigaon	Proposed Kolathkanta	5.19	0.96	18%	Under load	34.26
Astaranga	Proposed Malamachha	5.19	2.80	54%	Under load	159.46

- After bifurcation the existing 11KV Dutta Tota feeder will be divided into three parts, the existing 11KV Dutta Tota feeder will be loaded upto 32% of its capacity and the proposed 11KV malamachha feeder will be loaded upto 72% of its capacity and 11kV bangurigaon feeder will be loaded upto 62% of its capacity.

GIS SLD:



Proposed SLD (Summer'28)



Scope of Work:

- Construction of Two No of 11 KV Line Bay (Outdoor).
- Construction 11kV 3Ph 3W O/H Line of Length= 5 CKM, using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP.
- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.7 KM, without spare run.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.17	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Cicle :-	BBSR-1
Name of the Division :-	NED
Name of the Sub-Division : -	Nimapada
Name of the Section : -	Kakatpur-2 & Astaranga
Name of the Work :-	Proposal for construction of 2 Nos. of new 11 kV feeders of 3.5 CKM and 0.5 CKM lengths to bifurcate the load of the existing 11 kV Kakatpur-2 Feeder, mitigate the overloading of the 11 kV Kakatpur Feeder and the 8 MVA PTR-1 at Kakatpur PSS, and bifurcate the lengthy 11 kV Juinty Feeder.

Names of Schemes: -		CAPEX 27-28
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of Two No of 11 KV Line Bay (Outdoor)	57,19,805.47
2	PART B : Installation of 2 Nos. DP with Isolator & earth switch for feeder outgoing.	4,30,356.69
3	PART C: Construction 11kV 3Ph 3W O/H Line of Length= 5 CKM, with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP.	1,71,45,409.91
4	PART D- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.7 KM, with one run spare.	67,61,082.36
5	PART E: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing	56,502.88
6	PART F: Dismantling of Materials	98,177.44
7	**Total Gross**	**3,02,11,334.75**
Total estimated cost is Rs. 3.02 Cr.		

Cost Estimate: ₹ 3.02 Cr. (For detailed BoQ refer Annexure-12.17)

i. All rates considered in the estimate as per the Cost Data Book (DB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Overloading mitigation of 11kV Kakatpur-2 Feeder to maintain reliable Power Supply .

- 11KV Kaktpur-2 feeder length reduced from 50.96 CKM to 24.46 CKM.
- 11KV Juinty feeder length reduced from 50.96 CKM to 24.46 CKM.
- 11KV Bangurigaon feeder length reduced from 50.96 CKM to 24.46 CKM.
- The above arrangement will help to release power supply to upcoming potential consumers of urban area .
- Safety to to the public & working personnel will be improved since conductor snapping because of overloading is addressed through above proposal.

18.0 Proposal for reliability improvement along with overloading Mitigation of 11KV Patapur Feeder

Proposal:

Proposal for augmentation and bifurcation of 11kV Patapur Feeder by installation of 11kV 4 Way RMU and construction of 0.5 CKM overhead line and 0.8 CKM Under ground line.

Requirement/ Need of the proposal:

Objective: To enhance reliability as well as to mitigate the overloading of the 11 kV Patapur Feeder.

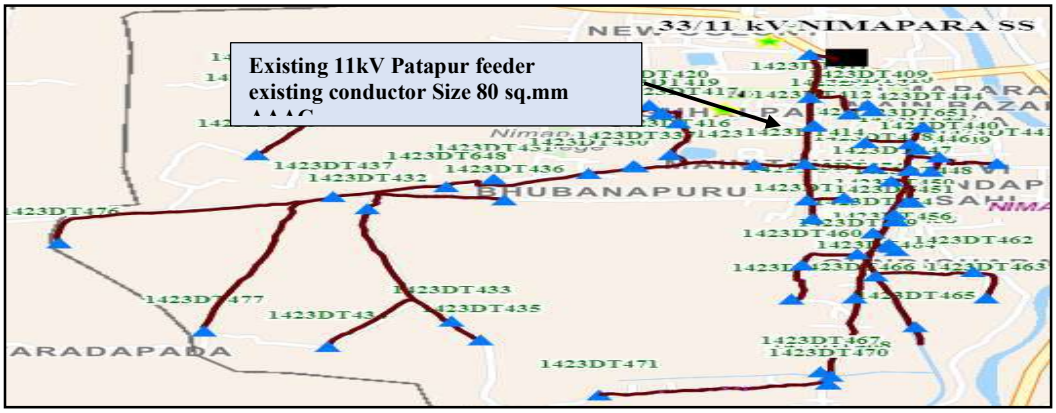
Existing Scenario:

- At present, 11kV Patapur Feeder is emanating from 33/11kV Nimapada PSS. Total length of this feeder is 23.5 km and the peak load is 4.02 MVA.
- In the existing scenario, conductor size of 11kV Patapur Feeder is 80 sq mm & the feeder is 89% loaded w.r.t the current carrying capacity of the conductor.
- Considering 10% load growth for next 2Yrs. the feeder loading will reach 108% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic as well as commercial consumers.
- This feeder is mainly feeding urban consumers and some rural consumers of Nimapada area, several breakdown on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the urban area, conductor augmentation proposed for overloading mitigation & to improving reliability.

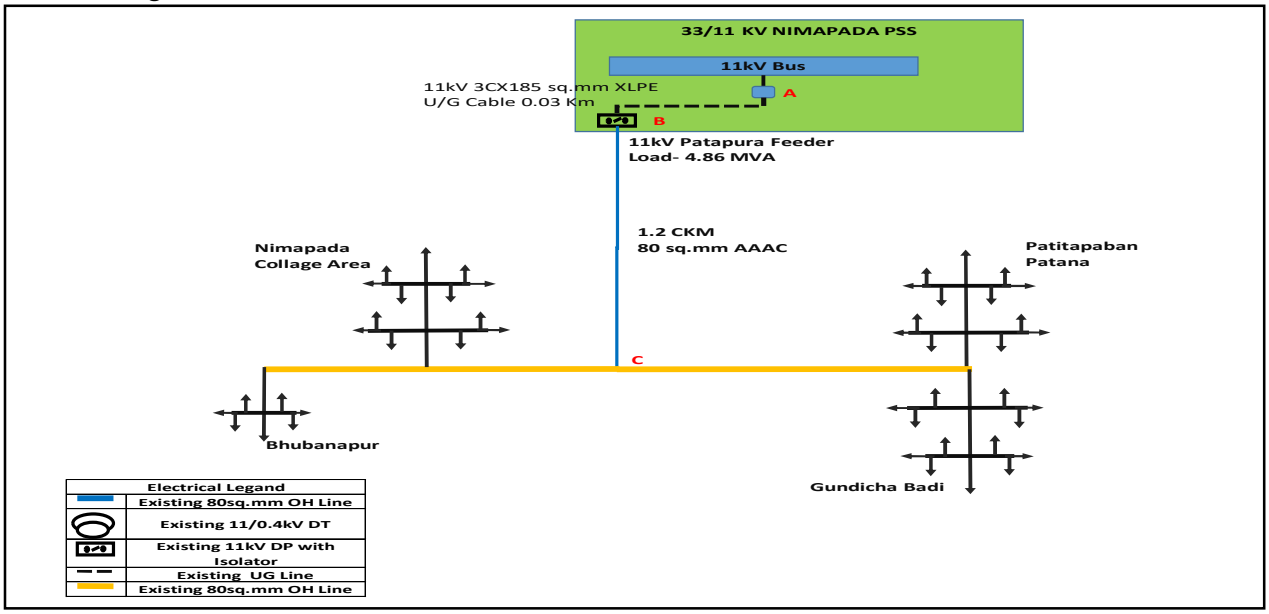
Existing Summer'26 Loading and projected load at 11 kV Patapur Feeder:

Existing Scenario								
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer'28**
Nimapada	Patapur	4.51	4.02	89%	4.86	108%	Over load	227

GIS SLD:



Existing SLD



Priority of the Project:

Since the feeder loading has reached 89% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 108%. In case the issue is not addressed, there will be load shedding of 4422nos. consumers for prolonged period.

In addition to this since the 11kV Patapur feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 46nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

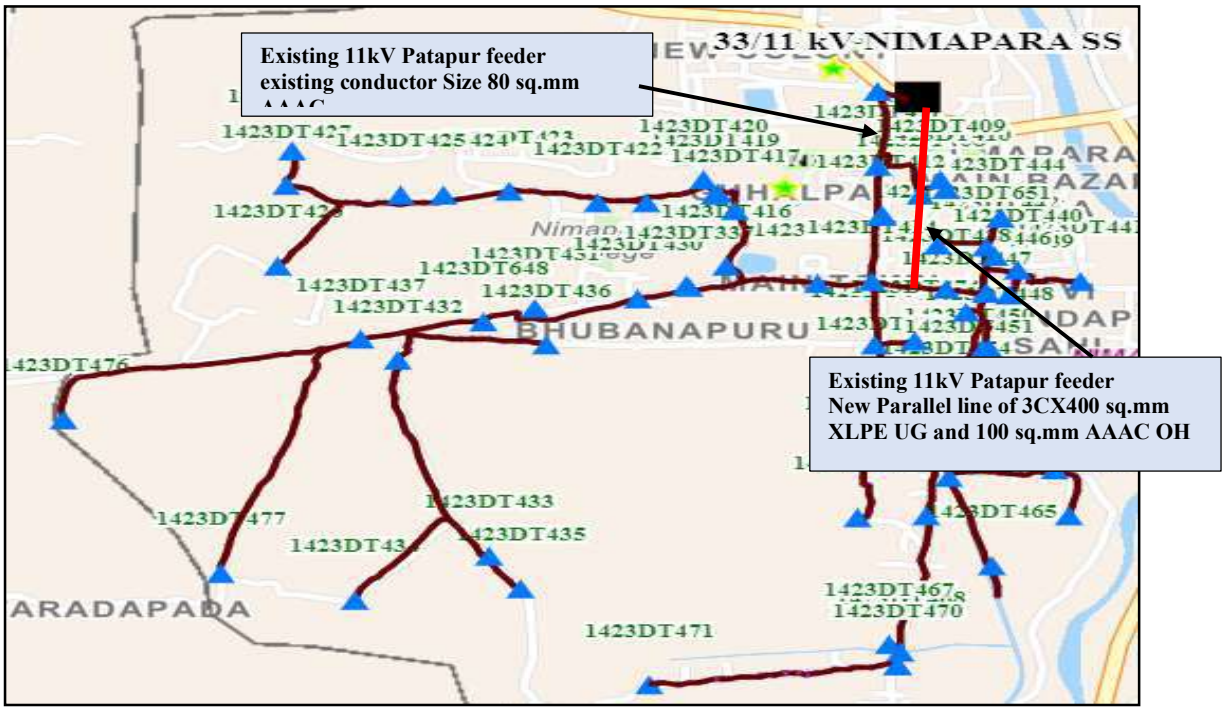
- Proposal for augmentation of existing U/G cable from 3CX185 sq.mm to 1CX630 sq.mm and installation of 11kV 4 WAY RMU at Nimapada PSS for bifurcation of 11kV Patapur feeder load .
- Construction of new 11kV line of 1 CKM using 100 sq.mm AAAC XLPE covered conductor and UG line ,from Nimapda PSS to canal square for load diversion and overloading mitigation of 11kV Patapur feeder.

Proposed Summer'28 Loading and projected load at 11 kV Patapur Feeder:

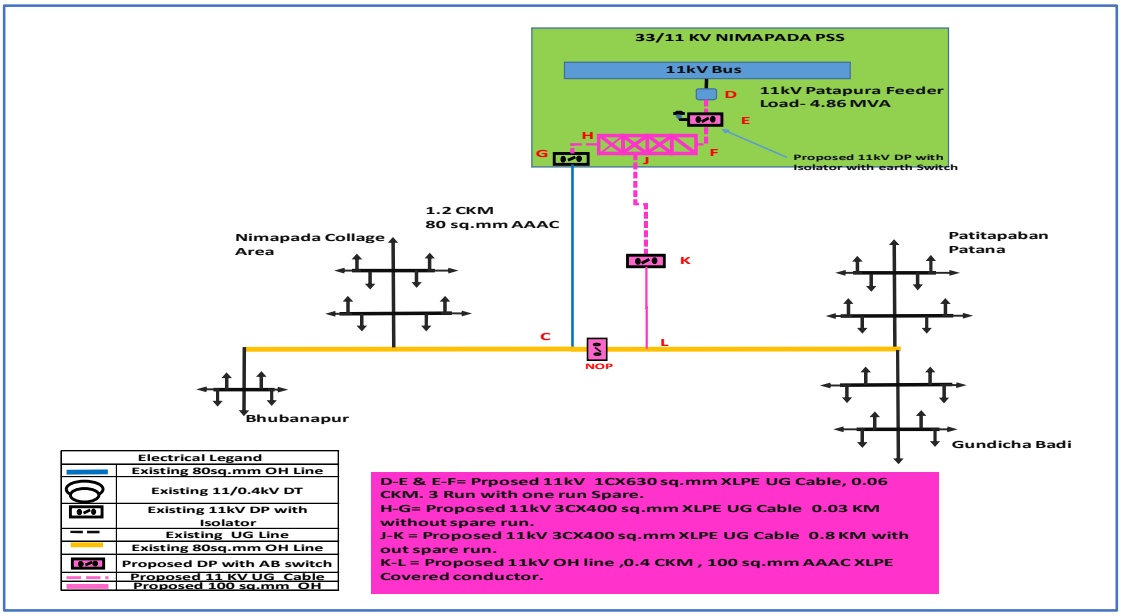
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Nimapada	Patapur	8.57	4.86	57%	Under load	150.00

- After bifurcation the existing 11KV Patapur feeder will be divided into two parts, the existing 11KV Dutta Tota feeder will be loaded upto 57% of its capacity.

GIS SLD:



Proposed SLD (Summer'28)



Scope of Work:

- Installation of 11kV 4WAY RMU at Nimapada PSS for feeder bifurcation.
- Construction 11kV 3Ph 3W O/H Line of Length= 0.4 CKM, using 100 SQ.MM. -XLPE AAA Covered Conductor
- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.83 KM, without spare run.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.18		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Circle :-		BBSR-1
Name of the Division :-		NED
Name of the Sub-Division : -		Nimapada
Name of the Section : -		Nimapada-1
Name of the Work :-		Proposal for augmentation & Bifurcation of 11kV Patapur feeder using RMU to mitigate overloading issue & improve reliability.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A- Supply and Laying of 11kV 1C, 630sqmm UG Cable of length = 0.06 KM, 3 run without spare run.	31,57,361.26
2	PART B: Construction of 11kV Feeder outgoing DP with isolator & Earth switch.	2,92,205.32
3	PART C- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.83 KM, with one run spare.	66,09,700.83

4	PART D: Construction of 3Ph, 3W ,11kV Line of Length= 0.5 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor.	14,82,406.92
5	**Total Gross**	**1,15,41,674.32**
Total estimated cost is Rs. 1.15 Cr.		

Cost Estimate: ₹ 1.15 Cr. (For detailed BoQ refer Annexure-12.18)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a. Compliance with electrical safety regulation for distribution system.
b. Reduction of electrocution risk and public safety hazards.
c. Safe operation and isolation of the feeder.
d. Protection of electrical assets against lightening and surge related failure.
e. Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved Reliability thereby overloading mitigation.
- Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
- Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
- Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
- The above arrangement will help to release power supply to upcoming potential consumers.

19.0 Proposal for Reliability improvement of 11kV Brahamgiri Feeder:

Proposal:

Proposal for refurbishment of existing 11 KV Brahamgiri Feeder emanating from 33/11 KV Sunamuhin PSS for length-3KM for reliability purpose.

Requirement/ Need of the proposal:

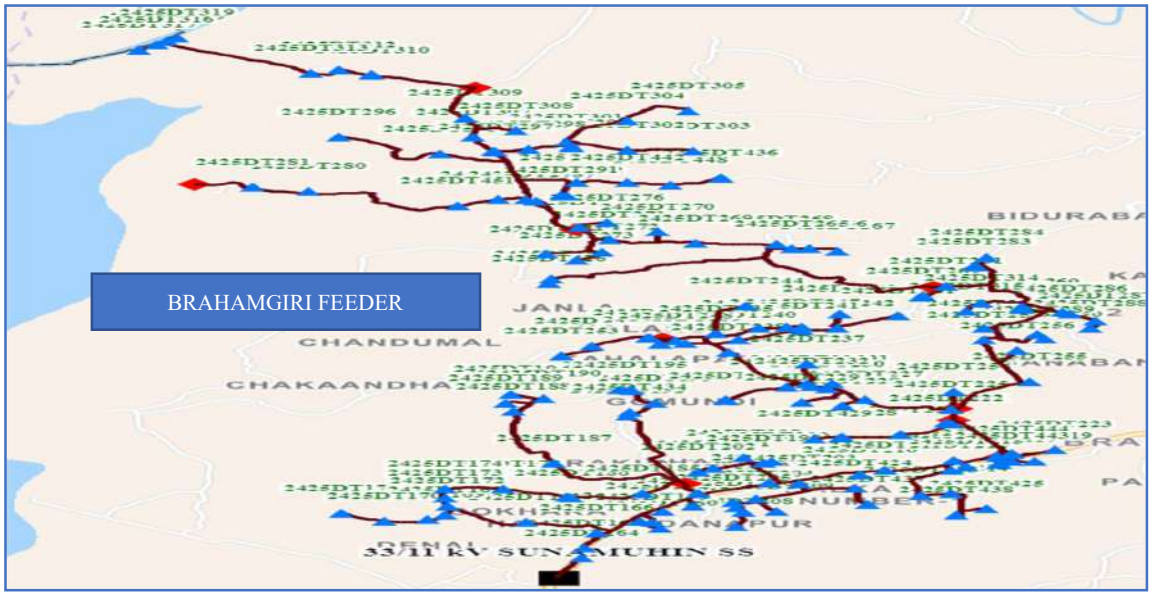
Objective: Reliability improvement of 11kV Brahamgiri Feeder.

Existing Scenario:

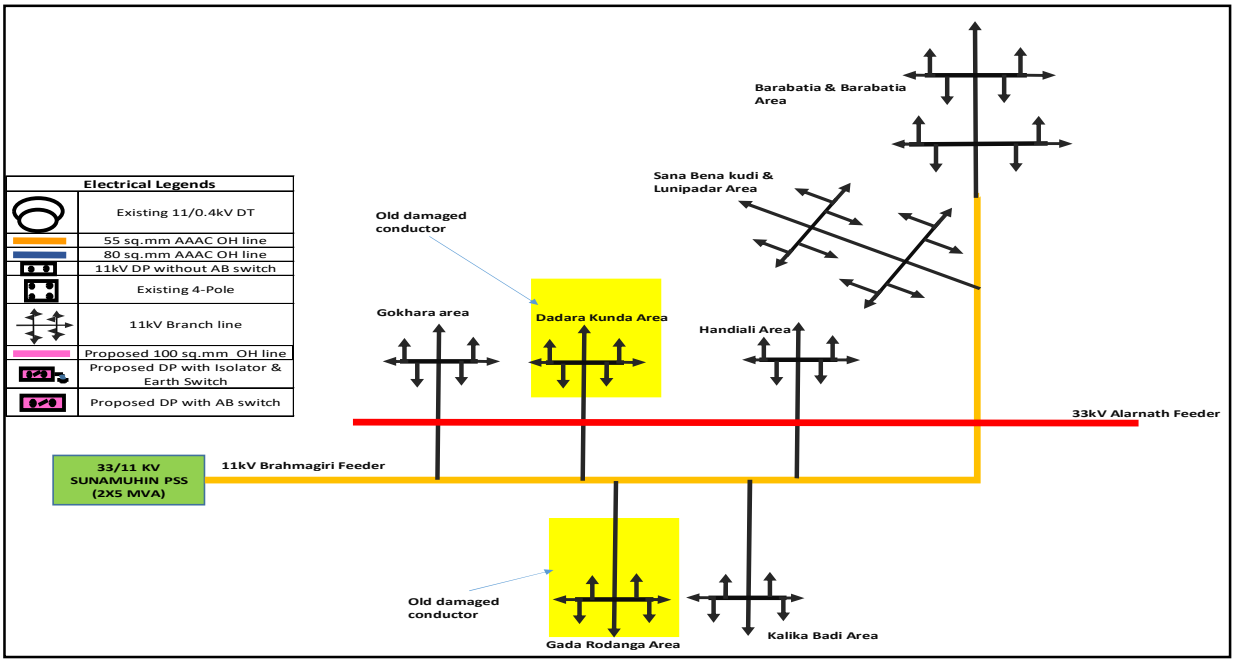
- At present, 11kV Brahamgiri feeder is emanating from 33/11kV Sunamuhin PSS. The total trunk length of 11kV Rajib is 64.8 km and peak load is 2.79 MVA.

- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Brahamgiri feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



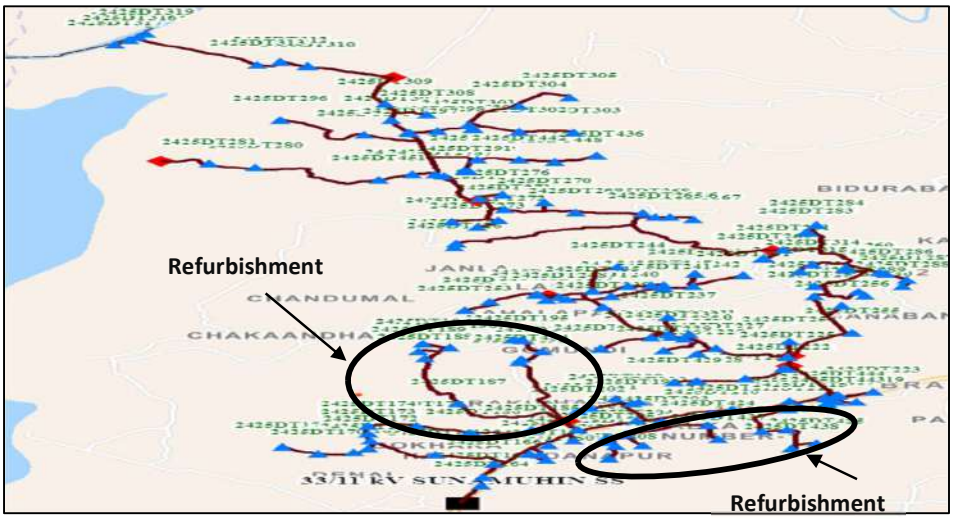
Priority of the Project:

Since the 11kV Brahamgiri feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 239nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

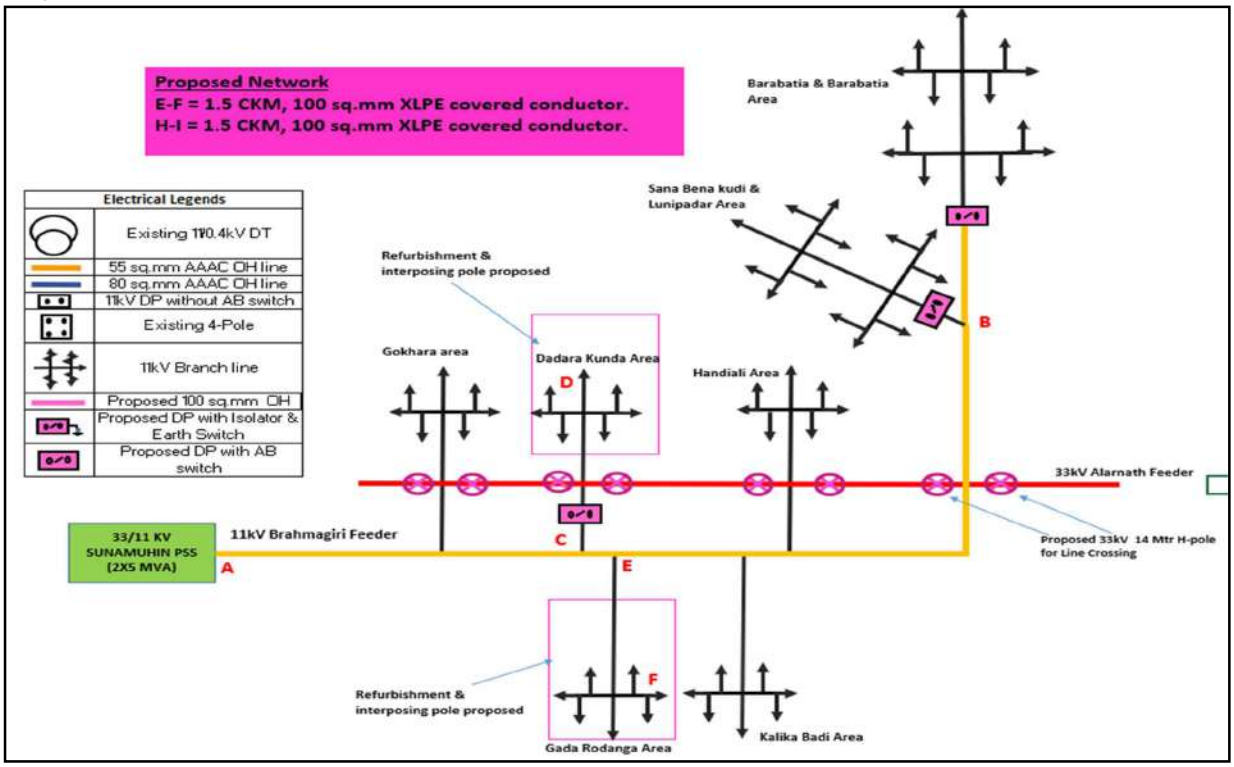
Proposed Scenario:

- Refurbishment of 3 CKM 11kV O/H Line using 100 SQ.MM. XLPE covered -AAA Conductor.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Refurbishment of 3 CKM 11kV O/H Line using 100 SQ.MM. XLPE covered -AAA Conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.19		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Cicle :-		BBSR-2
Name of the Division :-		PED
Name of the Sub-Division : -		PURI-II
Name of the Section : -		Sunamuhin
Name of the Work :-		Proposal for Augmentation of 11kV Brahmagiri feeder 3 CKM by using 100 SQ.MM. AAA to enhance reliability.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction 11kV 3Ph 3W O/H Line of Length= 3 CKM, with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP.	92,98,729.19
2	PART B: Installation of 14Mtr H-pole for 11kV & 33kV Crossing.	11,28,869.72
3	PART C: Dismantling of Materials	1,48,151.64
4	PART D: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing	60,874.38
6	**Total Gross**	**1,06,36,624.93**
Total estimated cost is Rs. 1.06 Cr.		

Cost Estimate: ₹ 1.06 Cr. (For detailed BoQ refer Annexure-12.19)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a. Compliance with electrical safety regulation for distribution system.

b. Reduction of electrocution risk and public safety hazards.

c. Safe operation and isolation of the feeder.

d. Protection of electrical assets against lightening and surge related failure.

e. Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 KV Brahmagiri Feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Reduce conductor snapping issue.
- ``The above arrangement will help to reliable power supply to consumers.

20.0 Proposal for Reliability improvement including overloading mitigation of 11kV Sakhigopal Bajar Feeder:

Proposal:

Proposal for refurbishment of existing Sakhigopal Bajar feeder to enhance reliability as well as to mitigate the overloading issue.

Requirement/ Need of the proposal:

Objective: To ensure reliability improvement by augmentation of the existing 11 KV Sakhigopal Bajar feeder.

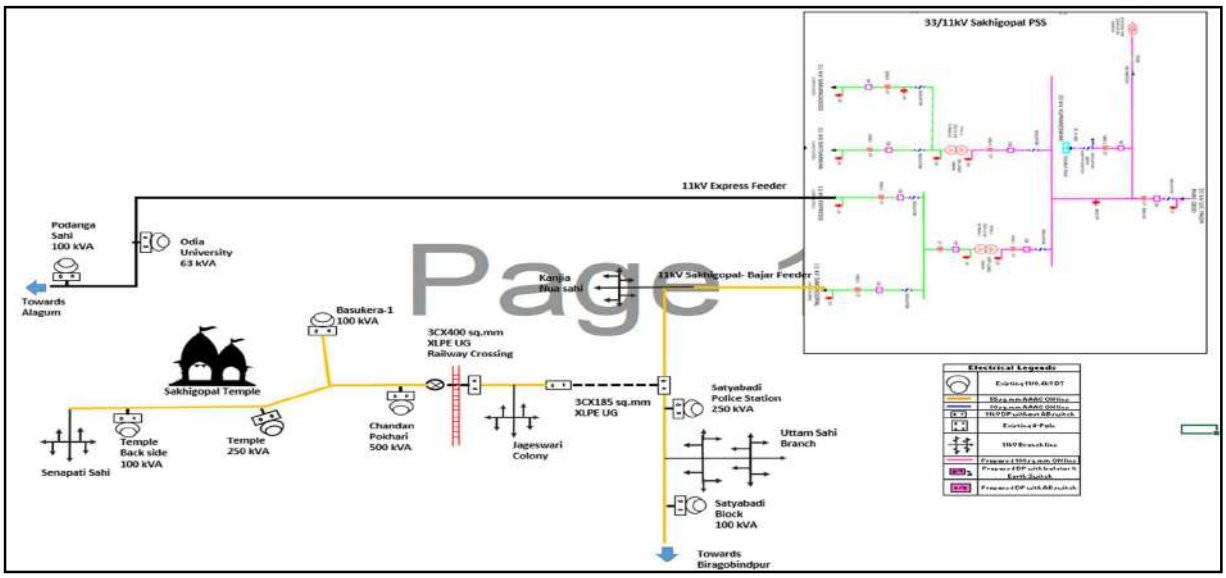
Existing Scenario:

- 11kV Sakhigopal Bajar feeder is emanating from 33/11kV Sakhigopal PSS. Total length of this feeder is 21.4 CKM and the peak load is 2.91 MVA.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- This feeder is completely feeding commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.
- Frequent tripping is observed in the 11KV Sakhigopal Bajar feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS Map:-



Existing SLD:



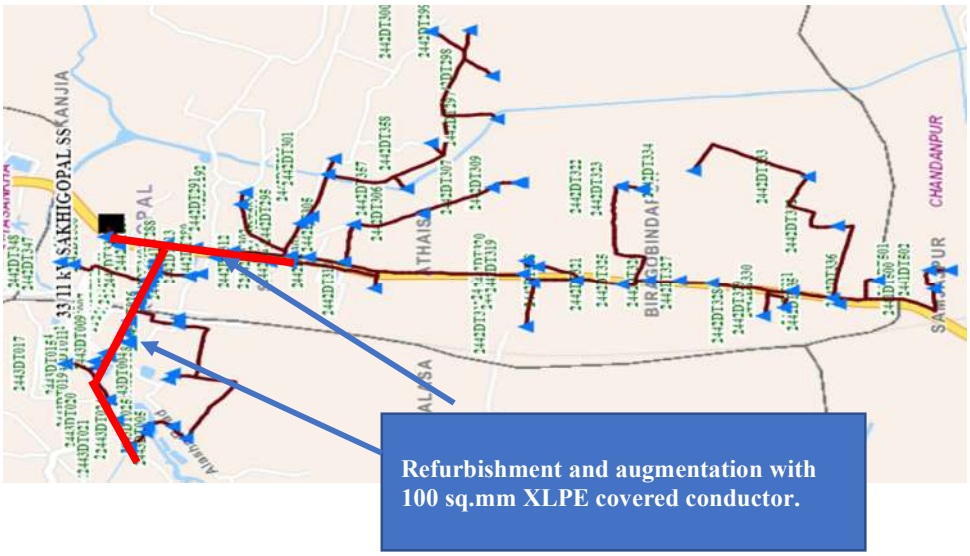
Priority of the Project:

Since the 11kV Sakhigopal Bajar feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 23nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

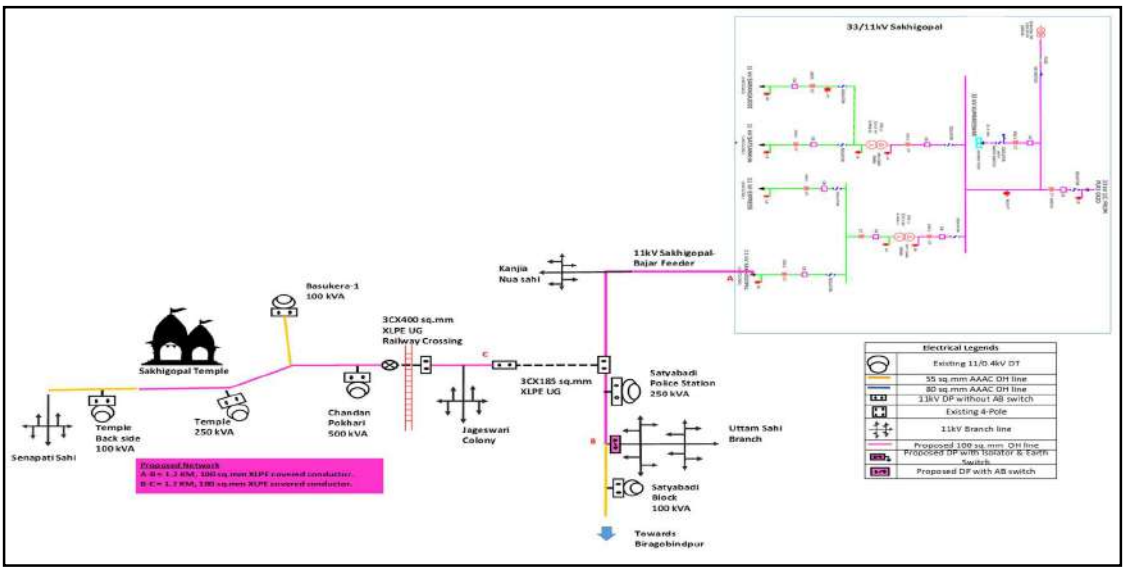
Proposed Scenario:

1. Augmentation of 2.9CKM of existing feeder using 100 sqmm XLPE covered AAAC.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

1. Augmentation of 2.9CKM of existing feeder using 100 sqmm XLPE covered AAAC.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.20		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Circle :-		BBSR-2
Name of the Division :-		PED
Name of the Sub-Division : -		Sakhigopal
Name of the Section : -		Sakhigopal-1 & 2
Name of the Work :-		Proposal for augmentation of the 11 kV Sakhigopal Bajar Feeder to enhance reliability including to mitigate the overloading issue.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
2	PART A: Construction of one 11kV Out Going DP.	3,16,296.95
3	PART B: Construction of 11kV Line Length= 2.9 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP	86,81,033.23
4	PART C : Dismantling of Materials	1,11,825.88
5	PART D: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing	1,13,005.75
7	**Total Gross**	**92,22,161.81**
Total estimated cost is Rs. 0.92 Cr.		

Cost Estimate: ₹ 0.92 Crore (For detailed BoQ refer Annexure- 12.20)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

a. The proposal has been made to maintain essential compliances with statutory safety regulations

b. Compliance with electrical safety regulation for distribution system.

c. Reduction of electrocution risk and public safety hazards.

d. Safe operation and isolation of the feeder.

e. Protection of electrical assets against lightening and surge related failure.

f. Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

6. Improved Reliability as well as overloading mitigation.
7. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
8. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
9. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
10. The above arrangement will help to release power supply to upcoming potential consumers.

21.0 Proposal for Reliability improvement of 11kV Singheswar Feeder:

Proposal:

Proposal for refurbishment of existing 11 KV Sindheswar Feeder emanating from 33/11 KV Balugaon PSS for length-3.0 KM for reliability purpose.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Sindheswar Feeder.

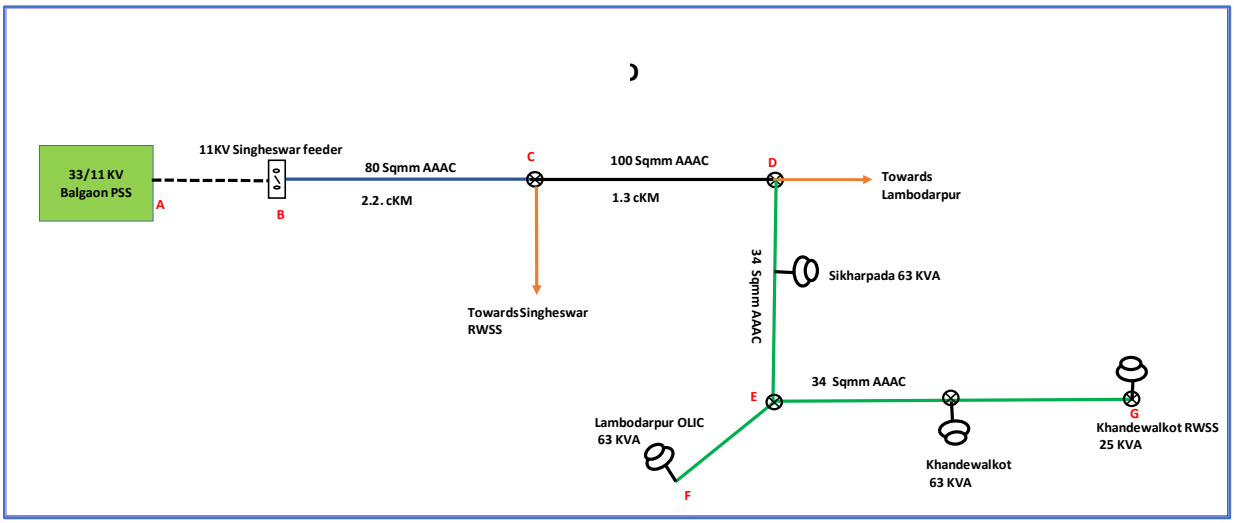
Existing Scenario:

- At present, 11kV Sindheswar feeder is emanating from 33/11kV Balugaon PSS. The total trunk length of 11kV Sindheswar is 14 km and peak load is 1.73 MVA.
- The conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Sindheswar feeder.
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



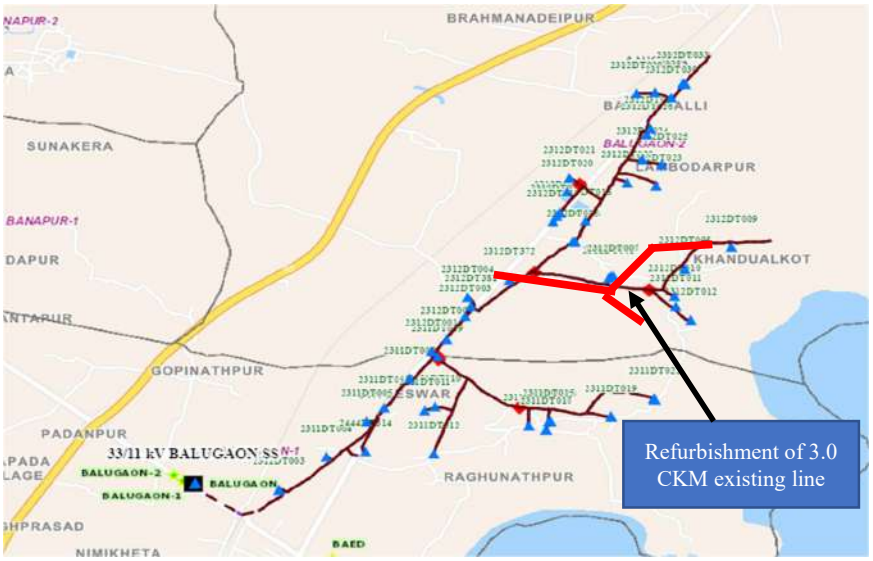
Priority of the Project:

Since the 11Kv Sindheswar feeder caters to the RWSS points and is experiencing frequent interruptions due to feeder tripping, ageing network and repeated shutdown for restoration and maintenance activities. The no. of tripping during the last year was 30nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

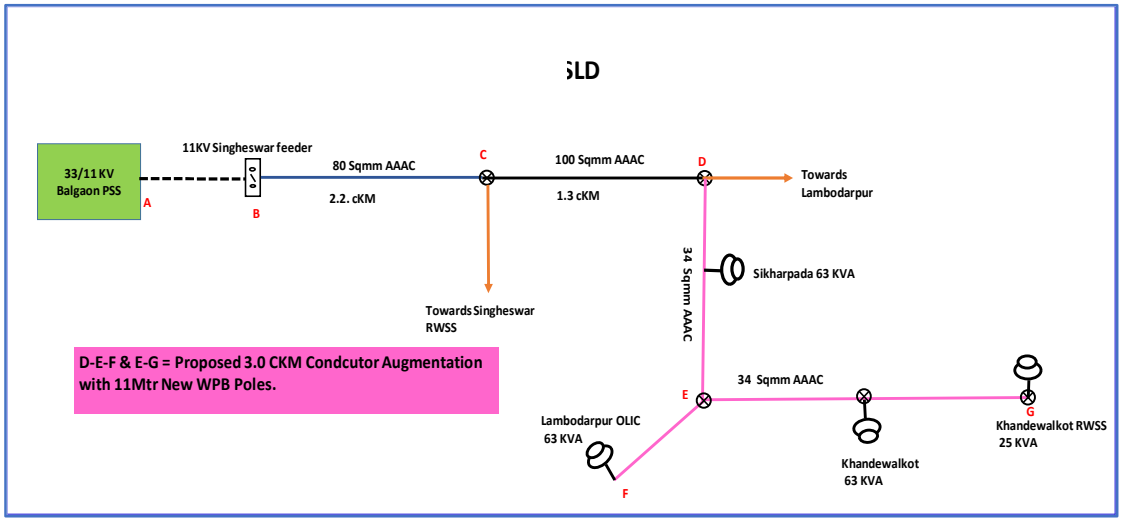
Proposed Scenario:

- Refurbishment of 3.0 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.

GIS Map Proposed:



Proposed SLD:



Scope of Work:

- Refurbishment of 3.0 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.21	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BAED
Name of the Sub-Division : -	Balugaon
Name of the Section : -	Balugaon-1
11kV feeder name : -	11kV Singheswar feeder
Name of the Work :-	Proposal for augmentation of existing 11 KV Singheswar Feeder emanating from 33/11 KV Balugaon PSS to mitigate the reliability issues
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part A: Augmentation of existing 11kV Line Length of 2.5 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP	49,69,062.47
2	Part B: Dismantling of Materials	85,213.70
3	**Total Gross**	**50,54,276.17**
Total estimated cost is Rs. 0.51 Cr. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 0.51 Cr. (For detailed BoQ refer Annexure-12.21)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a. Compliance with electrical safety regulation for distribution system.
b. Reduction of electrocution risk and public safety hazards.
c. Safe operation and isolation of the feeder.
d. Protection of electrical assets against lightening and surge related failure.
e. Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 KV Singheswar Feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Reduce conductor snapping issue.
- The above arrangement will help to reliable power supply to consumers.

22.0 Proposal for Reliability improvement of 11kV Taraboi Feeder:

Proposal:

Proposal for refurbishment of existing 11 KV Tararboi Feeder emanating from 33/11 KV Tirimal PSS for length-3.4KM for reliability purpose.

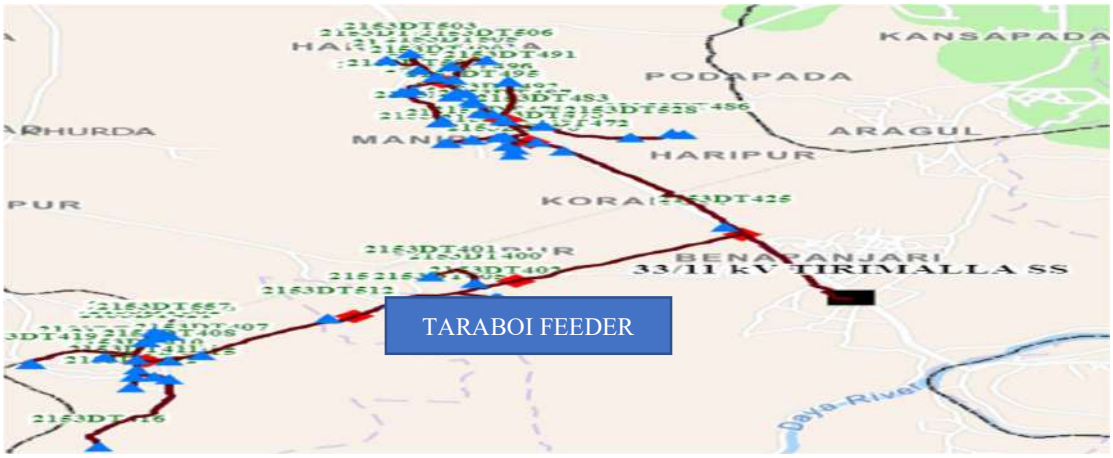
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Taraboi Feeder.

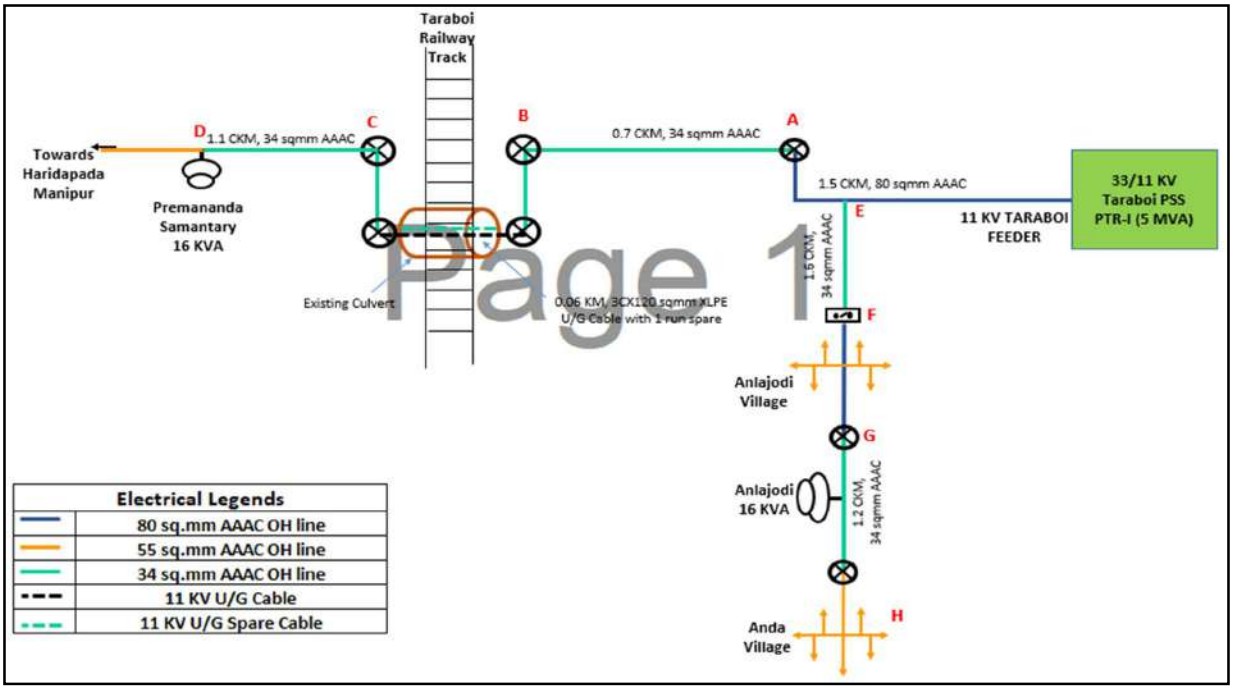
Existing Scenario:

- At present, 11kV Taraboi feeder is emanating from 33/11kV Tirimal PSS. The total trunk length of 11kV Taraboi is 20.6 km and peak load is 2.07 MVA.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Taraboi feeder.
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



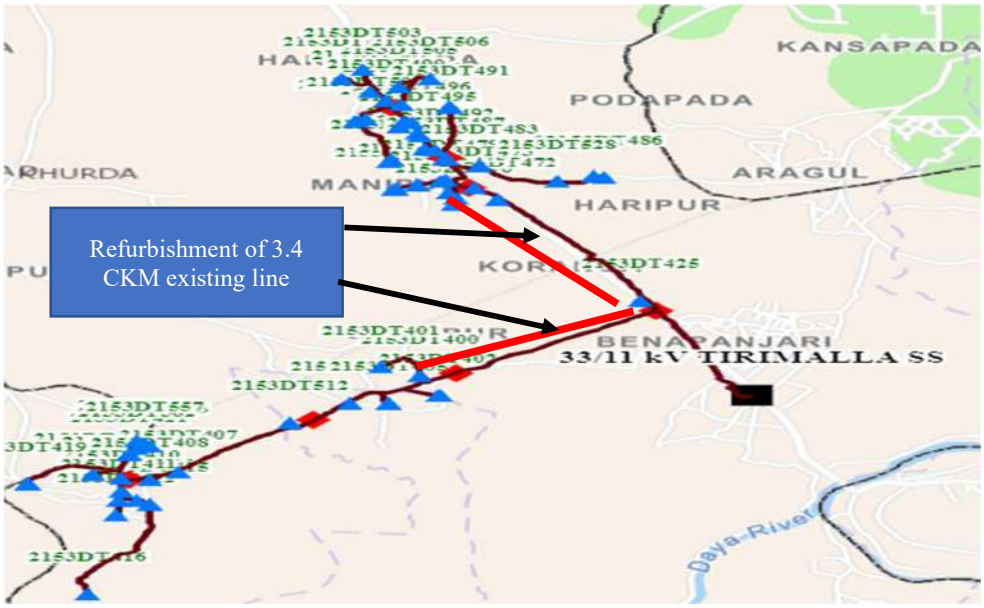
Priority of the Project:

Since the 11kV Taraboi feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 195nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

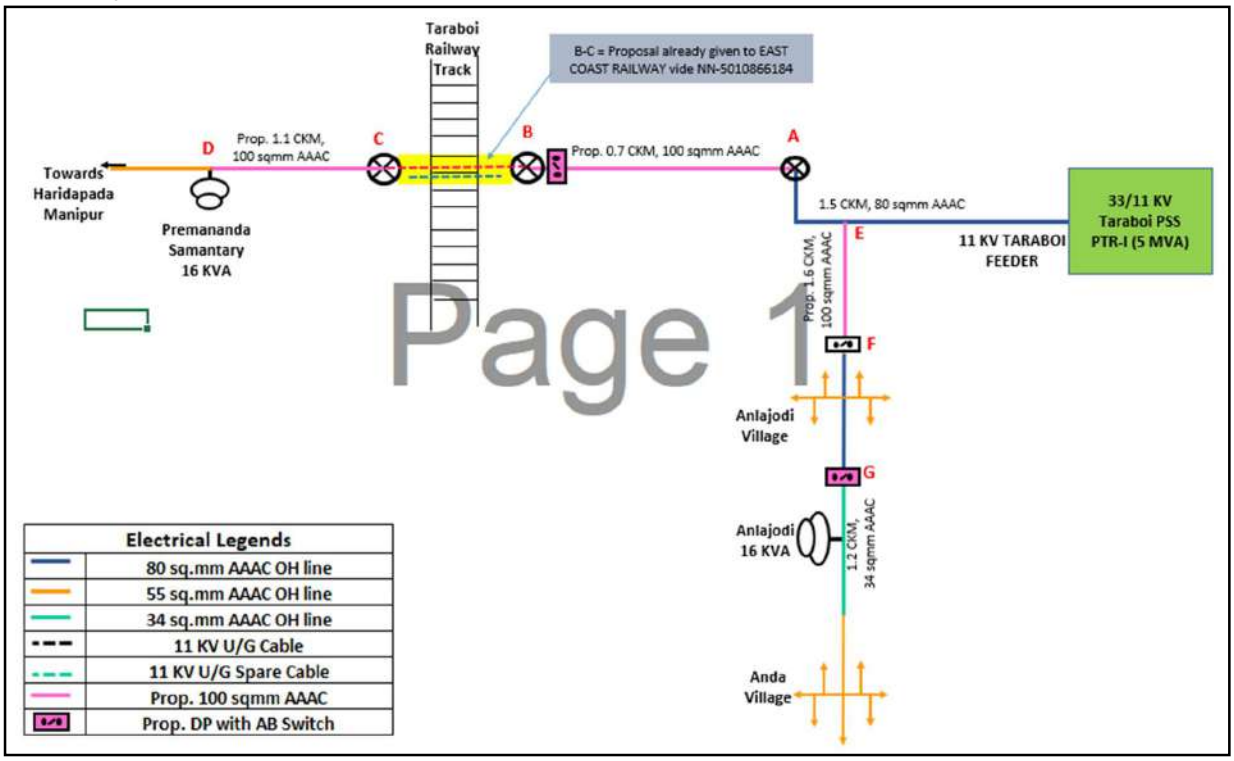
Proposed Scenario:

- Refurbishment of 3.4 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.

GIS Map Proposed:



Proposed SLD:



Page 1

Scope of Work:

- Refurbishment of 3.4 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.22		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		KHD
Name of the Sub-Division : -		Khordha
Name of the Section : -		Khordha 3
11kV feeder name : -		11kV Taraboi feeder
Name of the Work :-		Proposal for refurbishment of existing 11 KV Taraboi Feeder emanating from 33/11 KV Tirimal PSS to mitigate the frequent conductor snapping.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 3.4 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point A-B, C-D, E-F & G-H)	48,66,130.26
2	PART B: Dismantling of Materials	1,42,510.15
4	**Total Gross**	**50,08,640.40**

Cost Estimate: ₹ 0.50 Cr. (For detailed BoQ refer Annexure-12.22)

i) All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026.

ii) For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 KV Taraboi Feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Reduce conductor snapping issue.
- The above arrangement will help to reliable power supply to consumers.

23.0 Proposal for Reliability improvement of 11kV Rajiba Feeder:

Proposal:

Proposal for refurbishment of existing 11 KV Rajiba Feeder emanating from 33/11 KV Sunadeimundia PSS for length-3.5KM for reliability purpose.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Rajiba Feeder.

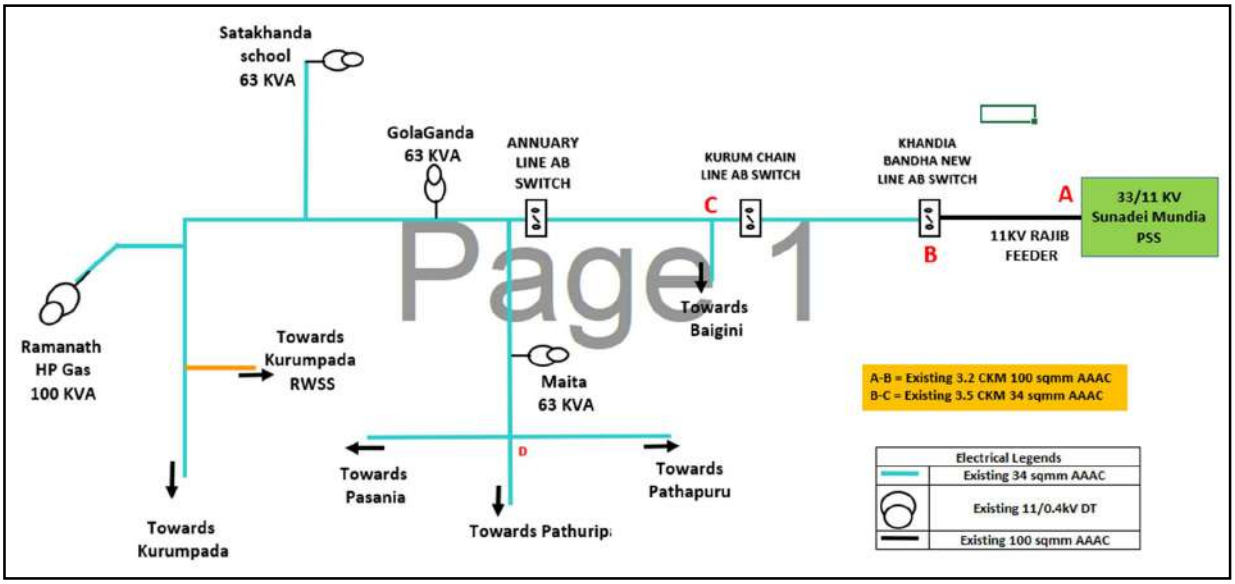
Existing Scenario:

- At present, 11kV Rajiba feeder is emanating from 33/11kV Sunadeimundia PSS. The total trunk length of 11kV Rajib is 41.8 km and peak load is 2.05 MVA.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Rajiba feeder.
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



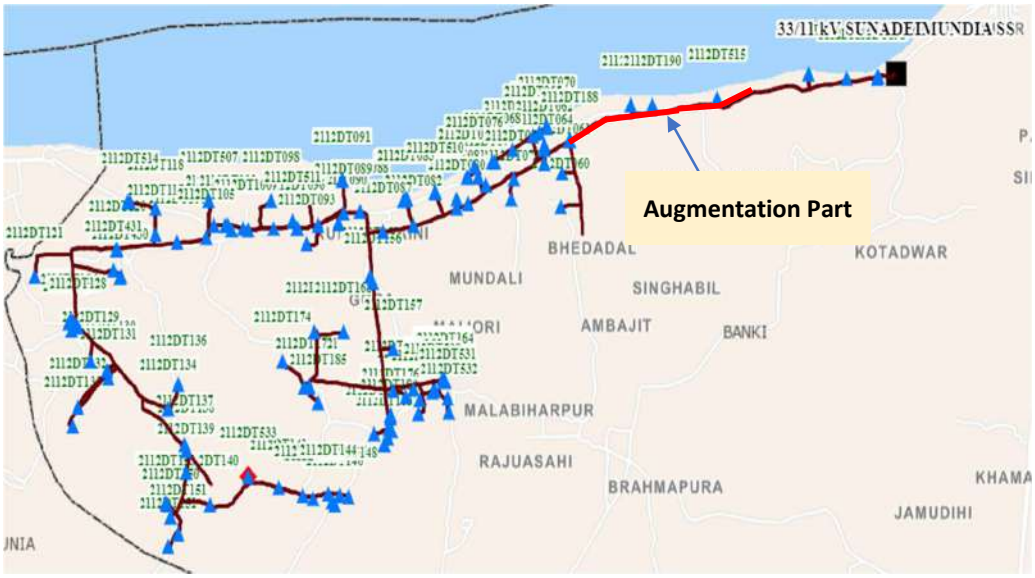
Priority of the Project:

Since the 11kV Rajiba feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 137nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

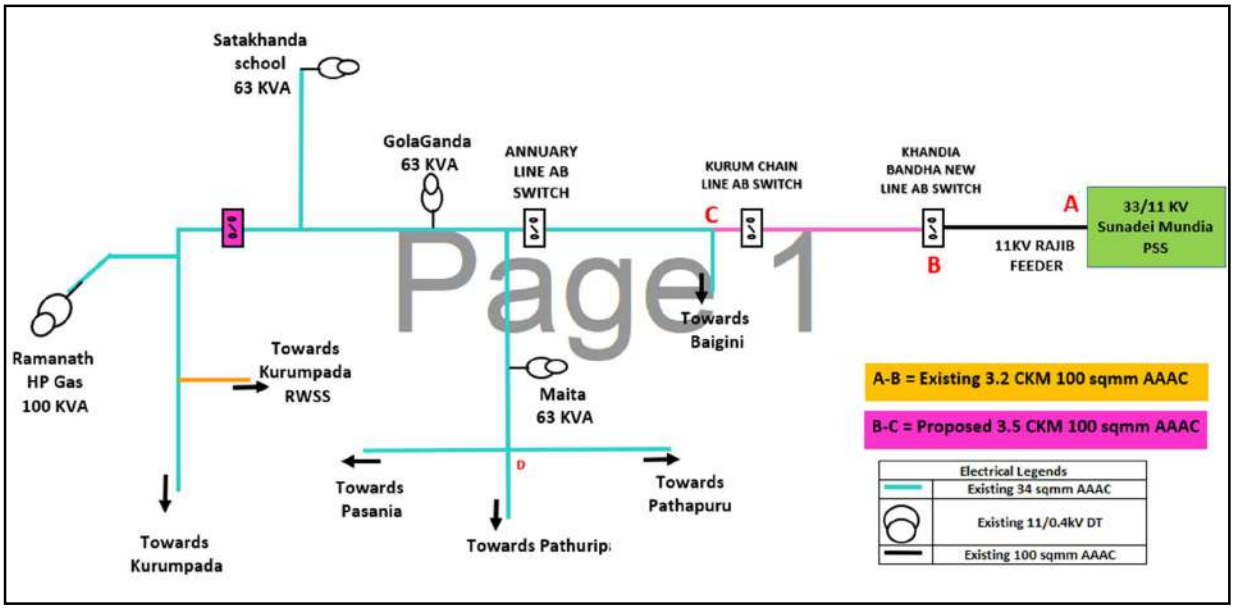
Proposed Scenario:

- Refurbishment of 3.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Refurbishment of 3.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.23	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	KHD
Name of the Sub-Division : -	BANKI
Name of the Section : -	Banki-III

Name of the Work :-	Proposal for Augmentation of 11kV Rajiba Feeder 3.5 CKM by using 100 SQ.MM. AAA to improve reliability .
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 3.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point B-C)	48,95,497.18
2	PART B: Dismantling of Materials	1,38,546.75
3	**Total Gross**	**50,34,043.93**

Cost Estimate: ₹ 0.50 Cr. (For detailed BoQ refer Annexure-12.23)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 KV Rajiba Feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Reduce conductor snapping issue.
- ``The above arrangement will help to reliable power supply to consumers.

24.0 Proposal for Reliability Improvement as well as Length Reduction of 11kV Kuska Feeder:

Proposal:

Proposal for reliability improvement as well as length reduction of 11KV Kuska feeder.

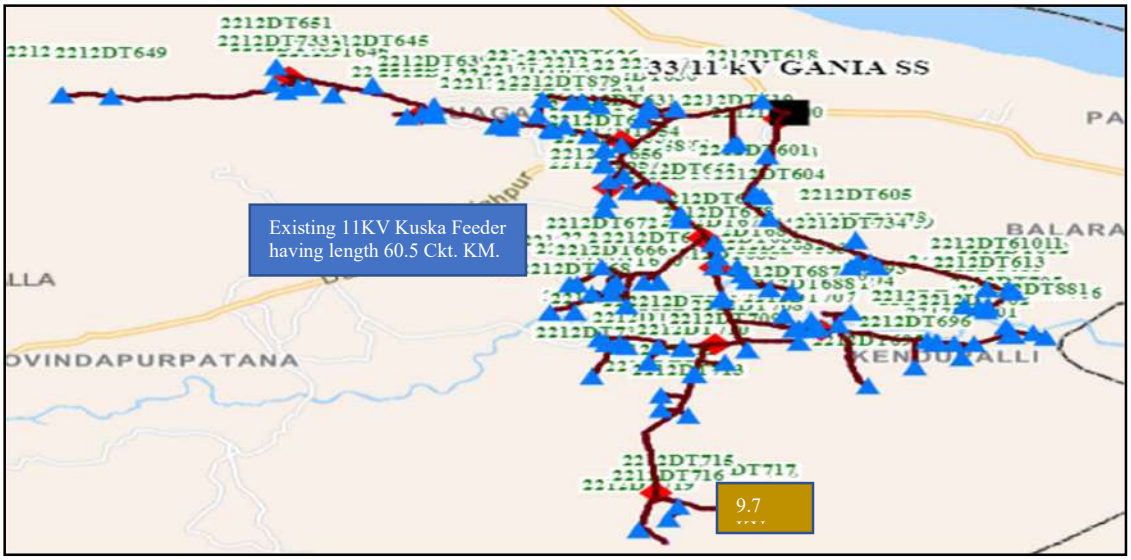
Requirement/ Need of the proposal:

Objective: Reliability improvement and Length reduction of 11kV Kuska Feeder.

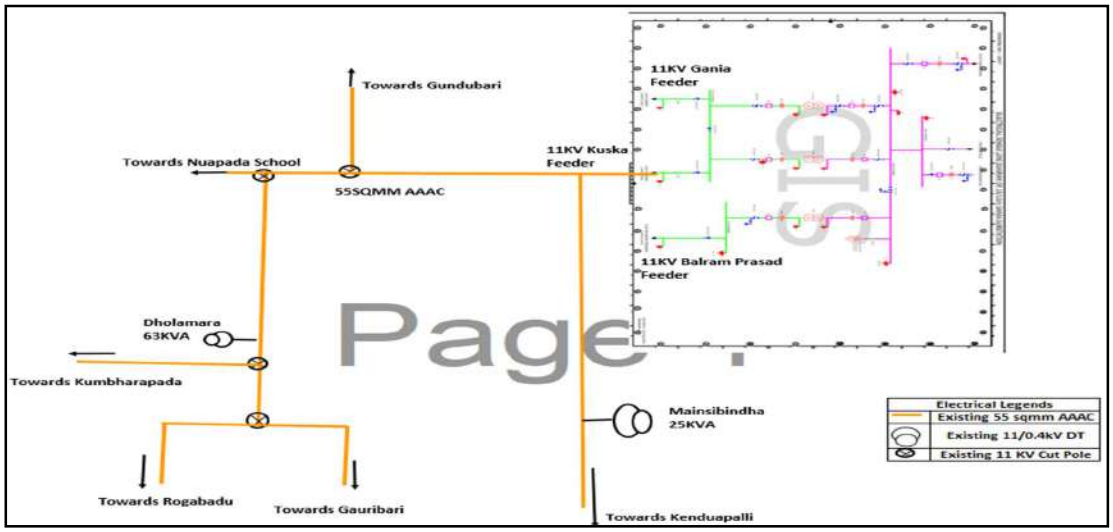
Existing Scenario:

- At present, 11kV Kuska feeder is emanating from 33/11kV Gania PSS having a feeder length of 60.5 Ckt. KM and tail end voltage is 9.7 KV.
- Entire 11kV Kuska Fdr is of 55/34 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

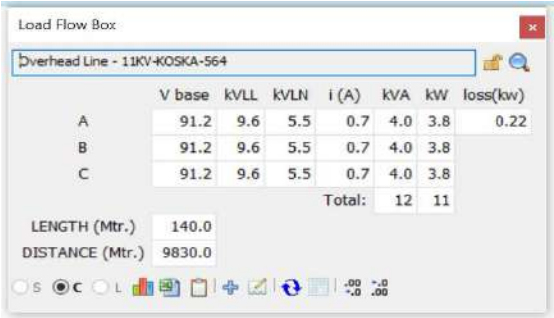
GIS SLD:



Existing SLD:



Tail end Voltage in existing scenario through load flow with 2 year load growth:



Priority and Timeline of the Project:

Priority: The existing 11kV Kuska feeder has a length of 60.5Ckm in the AS-IS scenario, resulting in a tail-end voltage of 9.7kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 9.6kV by Summer-2028. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

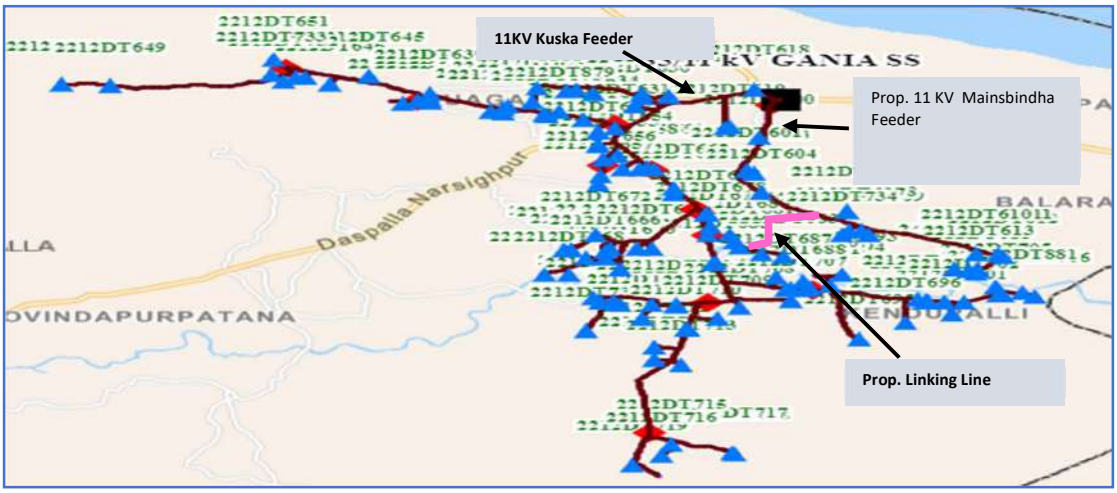
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 9.7. The voltage regulation of the feeder is not within permissible limits.

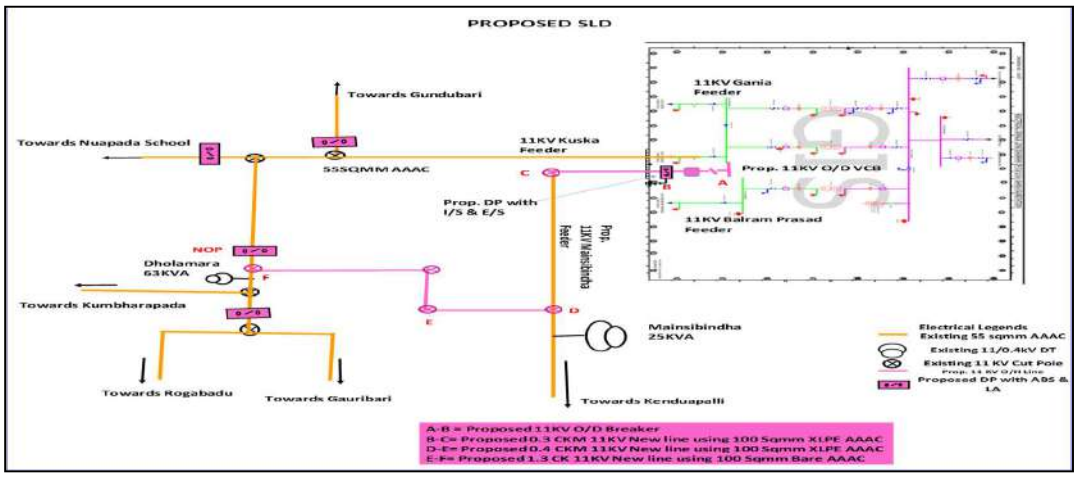
Proposed Scenario:

- It is proposed for Construction of One No of 11 KV Line Bay (Outdoor) at 33/11 KV Gania PSS for bifurcation of existing 11kV feeder.
- For interlinking it is proposed to construct 1.3 CKM 11 kV line using 100 Sq.mm. AAA Conductor.
- Due to heavy vegetation 0.7 Ckm 11 kV line proposed using 100 Sq.mm. XLPE covered AAA Conductor.

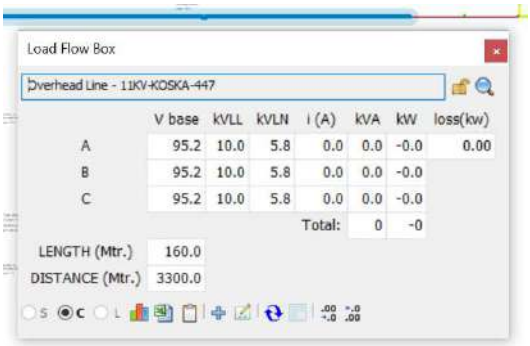
GIS SLD:

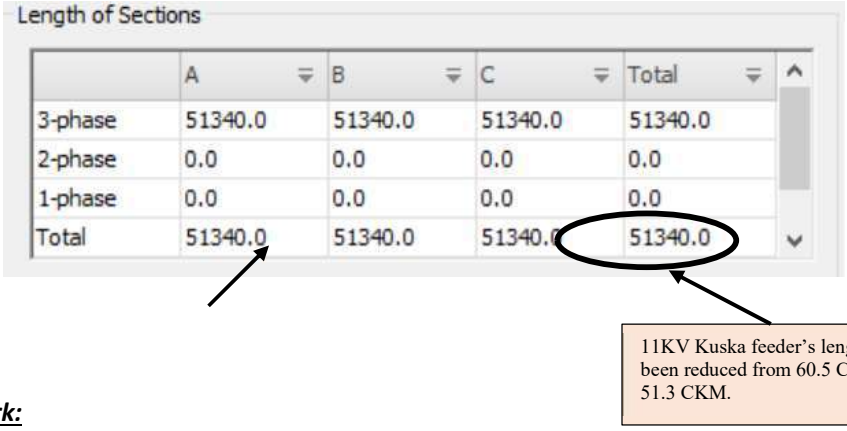


Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:





Scope of Work:

- Construction of One No of 11 KV Line Bay (Outdoor) at 33/11 KV Gania PSS.
- 1.3 CKM 11 kV line proposed using 100 Sq.mm. AAA Conductor.
- 0.7 CKM 11 kV line proposed using 100 Sq.mm. XLPE covered AAA Conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.24		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		NYED
Name of the Sub-Division :-		Daspalla
Name of the Section : -		Gania
Name of the Work :-		Proposal for construction of a new 11 KV Feeder from 33/11 KV Gania PSS and interlink with existing 11kV Kuska Feeder to bifurcate the length of the 11 KV Kuska Feeder.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part A: Construction of One No of 11 KV Line Bay (Outdoor)	20,47,132.35
2	Part A: Construction of 11KV new Line length of 1.3 CKM using 100 SQMM AAAC and 11 mtr WPB Pole.	26,97,974.37
3	Part B: Construction of 11KV new Line length of 0.7 CKM using 100 SQMM XLPE covered AAAC and 11 mtr WPB Pole	12,88,203.89
3	**Total Gross**	**60,33,310.61**
Total estimated cost is Rs. 0.60 Cr. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 0.60 Cr. (For detailed BoQ refer Annexure-12.24)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a. Compliance with electrical safety regulation for distribution system.
b. Compliance with the guidelines of voltage regulation in the distribution network.
c. Reduction of electrocution risk and public safety hazards.
d. Safe operation and isolation of the feeder.
e. Protection of electrical assets against lightening and surge related failure.
f. Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Kuska feeder length reduced from 60.5 CKM to 35.5 CKM
- 11KV Kuska feeder's tail end voltage improved from 9.7 KV to 10.0 KV.

- Ring connectivity is established between 11KV Kuska feeder with 11KV New Feeder which will be helpful for power supply restorations during breakdown and maintenance works.

25.0 Proposal for Reliability Improvement as well as Length Reduction of 11kV Similisahi Feeder:

Proposal:

Proposal for reliability improvement as well as length reduction of 11KV Similisahi feeder and reliability improvement.

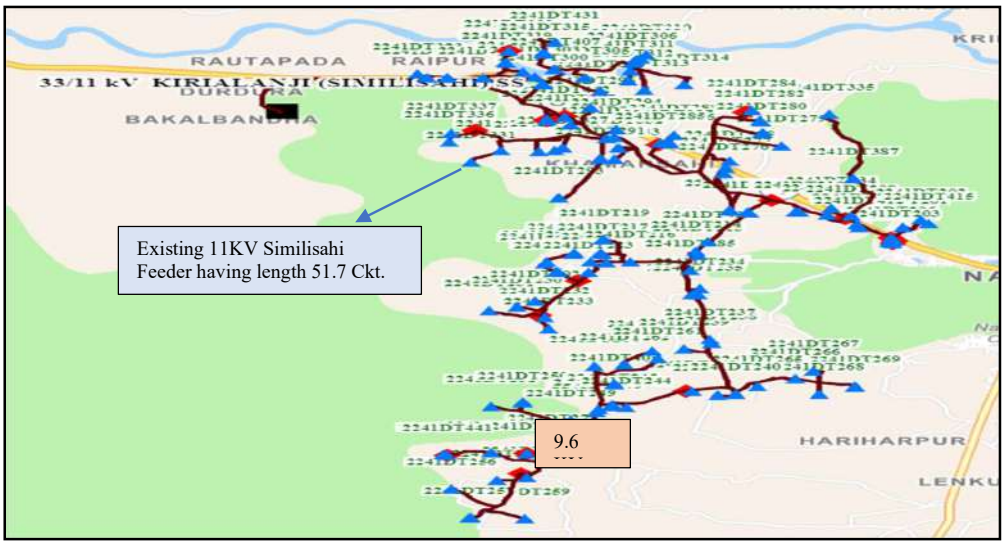
Requirement/ Need of the proposal:

Objective: Reliability improvement and Length reduction of 11kV Similisahi Feeder.

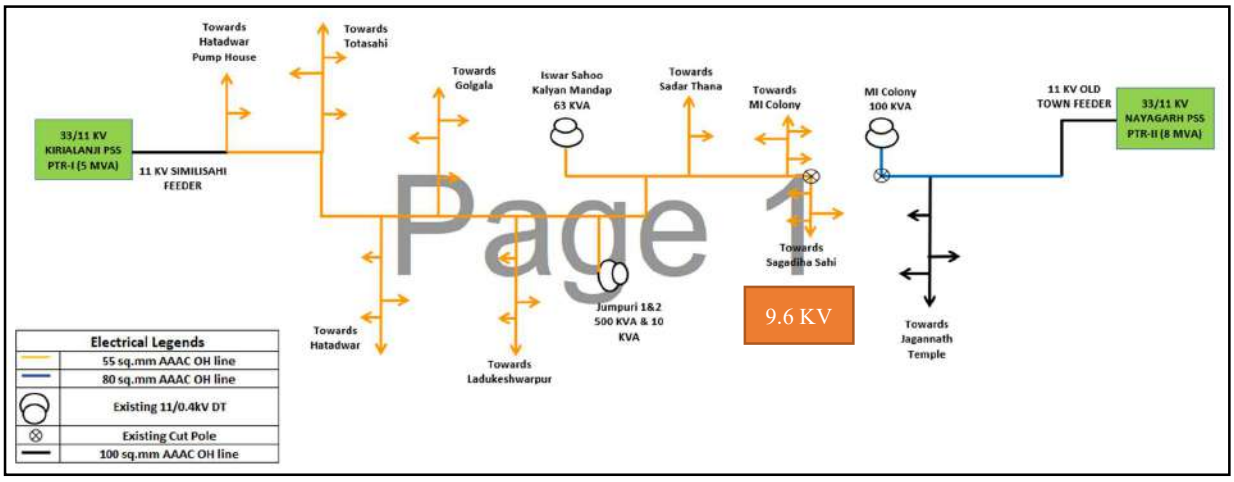
Existing Scenario:

- At present, 11kV Similisahi feeder is emanating from 33/11kV Kirialanji PSS having a feeder length of 51.7 Ckt. KM and tail end voltage is 9.6 KV.
- Entire 11kV Similisahi Fdr is of 55/34 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

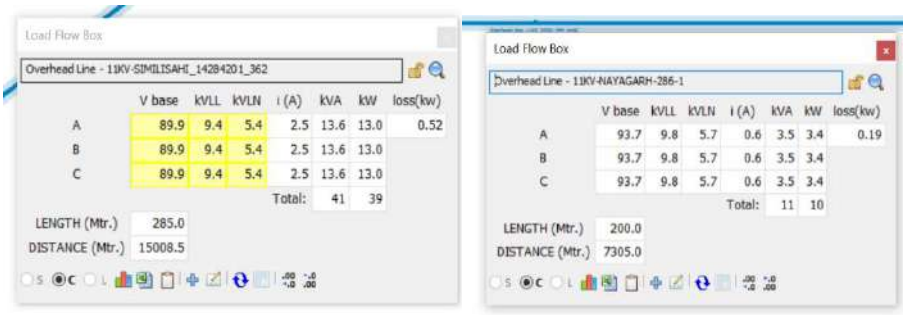
GIS SLD:

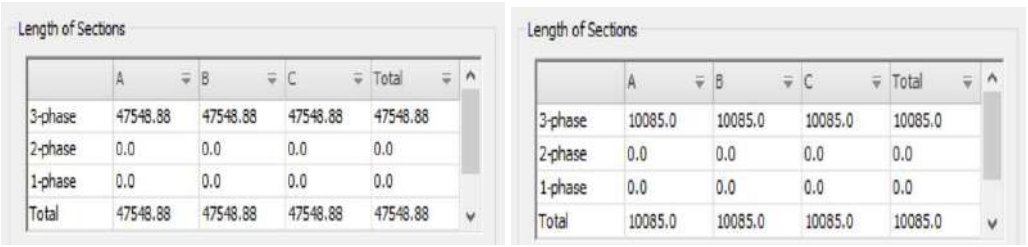


Existing SLD:



Tail end Voltage in existing scenario through load flow analysis after two years load growth:

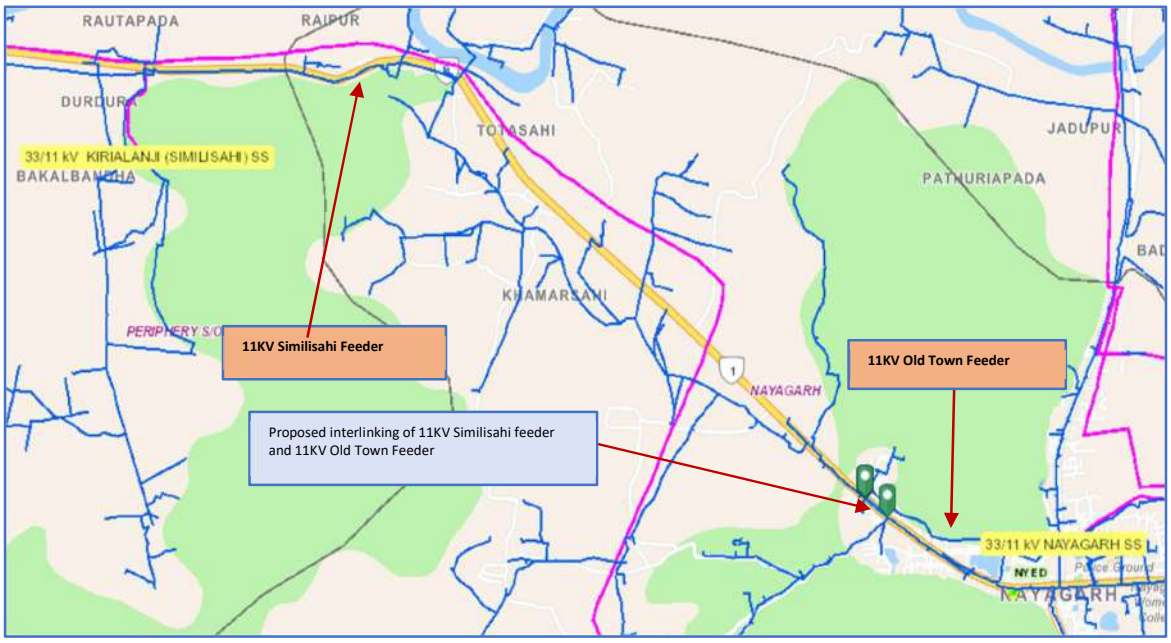




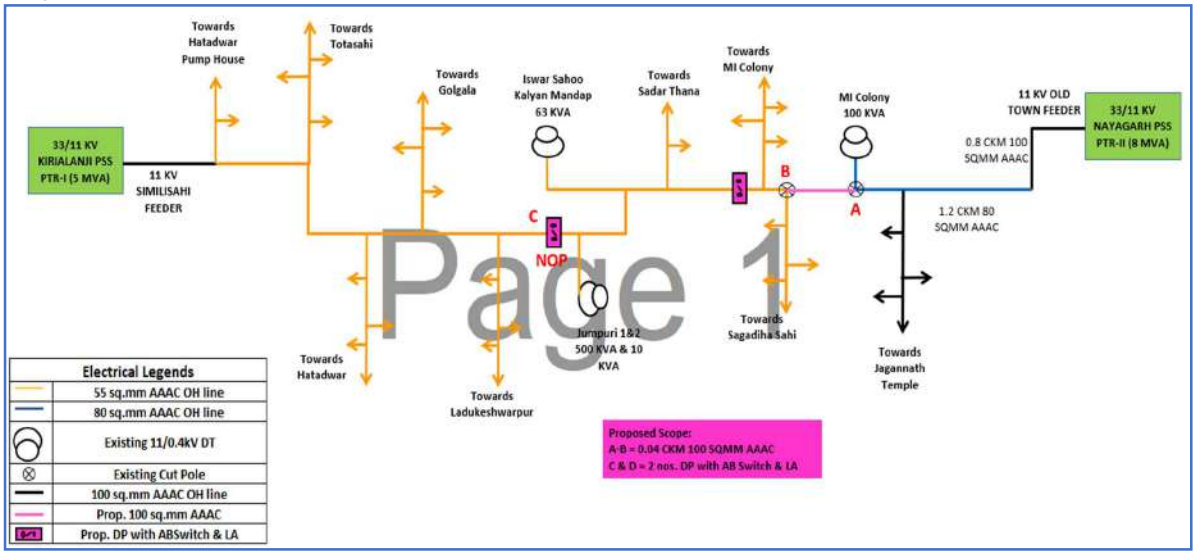
Proposed Scenario:

- 0.04 CKM 11 kV line proposed using 100 Sq.mm. AAAConductor.

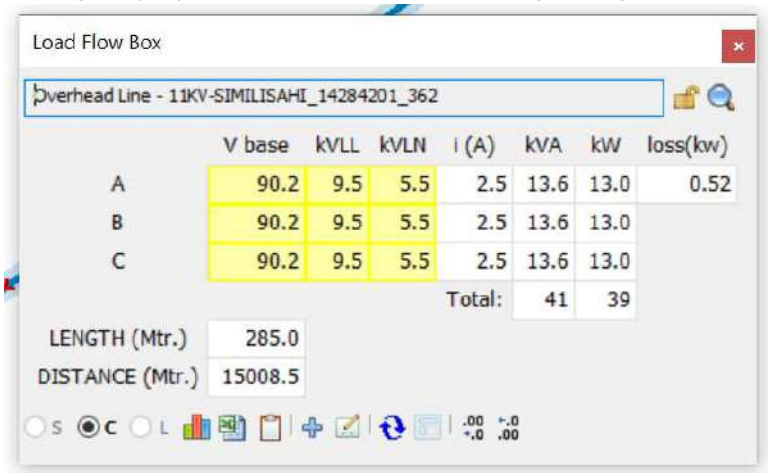
GIS SLD:

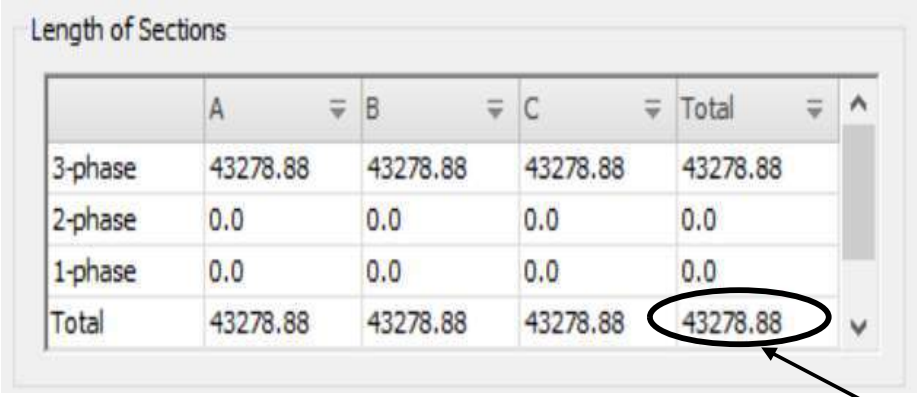


Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:





Scope of Work:

- 0.04 CKM 11 kV line proposed using 100 Sq.mm. AAAConductor.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.25		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		NYED
Name of the Sub-Division : -		Nayagarh
Name of the Section : -		Nayagarh
11kV feeder name : -		11kV Similisahi feeder
Name of the Work :-		Proposal for Length Reduction of 11kV Similisahi Feeder & Link with 11 KV Old Town Feeder.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.04 CKM 11kV O/H Line using 100 SQ.MM. - AAA Conductor. (Refer PSLD point A-B)	4,31,129.50
4	**Total Gross**	**4,31,129.50**
Total estimated cost is Rs. 0.04 Cr.		

Cost Estimate: ₹ 0.04 Cr. (For detailed BoQ refer Annexure-12.25)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Similisahi feeder length reduced from 51.7 CKM to 43.2 CKM
- 11KV Similisahi feeder's tail end voltage improved from 9.4 KV to 9.5 KV.
- Ring connectivity is established between 11KV Similisahi feeder with 11KV Old Town Feeder which will be helpful for power supply restorations during breakdown and maintenance works.

26.0 Proposal for Reliability improvement of 11kV Collage square ug Feeder:

Proposal:

Proposal for refurbishment of 1 CKM O/H line of 11 kV collage square ug Fdr.

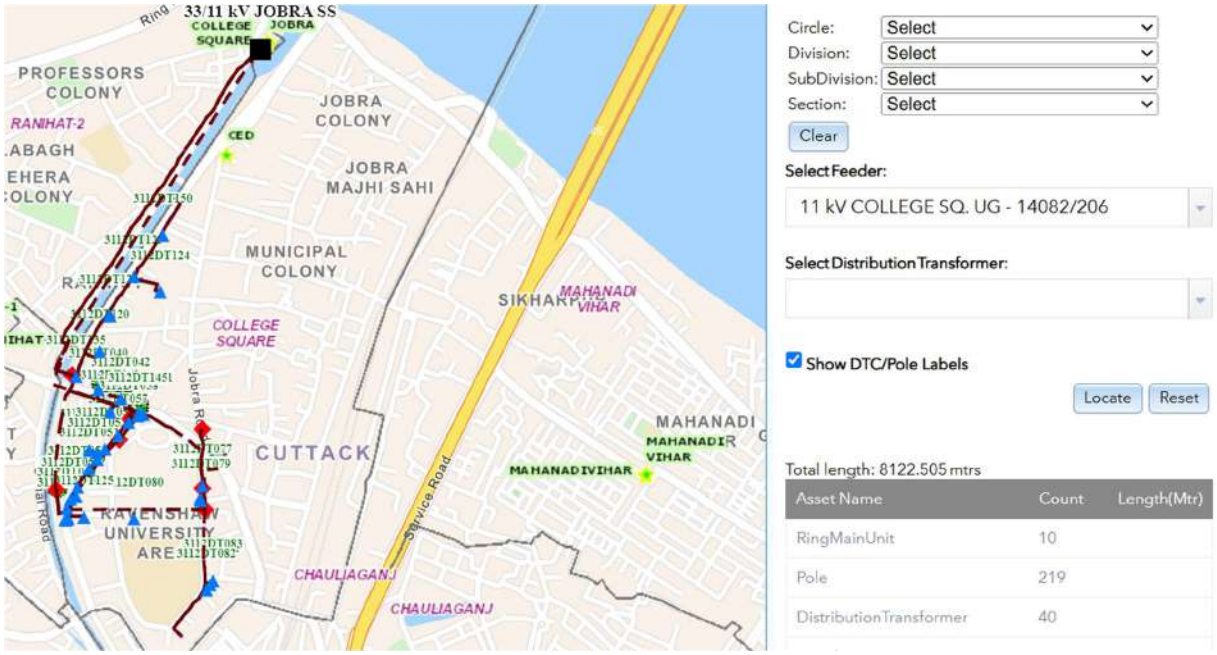
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV collage square ug Feeder.

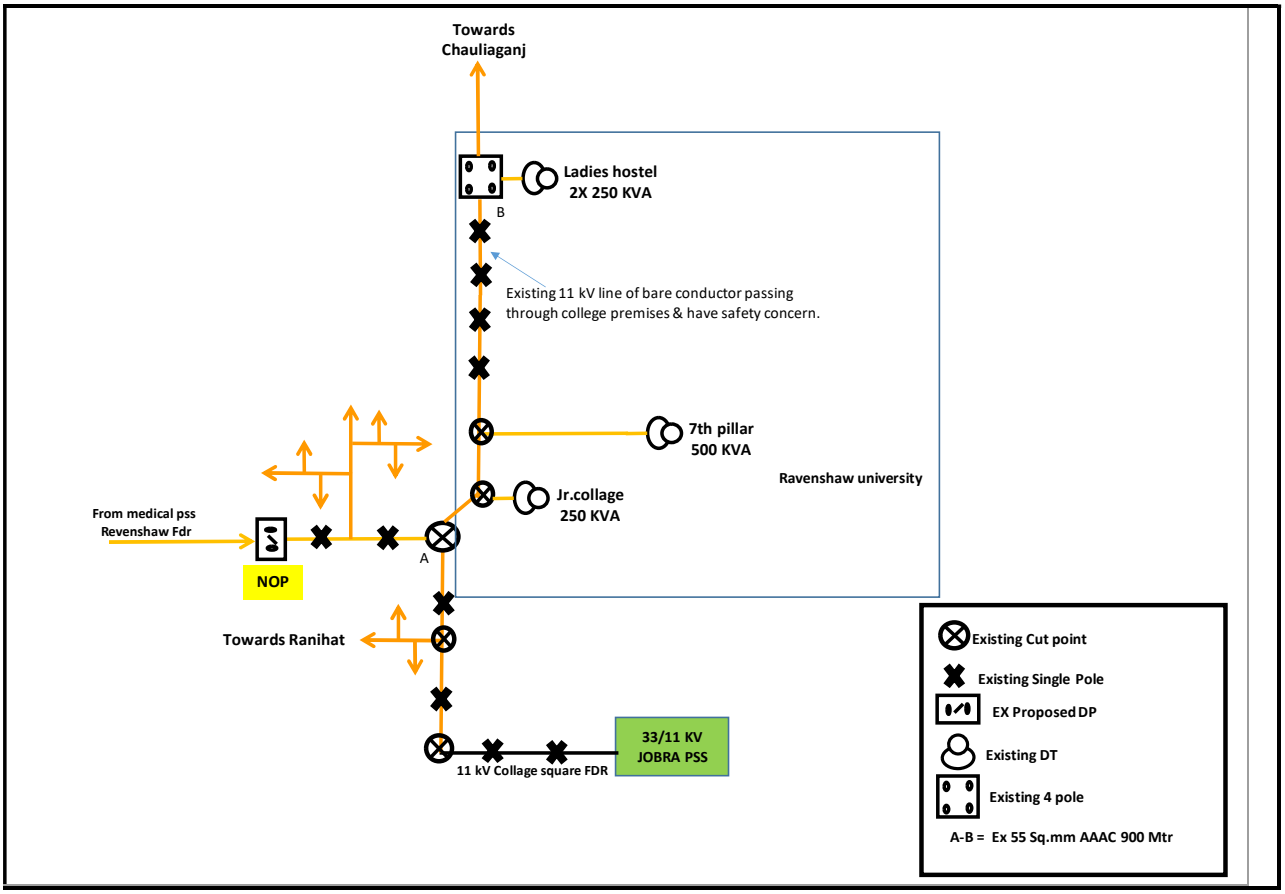
Existing Scenario:

- At present, collage square ug feeder is emanating from 33/11kV Jobra PSS. The total trunk length of 11kV choudwar local Fdr is 8.12 km and peak load is 2.6 MVA.
- The trunk conductor size of feeder is 100 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV collage square ug feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



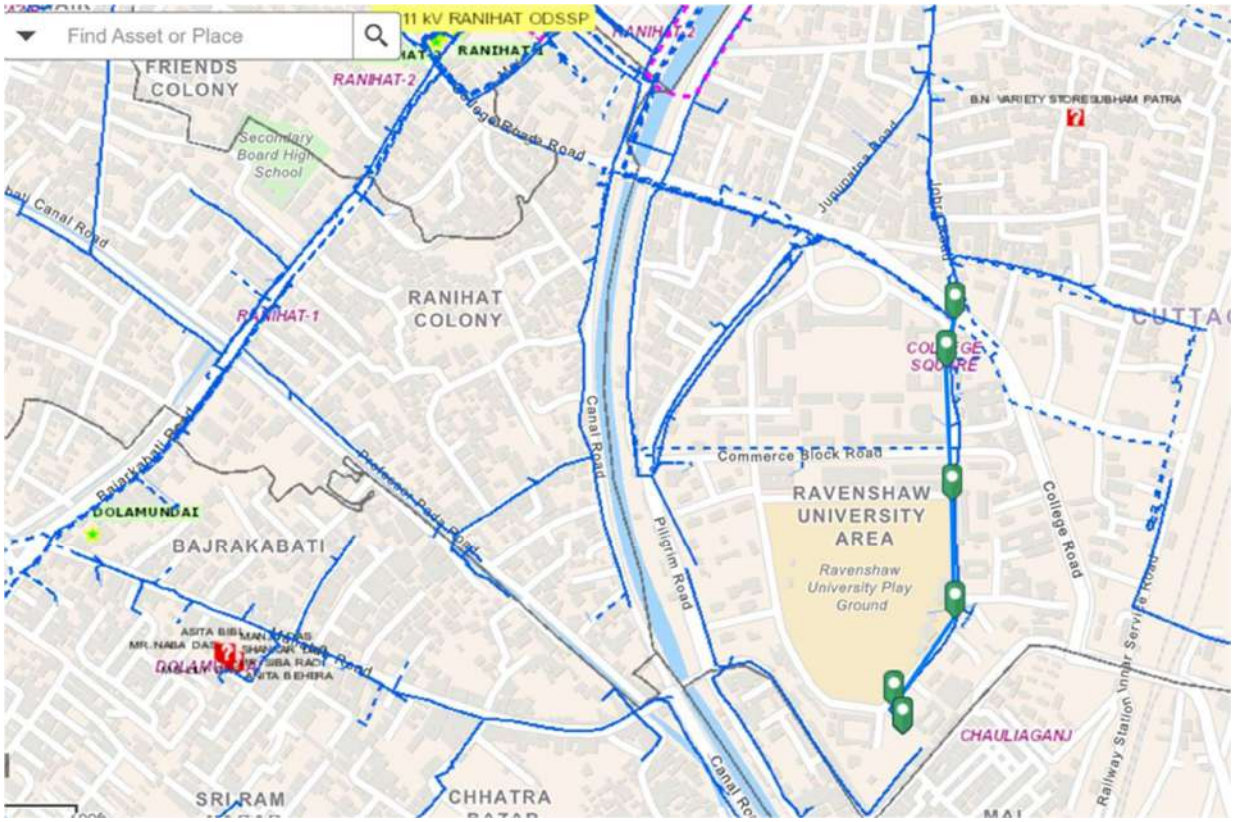
Priority and Timeline of the Project:

Priority: Since the 11kV collage square ug feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 24 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

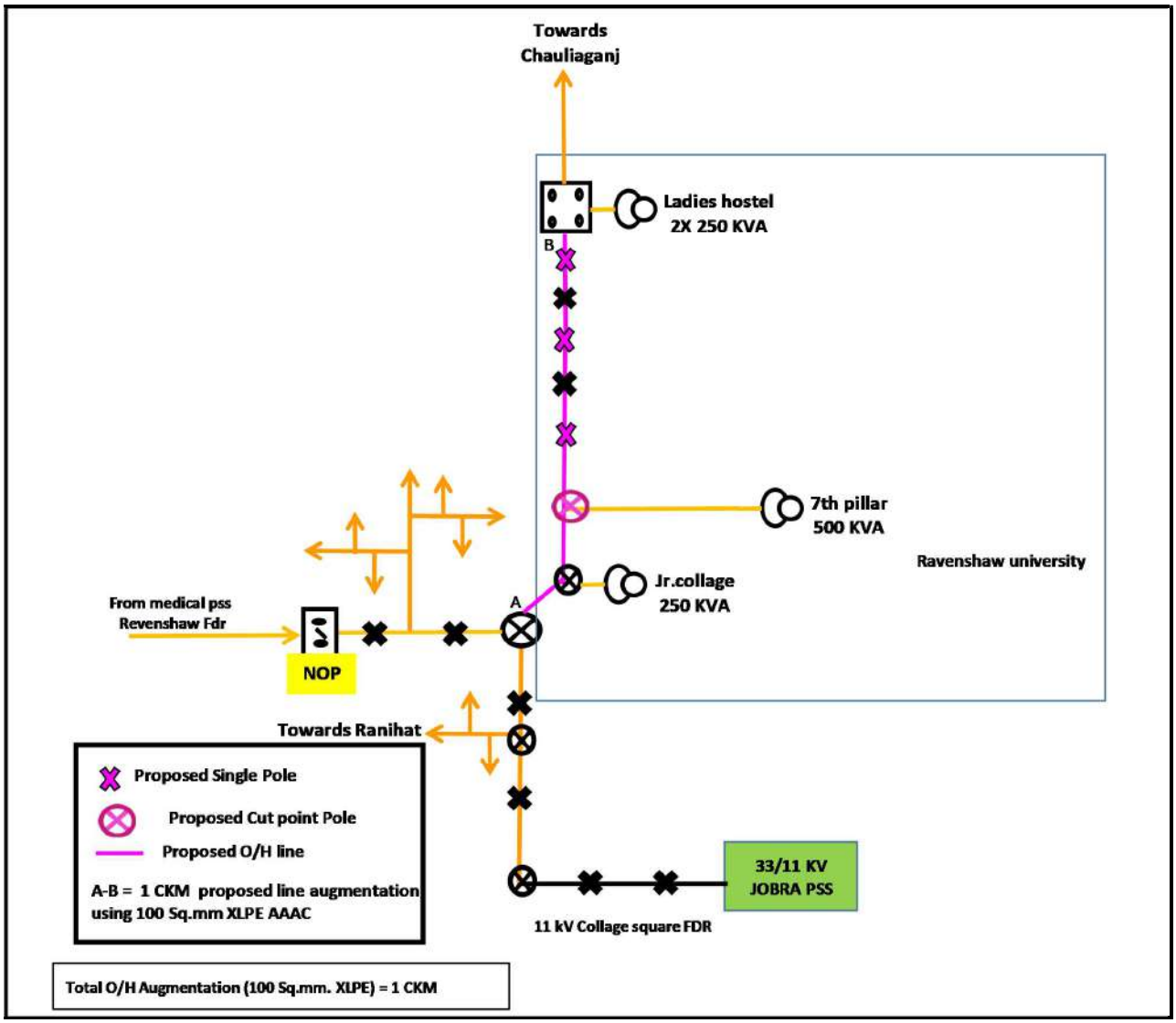
Proposed Scenario:

- Proposal for refurbishment of 1 CKM O/H line of 11 kV collage square Fdr.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction New Line of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD C-D)
- ***Proposed Cost with Estimate Break-up:***

ANNEXURE-12.26	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	CDD-1
Name of the Sub-Division : -	RANIHAT
Name of the Section : -	JOBRA
Name of the Work :-	Proposal for refurbishment of 1 CKM O/H line of 11 kV collage square Fdr.

Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction New Line of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD C-D)	12,24,651.09
2	Part B: Dismantling	22,525.02
	Total Amount	**12,47,176.11**
	Total Amount (In Cr.)	**0.12**
Total estimated cost is Rs. 0.12 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.12 Crore (For detailed BoQ refer Annexure- 12.26)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV collage square UG feeder .
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

27.0 Proposal for Reliability improvement of 11kV Ganeshghat Feeder:

Proposal:

proposal for refurbishment of1 .4 CKM O/H line of 11 kV ganeshghat Fdr

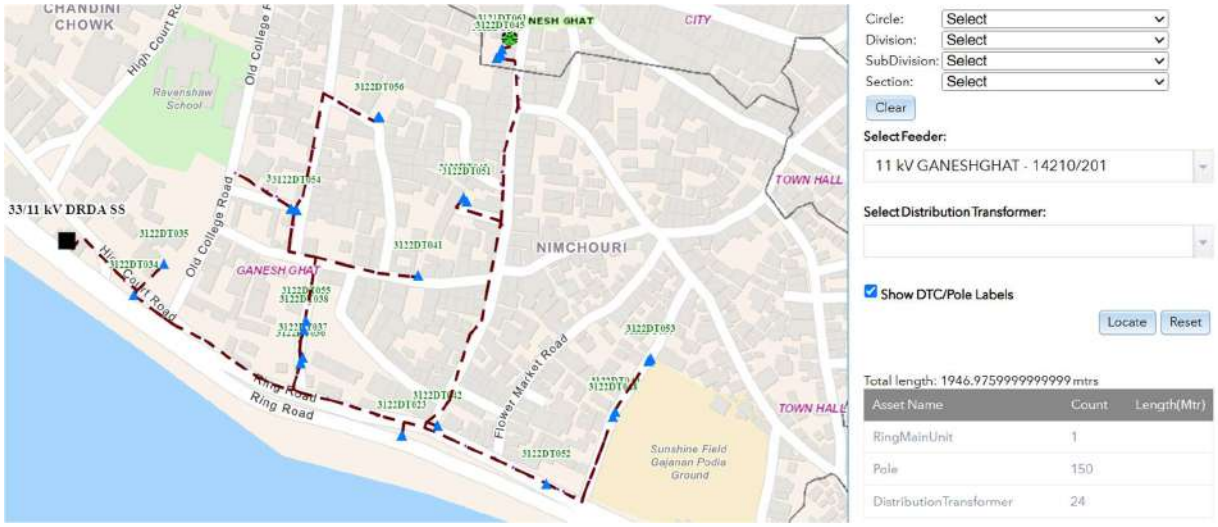
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Ganeshghat Feeder.

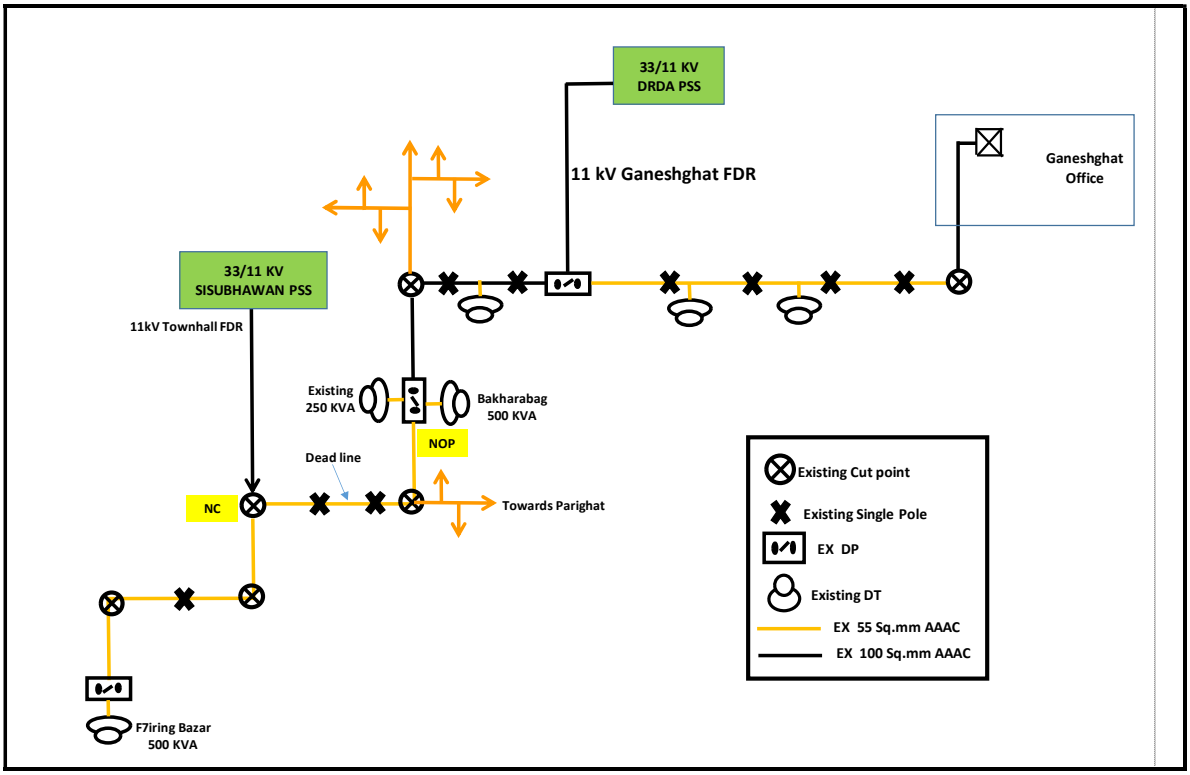
Existing Scenario:

- At present, Ganeshghat feeder is emanating from 33/11kV DRDA PSS. The total trunk length of 11kV Ganeshghat Fdr is 1.94 km and peak load is 2.6 MVA.
- The trunk conductor size of feeder is 100 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Ganeshghat feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



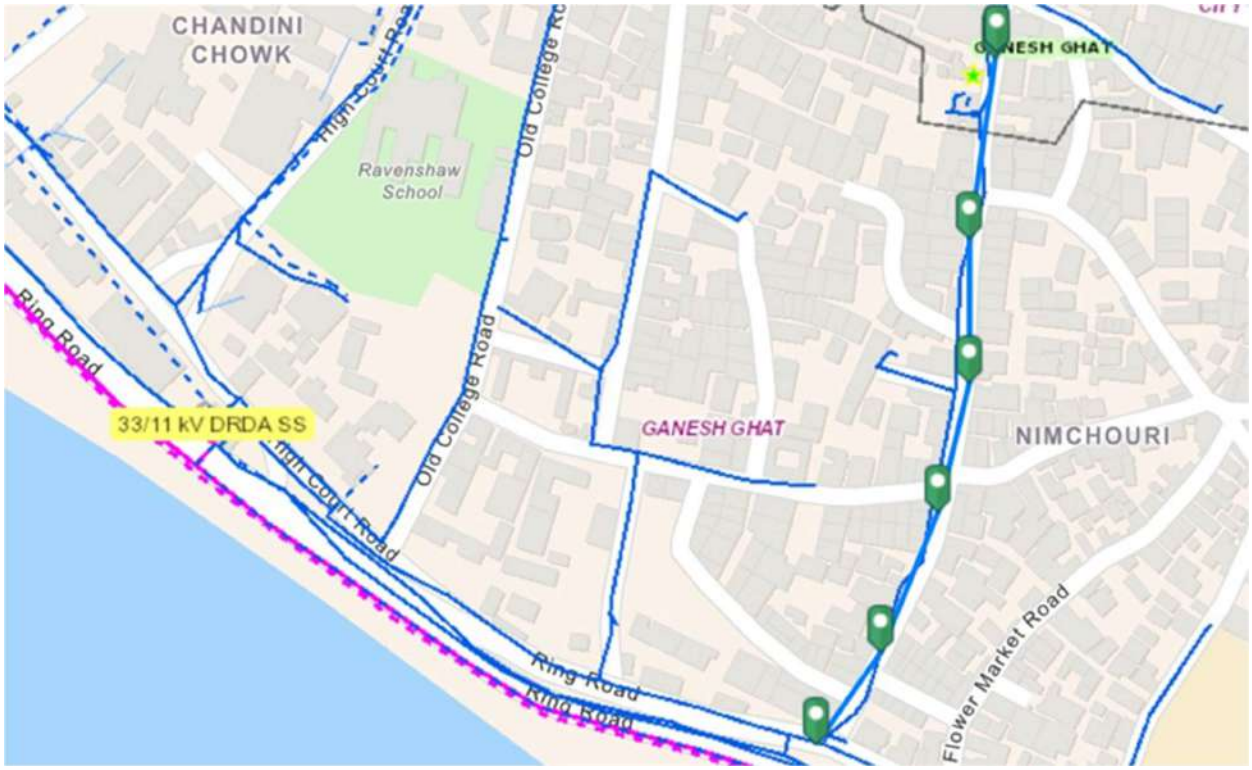
Priority and Timeline of the Project:

Priority: Since the 11kV Ganeshghat feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 42 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

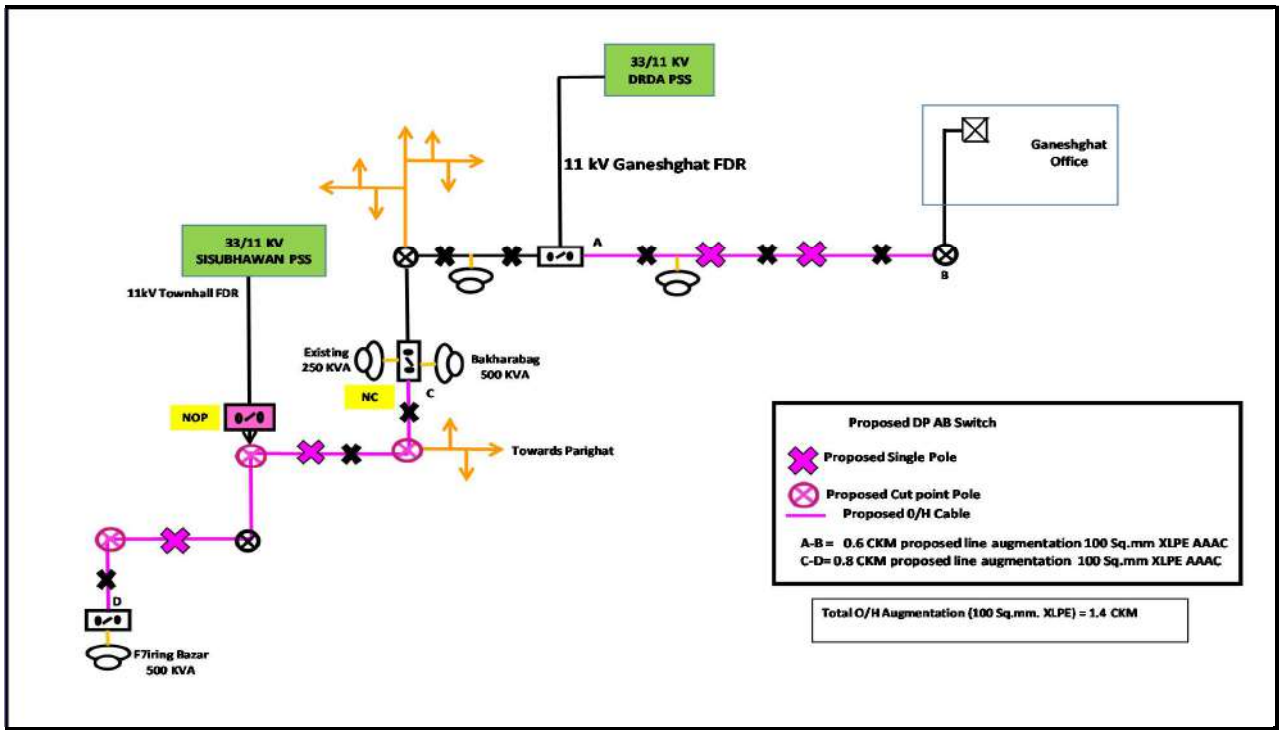
- Proposal for refurbishment of1 .4 CKM O/H line of 11 kV ganeshghat Fdr.

GIS Map Proposed:-





Proposed SLD:



Scope of Work:

- Augmentation of 1.4 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B & C-D)
- ***Proposed Cost with Estimate Break-up:***

ANNEXURE-12.27		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CDD-1	
Name of the Sub-Division : -	SISHUBHAWAN	
Name of the Section : -	GANESHGHAT	
Name of the Work :-	Proposal for refurbishment of1 .4 CKM O/H line of 11 kV ganeshghat Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 1.4 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B & C-D)	18,72,334.20
2	Part B: Dismantling	35,038.92
	Total Amount	**19,07,373.12**

	Total Amount (In Cr.)	**0.19**
Total estimated cost is Rs. 0.19 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.19 Crore (For detailed BoQ refer Annexure- 12.27)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Ganeshghat feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

28.0 Proposal for Reliability improvement of 11kV AIR Feeder:

Proposal:

Proposal for refurbishment of 1.8 CKM O/H line of 11 kV AIR Fdr. along with construction of 2.26 CKM new line for reliability improvement & safety issue mitigation

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV AIR Feeder.

Existing Scenario:

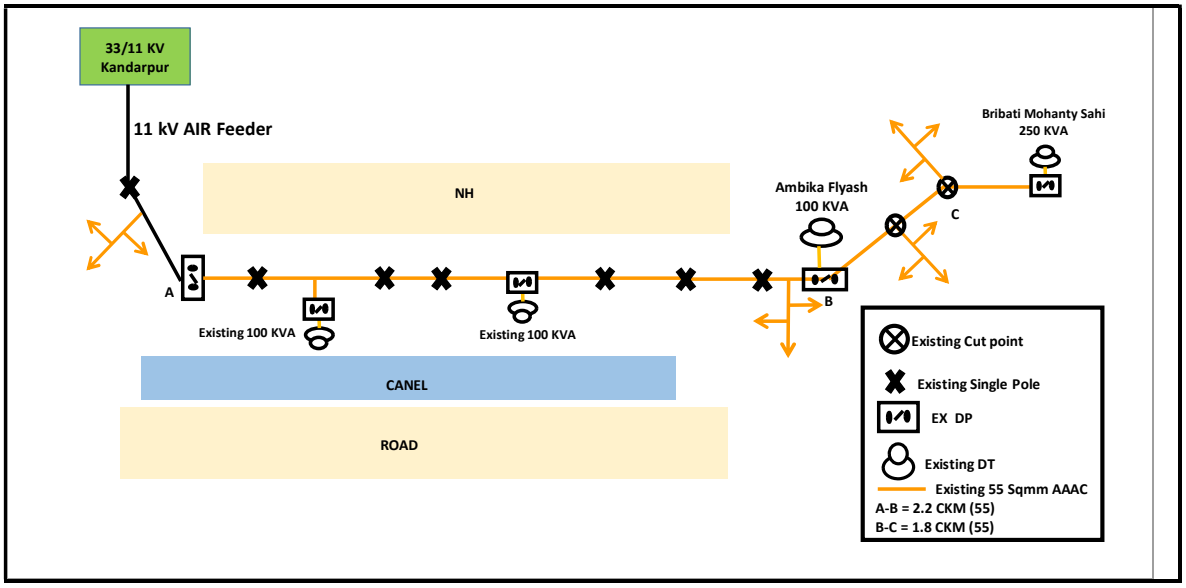
- At present, 11kV AIR feeder is emanating from 33/11kV Kandarpur PSS. The total trunk length of 11kV AIR Fdr is 20.69 km and peak load is 2.8 MVA.
- The trunk conductor size of feeder is 100 sq.mm AAAC and it supplies to several rural and sub urban consumers.

- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV ARI feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

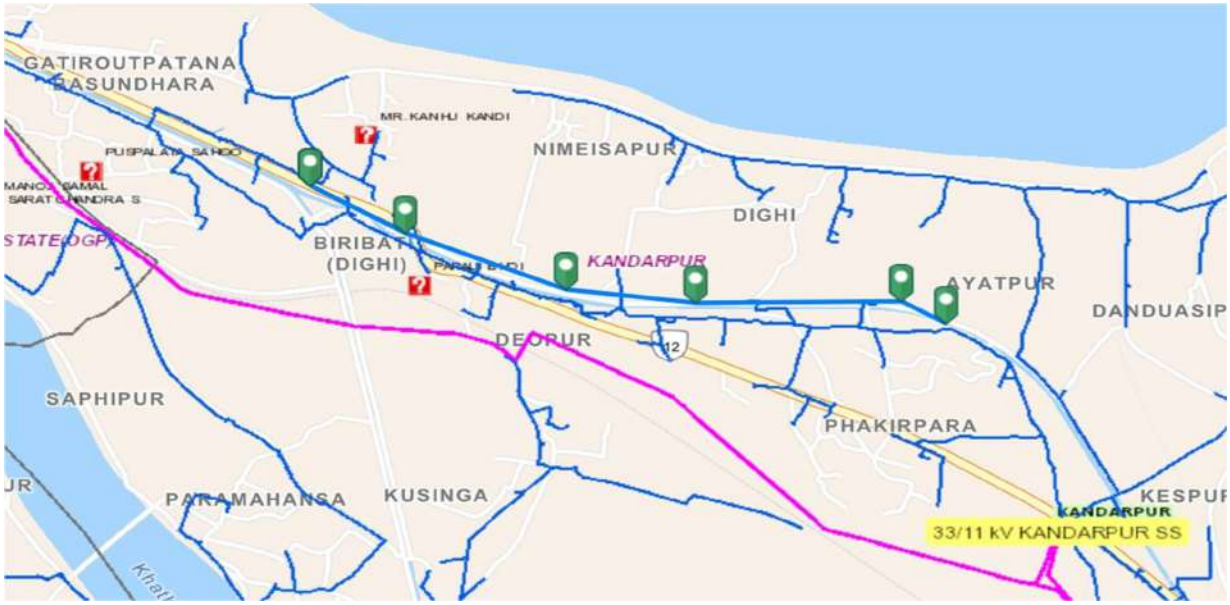
Priority: Since the 11kV AIR feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 51 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the

public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

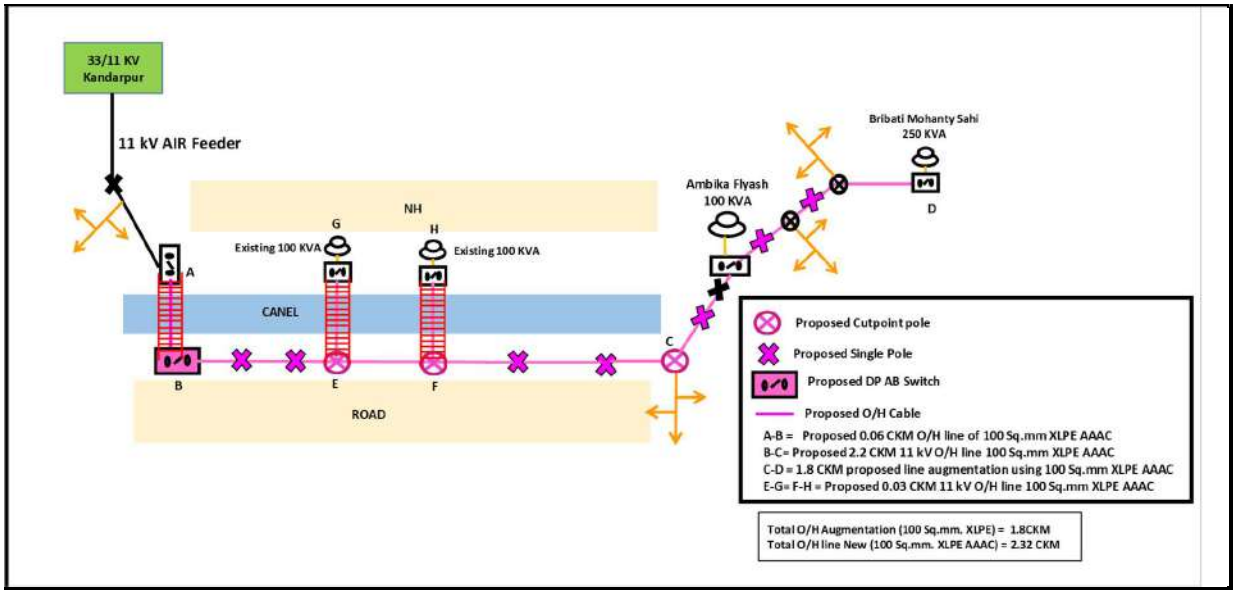
Proposed Scenario:

- 1.8 CKM 11 kV O/H line refurbishment proposed using 100 Sq.mm. XLPE AAAC for strengthening of existing feeder.
- 2.32 CKM 11 kV O/H line shifting proposed from canal side which is in unsafe condition.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 2.32 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC.
- Construction of 1.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC
- Installation 02 Nos of 11 kV line protecting guarding on single pole for canal crossing having span 30 Mtr. Each
- Installation 01 No of 11 kV line protecting guarding on DP for canal crossing

Proposed Cost with Estimate Break-up:

ANNEXURE-12.28		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CDD-2	
Name of the Sub-Division : -	Jobra	
Name of the Section : -	Kandarpur	
Name of the Work :-	Proposal for refurbishment of 1.8 CKM O/H line of 11 kV AIR Fdr. along with construction of 2.26 CKM new line for reliability improvement & safety issue mitigation.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 2.32 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B-C)	48,17,763.57
2	PART B: Construction of 1.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)	25,25,419.44
3	PART C: Installation 02 Nos of 11 kV line protecting guarding on single pole for canal crossing having span 30 Mtr. each (Refer PSLD)	58,688.63
4	PART D: Installation 01 No of 11 kV line protecting guarding on DP for canal crossing (Refer PSLD)	33,364.17
5	PART E: Dismantling of Materials	1,45,399.60
6	**Total Amount**	**75,80,635.41**
	Total Amount (In Cr.)	**0.76**
Total estimated cost is Rs. 0.76 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.76 Crore (For detailed BoQ refer Annexure- 12.28)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV AIR feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

29.0 Proposal for Reliability improvement of 11kV Badamba Town Feeder:

Proposal:

Proposal for refurbishment of 0.5 CKM O/H line of 11 kV Badamba town Fdr. along with construction of 0.08 CKM U/G line for N-1 connectivity between 11 kV Badamba town & Badabarsingha FDR

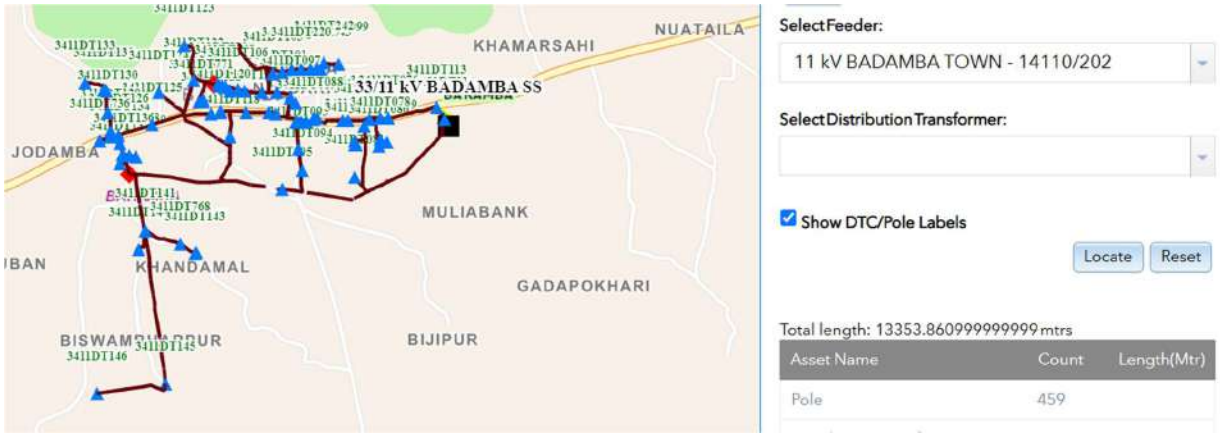
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Badamba Town Feeder.

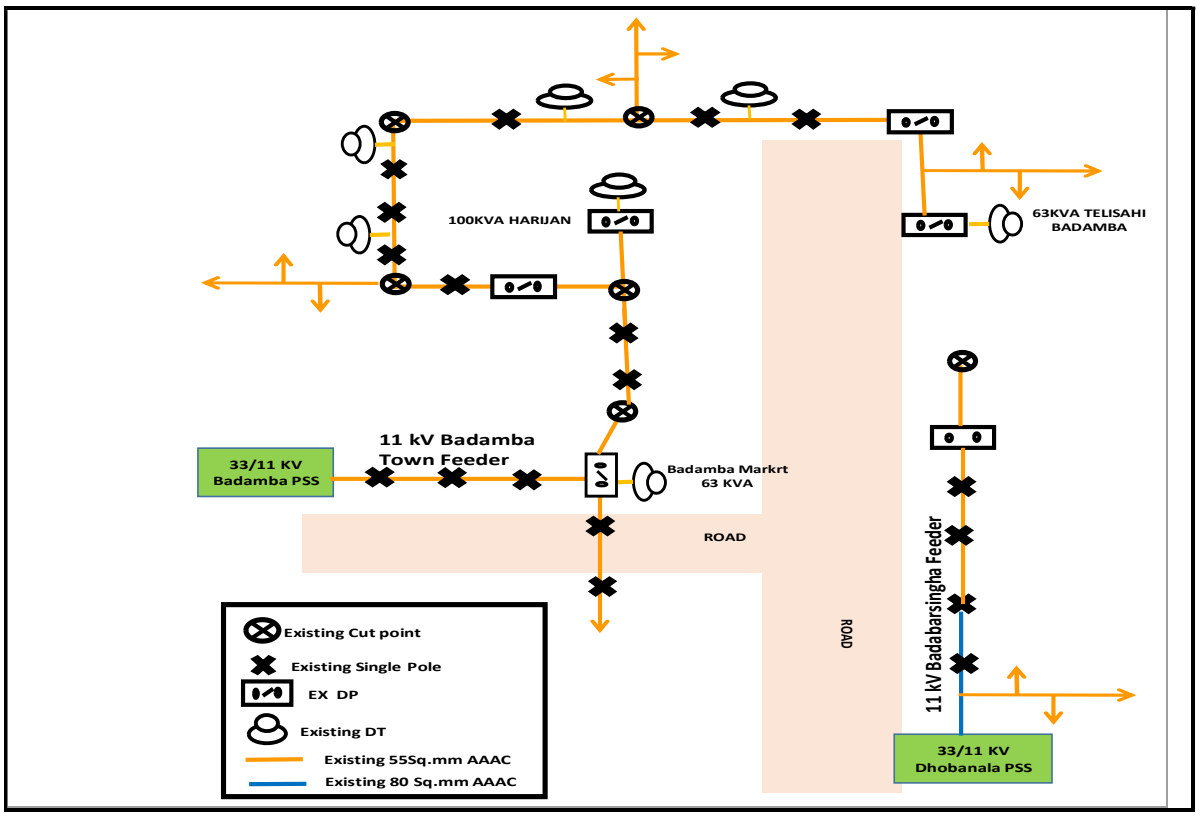
Existing Scenario:

- At present, 11kV Badamba Town feeder is emanating from 33/11kV Badamba PSS. The total trunk length of 11kV AIR Fdr is 13.35 km and peak load is 2.2 MVA.
- The trunk conductor size of feeder is 55 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Badamba Town feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

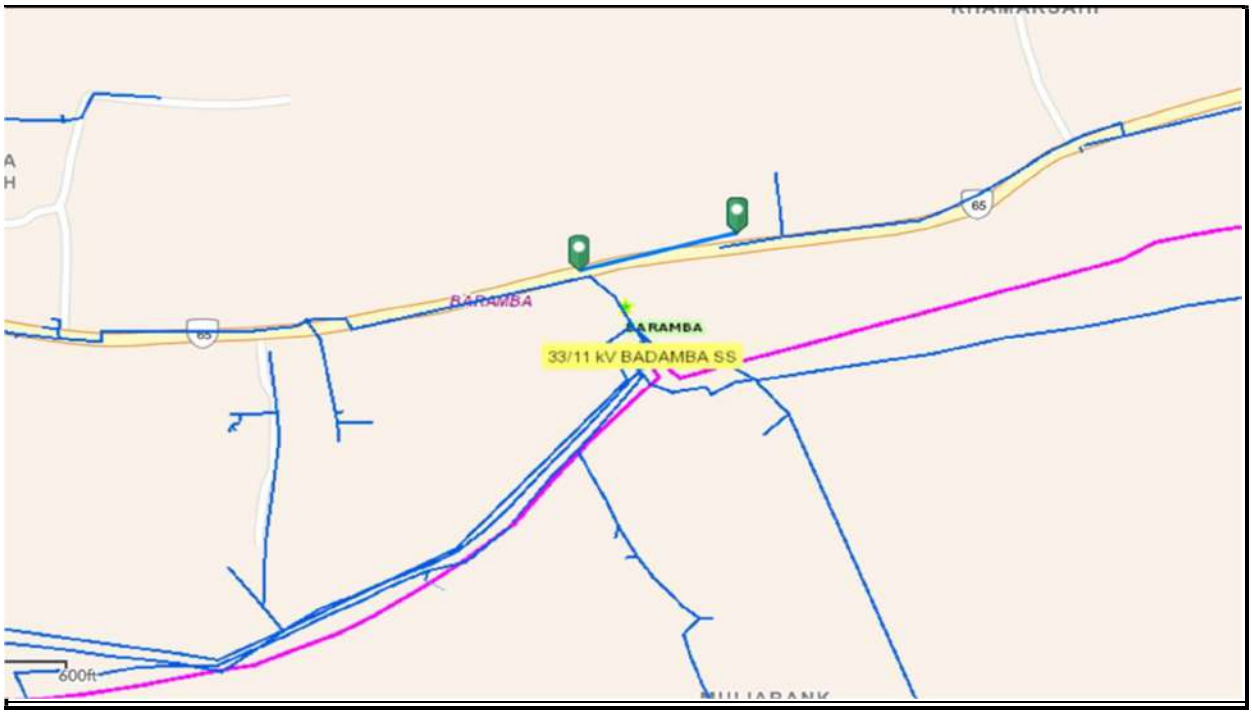
Priority: Since the 11kV Badamba Town feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 162 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures,

consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

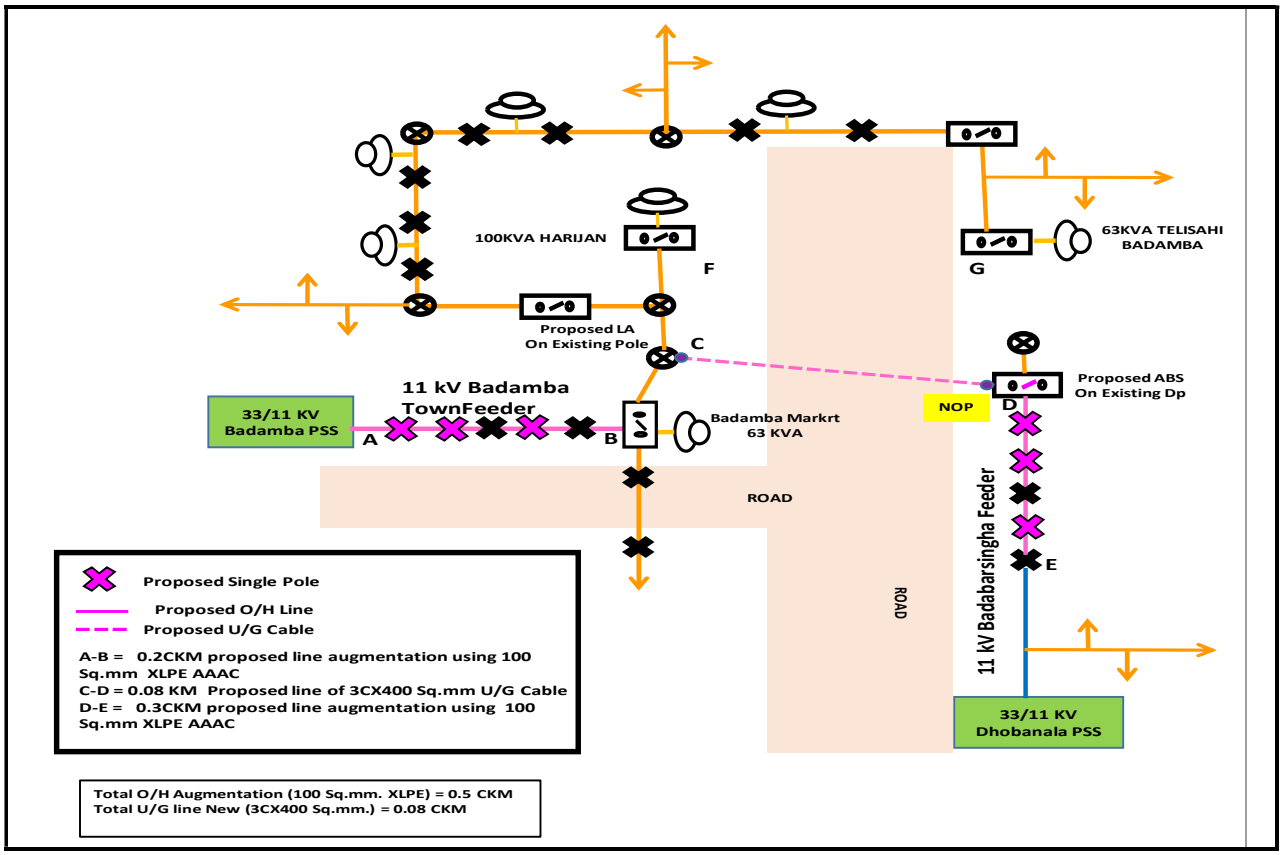
Proposed Scenario:

- Proposal for refurbishment of 0.5 CKM O/H line of 11 kV Badamba town Fdr
- construction of 0.08 CKM U/G line for N-1 connectivity between 11 kV Badamba town & Badabarsingha FDR

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,D-E)
- Installation of 01 No. AB Switch in existing DP (Refer PSLD)Construction of 1.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC
- Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 80 MTR Without Spare . (Refer Proposed SLD point C-D,F-G)

Proposed Cost with Estimate Break-up:

ANNEXURE-12.29	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	AED
Name of the Sub-Division : -	NARSINGHPUR
Name of the Section : -	BADAMBA
Name of the Work :-	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV Badamba town Fdr. along with construction of 0.08 CKM U/G line for N-1 connectivity between 11 kV Badamba town & Badabarsingha FDR .
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,D-E) 2. Installation of 01 No. AB Switch in existing DP (Refer PSLD)	8,56,654.01
2	Part B:Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 80 MTR Without Spare . (Refer Proposed SLD point C-D,F-G)	6,78,701.82
3	Part C: Dismantling	12,513.90
4	**Total Amount**	**15,47,869.74**
	Total Amount (In Cr.)	**0.15**
Total estimated cost is Rs. 0.15 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.15 Crore (For detailed BoQ refer Annexure- 12.29)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Badamba Town feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

30.0 Proposal for Reliability improvement of 11kV Panchgaon Feeder:

Proposal:

Proposal for refurbishment of 3 CKM O/H line of 11 kV panchgaon Fdr from 55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.

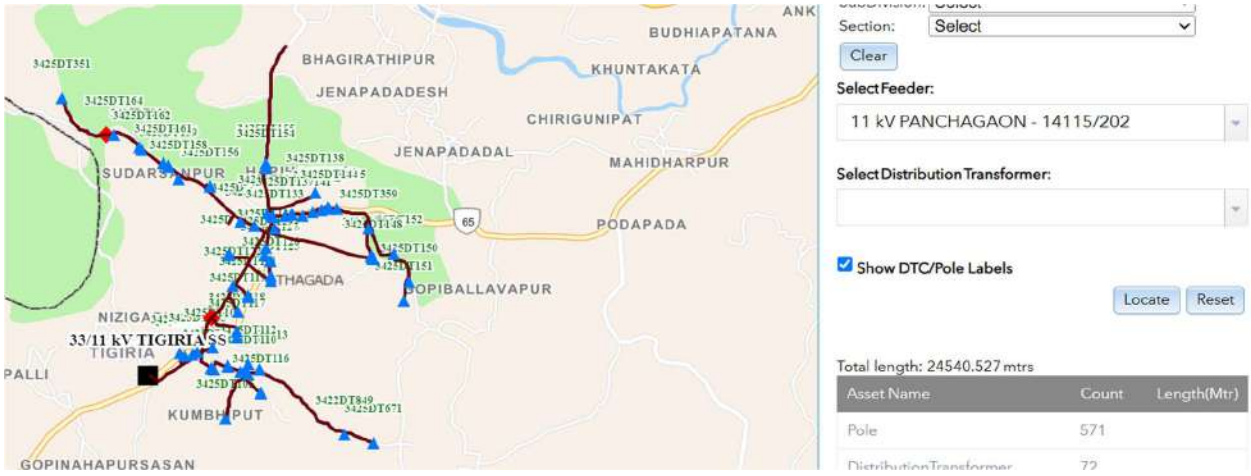
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Panchgaon Feeder.

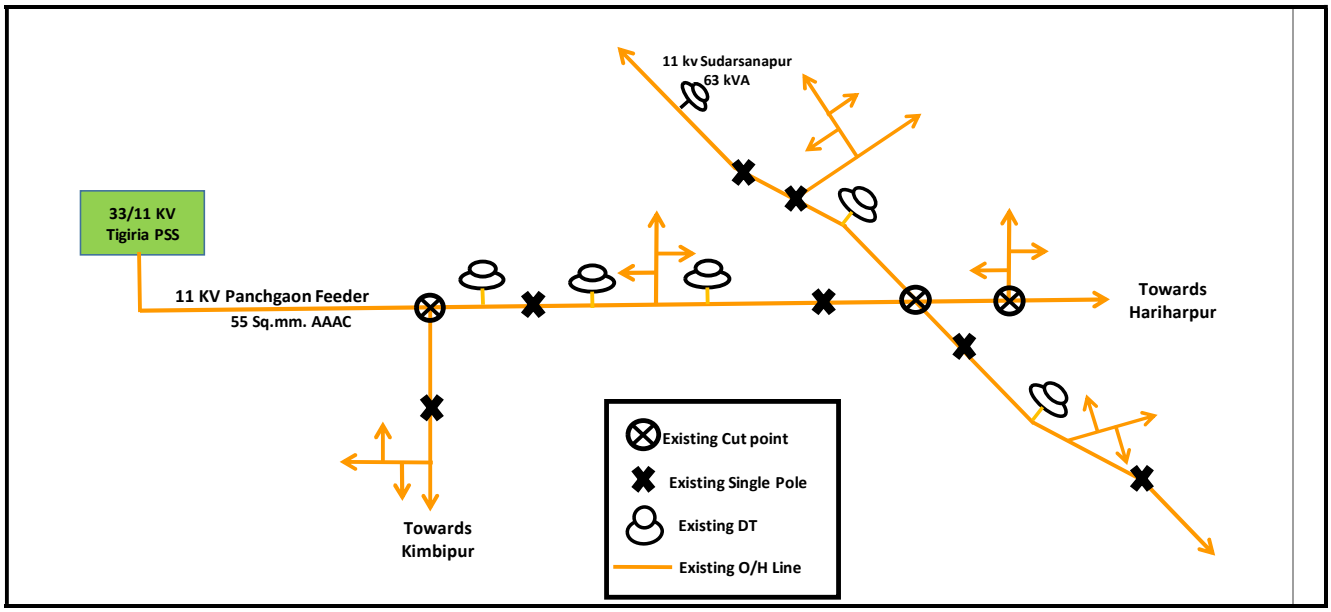
Existing Scenario:

- At present, 11 Kv Panchgaon feeder is emanating from 33/11kV Tigiria PSS. The total trunk length of 11kV Panchgaon Fdr is 24.54 km and peak load is 2.2 MVA.
- The trunk conductor size of feeder is 55 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Panchgaon feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

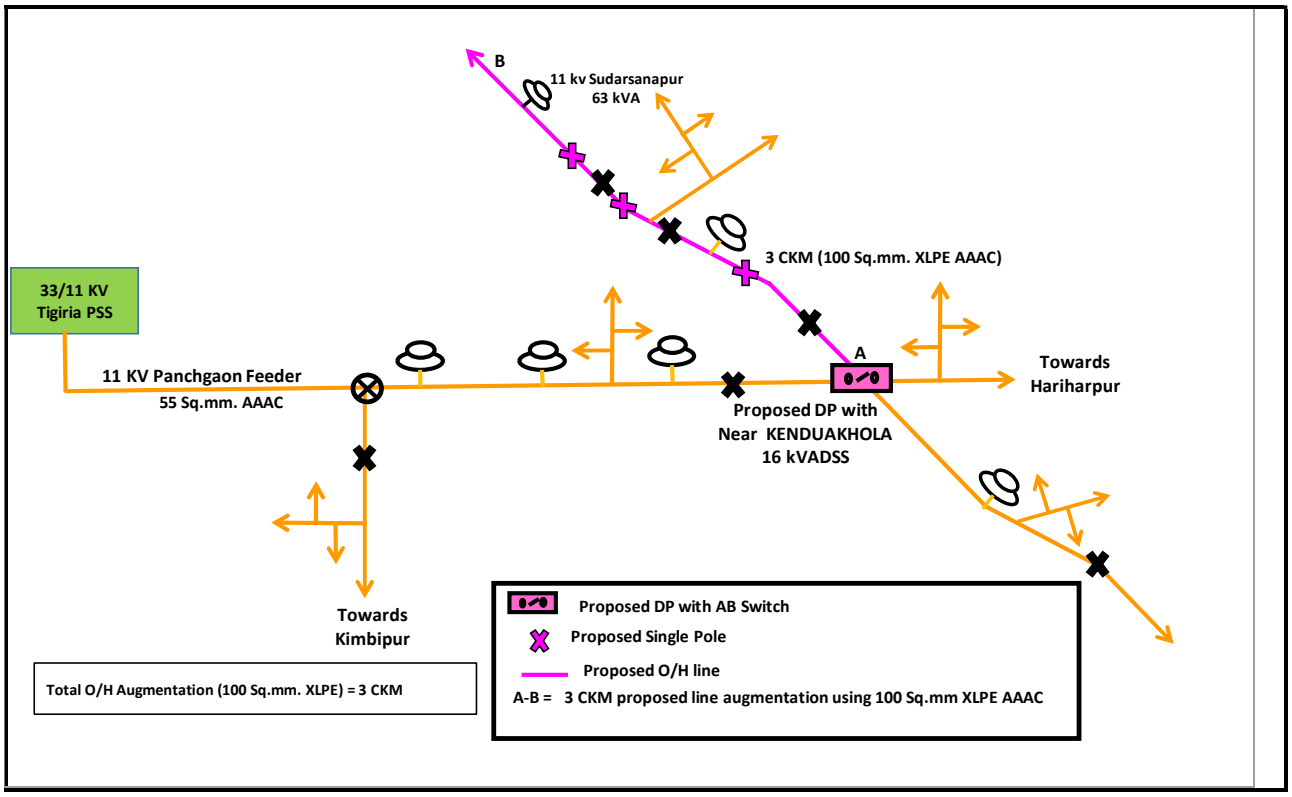
Priority: Since the 11kV Panchgaon feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 67 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Proposal for refurbishment of 3 CKM O/H line of 11 kV panchgaon Fdr from 55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.
- **GIS Map Proposed:-**



Proposed SLD:



Scope of Work:

- Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B)
- ***Proposed Cost with Estimate Break-up:***

ANNEXURE-12.30		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	AED	
Name of the Sub-Division : -	ATHAGARH	
Name of the Section : -	TIGIRIA	
Name of the Work :-	Proposal for refurbishment of 3 CKM O/H line of 11 kV panchgaon Fdr from 55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B)	39,94,222.12
2	Part B: Dismantling	97,727.60
	Total Amount	**40,91,949.72**

	Total Amount (In Cr.)	**0.41**
Total estimated cost is Rs. 0.41 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.41 Crore (For detailed BoQ refer Annexure- 12.30)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Panchgaon feeder .
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.

The above arrangement will help to release power supply to upcoming potential Industrial consumers.

31.0 Proposal for Reliability improvement of 11kV Laxminarayanpur Feeder:

Proposal:

Proposal for bifurcation of 11 kV Laxminarayanpur Fdr by construction of 01 No. of new 11 kV Indoor Bay at 33/11 kV Erkana PSS

Requirement/ Need of the proposal:

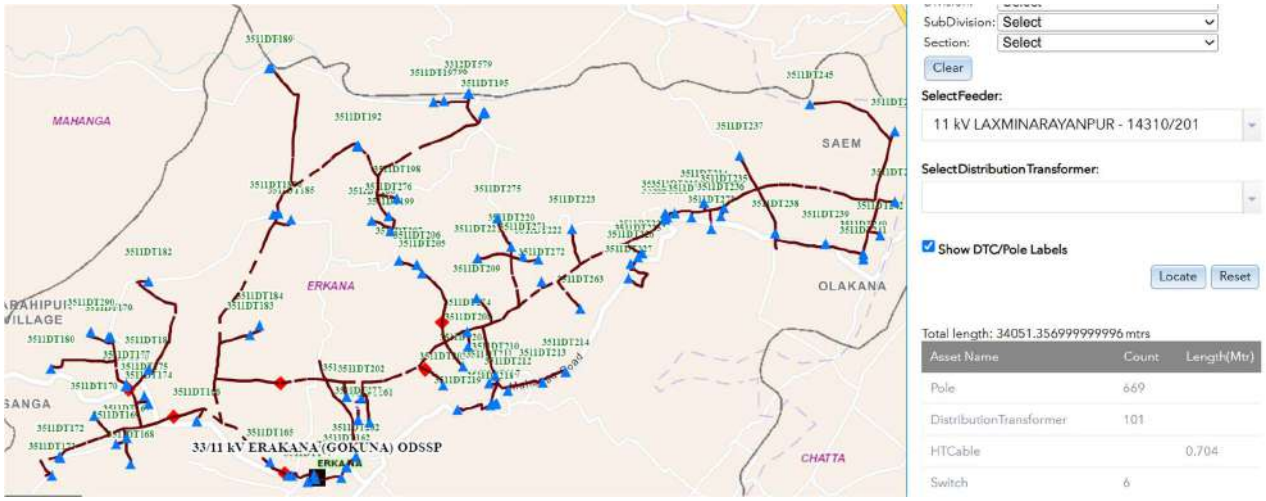
Objective: Reliability improvement of 11kV Laxminarayanpur Feeder.

Existing Scenario:

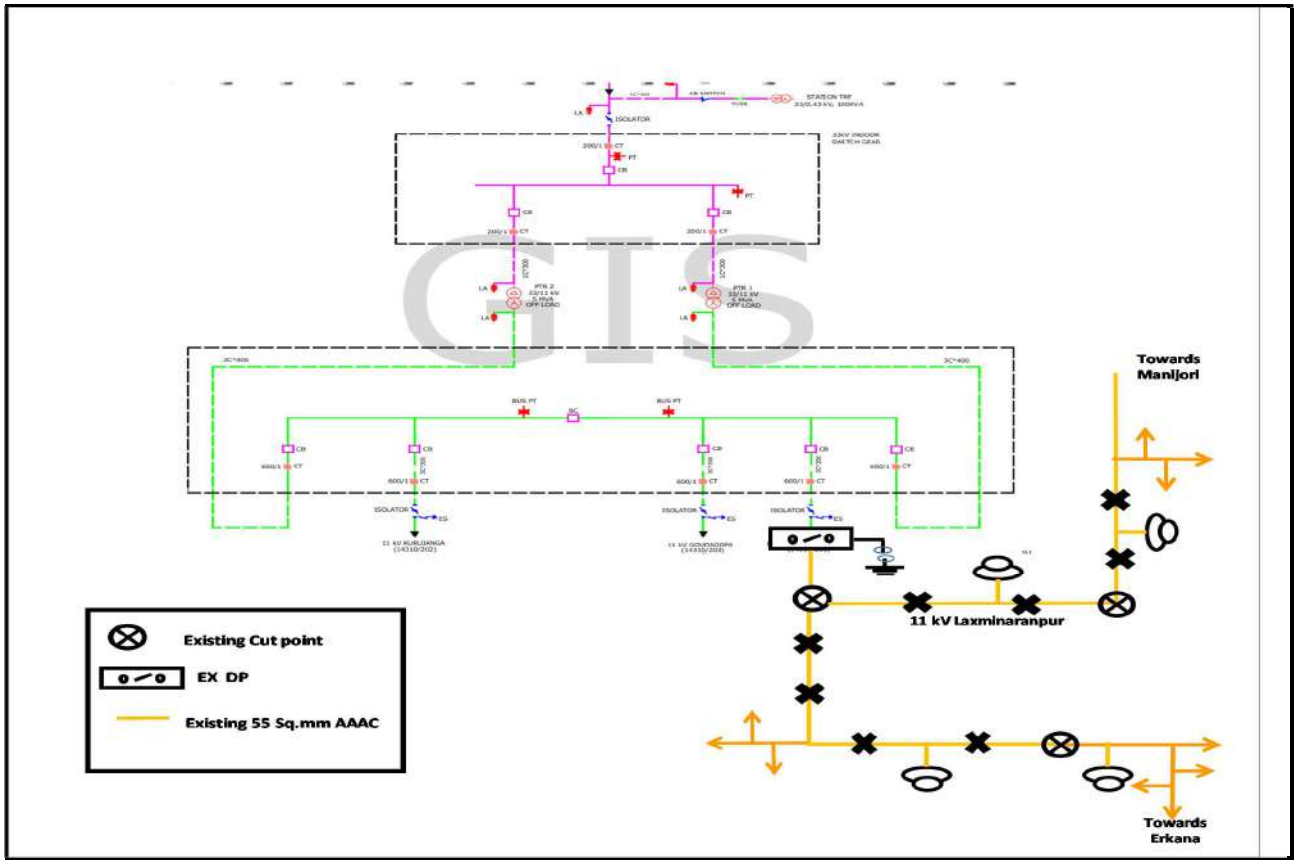
- At present, Laxminarayanpur feeder is emanating from 33/11kV Erkana PSS. The total trunk length of 11kV Laxminarayanpur Fdr is 34.05 km and peak load is 1.7 MVA.
- The trunk conductor size of feeder is 55 sq.mm AAAC and it supplies to several rural and sub urban consumers.

- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Laxminarayanpur feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



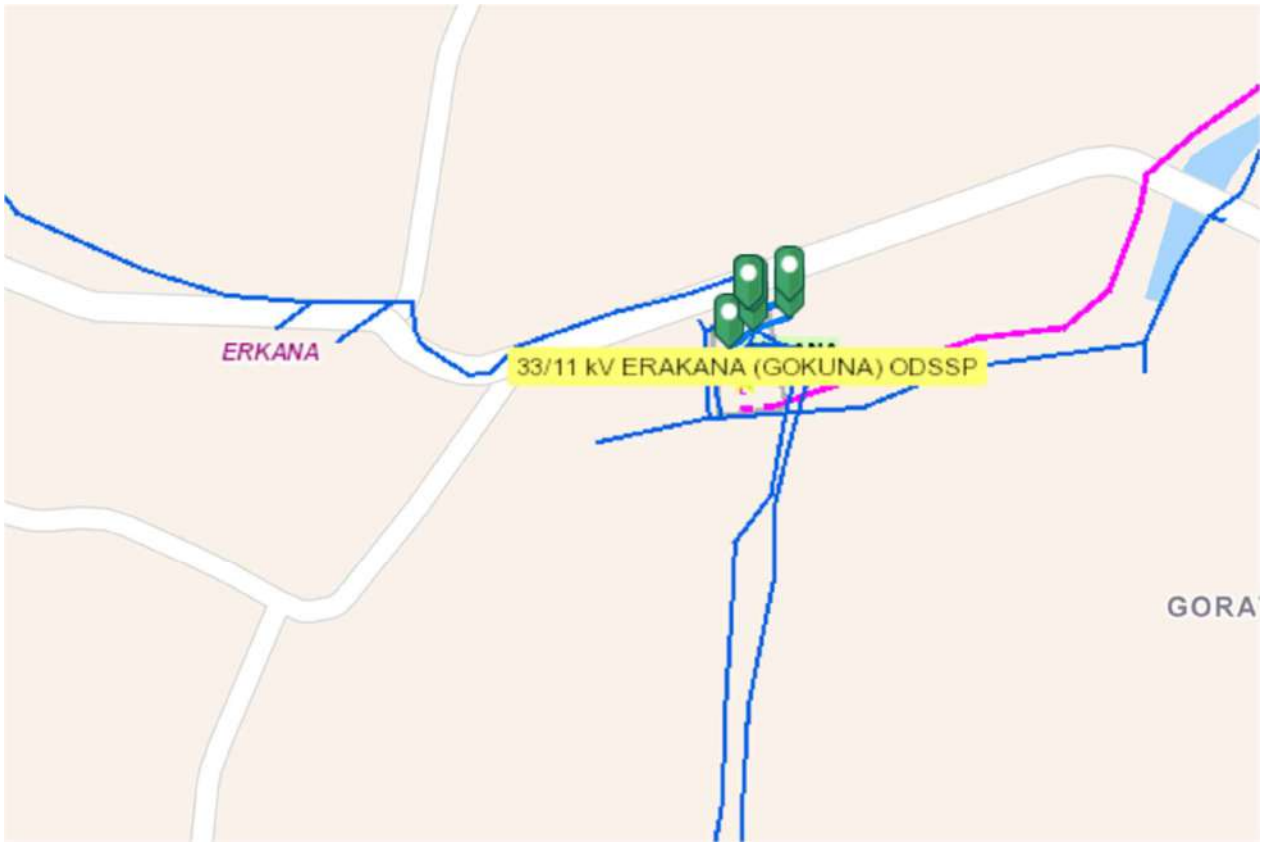
Priority and Timeline of the Project:

Priority: Since the 11kV Laxminarayanpur feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 153 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

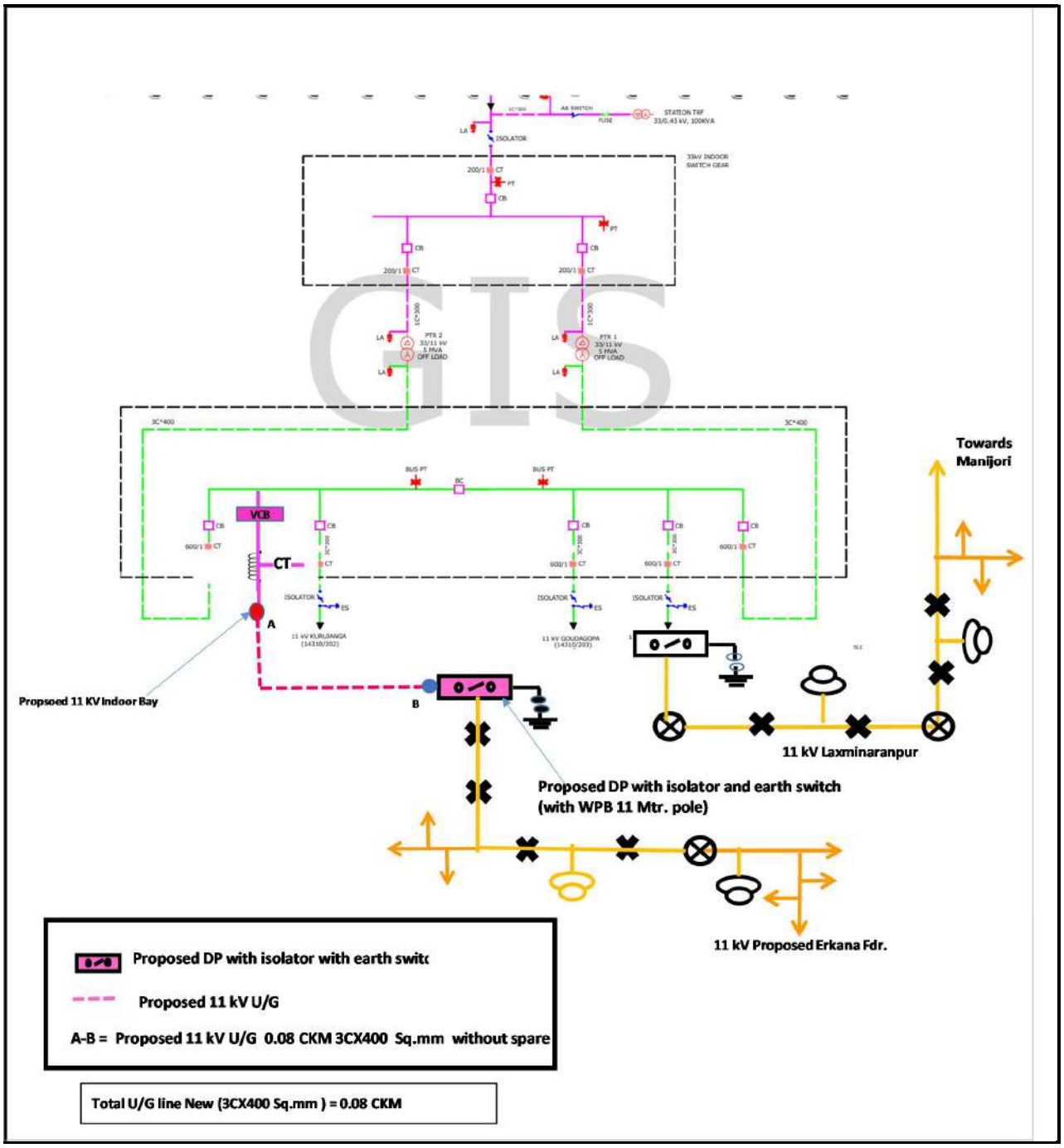
Proposed Scenario:

- Proposal for refurbishment of1 .4 CKM O/H line of 11 kV Laxminarayanpur Fdr.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of One No. of 11 KV Line Bay (indoor) at 33/11 kV Erkana PSS (Refer PSLD)
- *Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Erkana PSS (DC Voltage- 48 V) (Refer PSLD)*
- *Supply and laying of 11 kV 3C X 400 sqmm XLPE UG cable of 80 Mtr. length without spare at 33/11 kV ERKANA PSS.(Refer PSLD). (In existing RCC trench)*

Proposed Cost with Estimate Break-up:

ANNEXURE-12.31		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	ERKANA	
Name of the Work :-	Proposal for bifurcation of 11 kV Laxminarayanpur Fdr by construction \ of 01 No. of new 11 kV Indoor Bay at 33/11 kV Erkana PSS.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of One No. of 11 KV Line Bay (indoor) at 33/11 kV Erkana PSS (Refer PSLD)	27,90,844.25
2	PART B: Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Erkana PSS (DC Voltage- 48 V) (Refer PSLD)	3,15,854.45
3	PART C: Supply and laying of 11 kV 3C X 400 sqmm XLPE UG cable of 80 Mtr. length without spare at 33/11 kV ERKANA PSS.(Refer PSLD). (In existing RCC trench)	2,90,443.70
	Total Amount	**33,97,142.41**
	Total Amount (In Cr.)	**0.34**
Total estimated cost is Rs. 0.34 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.34 Crore (For detailed BoQ refer Annexure- 12.31)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Laxminarayanpur feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

32.0 Proposal for Reliability improvement of 11kV Bahugram-1 Gopinathapur Feeder:

Proposal:

Proposal for refurbishment of 1.5 CKM O/H line of 11 kV Bahugram Gopinathpur Fdr. Along with construction of 1.4 CKM new line for reliability improvement.

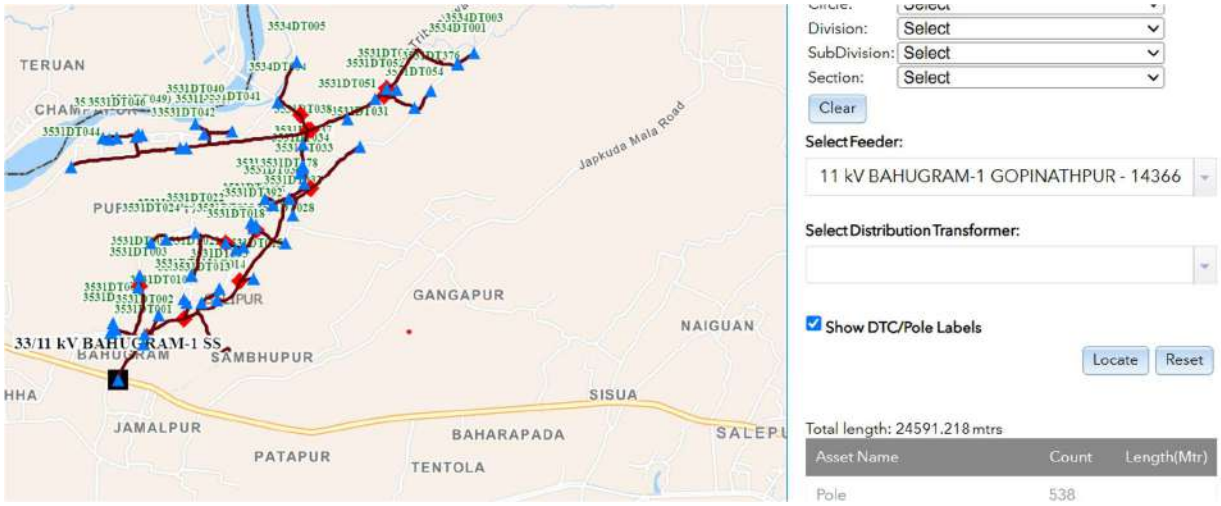
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Bahugram-1 Gopinathapur Feeder.

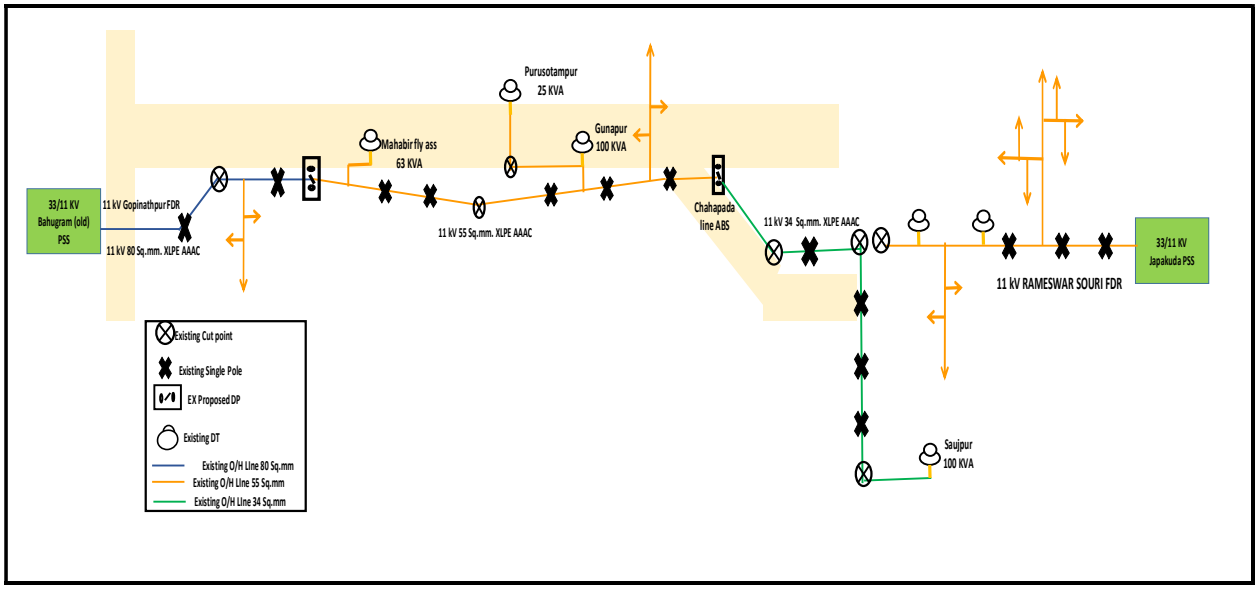
Existing Scenario:

- At present, Bahugram-1 Gopinathapur feeder is emanating from 33/11kV Bahugram-1 PSS. The total trunk length of 11kV Bahugram-1 Gopinathapur Fdr is 24.59 km and peak load is 1.9 MVA.
- The trunk conductor size of feeder is 80 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Bahugram-1 Gopinathapur feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



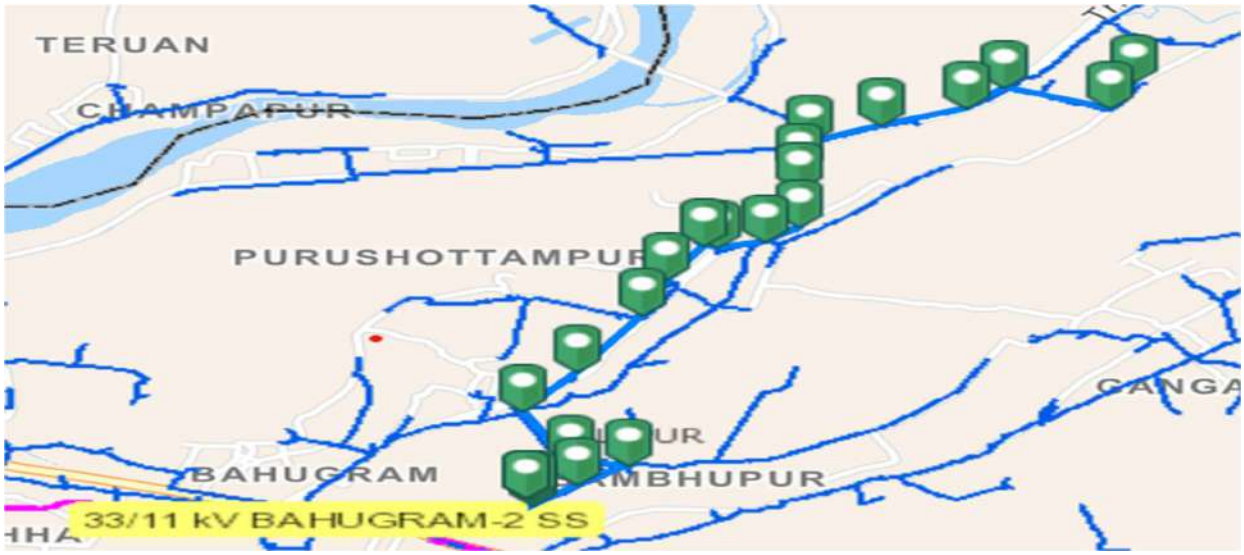
Priority and Timeline of the Project:

Priority: Since the 11kV Bahugram-1 Gopinathapur feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 170 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

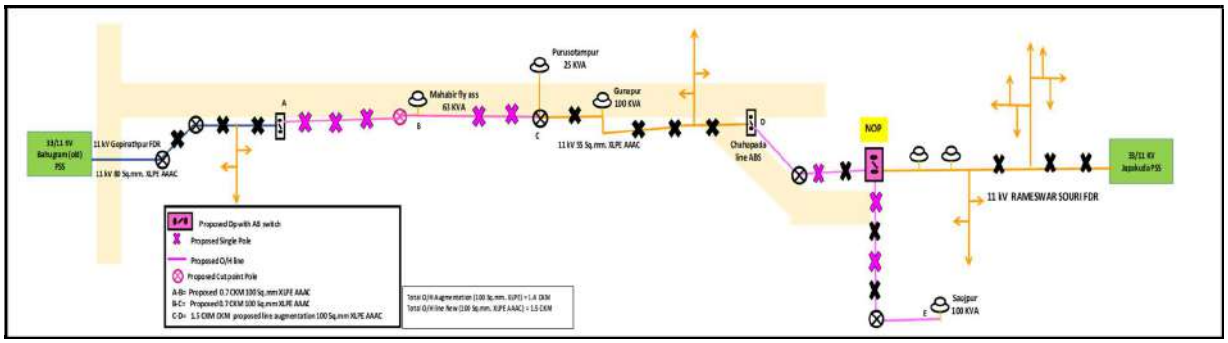
Proposed Scenario:

- Proposal for refurbishment of 1.5 CKM O/H line of 11 kV Bahugram Gopinathpur Fdr. Along with construction of 1.4 CKM new line for reliability improvement.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Refurbishment of 1.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD D-E)
- Construction of new 11 kV line of 1.4 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,B-C) Installation of 01 No. AB Switch in existing DP (Refer PSLD)Construction of 1.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC

Proposed Cost with Estimate Break-up:

ANNEXURE-12.32		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	SALEPUR	
Name of the Work :-	Proposal for refurbishment of 1.5 CKM O/H line of 11 kV Bahugram Gopinathpur Fdr. Along with construction of 1.4 CKM new line for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Refurbishment of 1.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD D-E) 2.Construction of new 11 kV line of 1.4 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,B-C)	53,38,893.08
2	Part B: Dismantling	89,563.77
	Total Amount	**54,28,456.85**
	Total Amount (In Cr.)	**0.54**
Total estimated cost is Rs. 0.54 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.54 Crore (For detailed BoQ refer Annexure- 12.32)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Bahugram-1 Gopinathapur feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

33.0 Proposal for Reliability improvement of 11kV Gopinathapur Feeder:

Proposal:

Proposal for refurbishment of 4 CKM O/H line of 11 KV Orikanta Gopinathpur Fdr. using 100 Sq.mm AAA Conductor along with construction of 1 CKM 11 kV new line to improve reliability

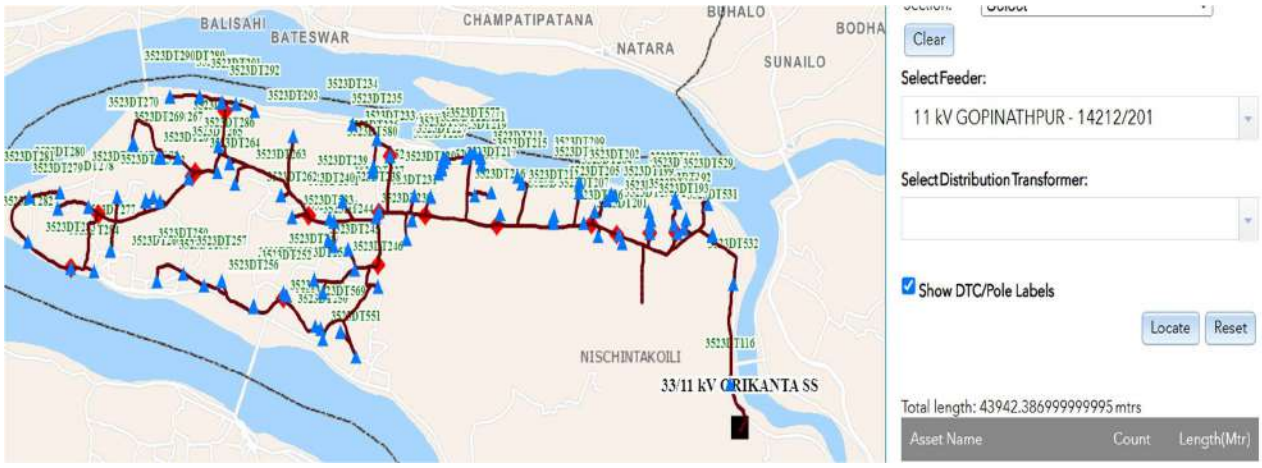
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Orikanta Gopinathpur Feeder.

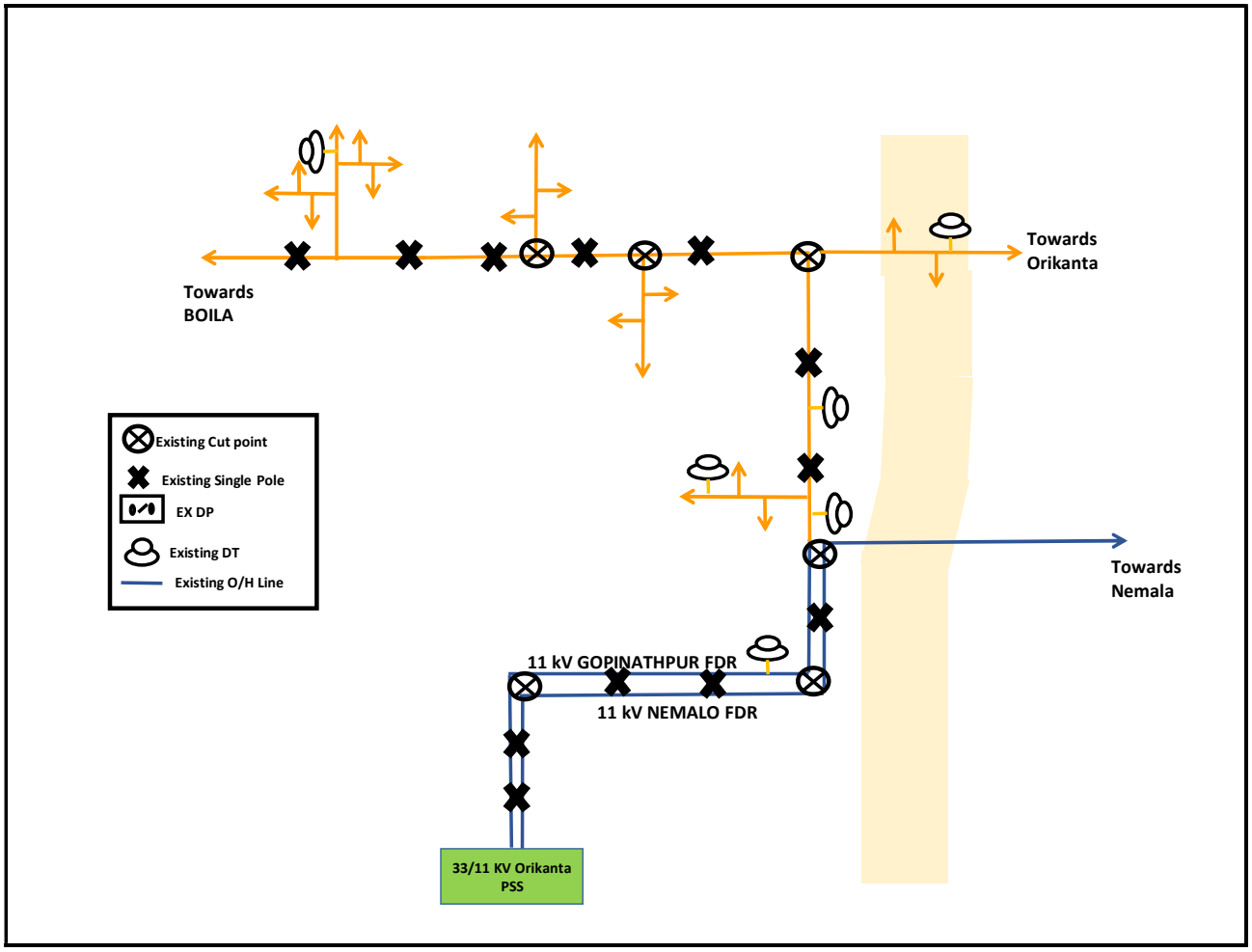
Existing Scenario:

- At present, 11 Kv Orikanta Gopinathpur feeder is emanating from 33/11kV Orikanta PSS. The total trunk length of 11kV Orikanta Gopinathpur Fdr is 43.94 km and peak load is 2.4 MVA.
- The trunk conductor size of feeder is 80 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Orikanta Gopinathpur feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Orikanta Gopinathpur feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 198 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

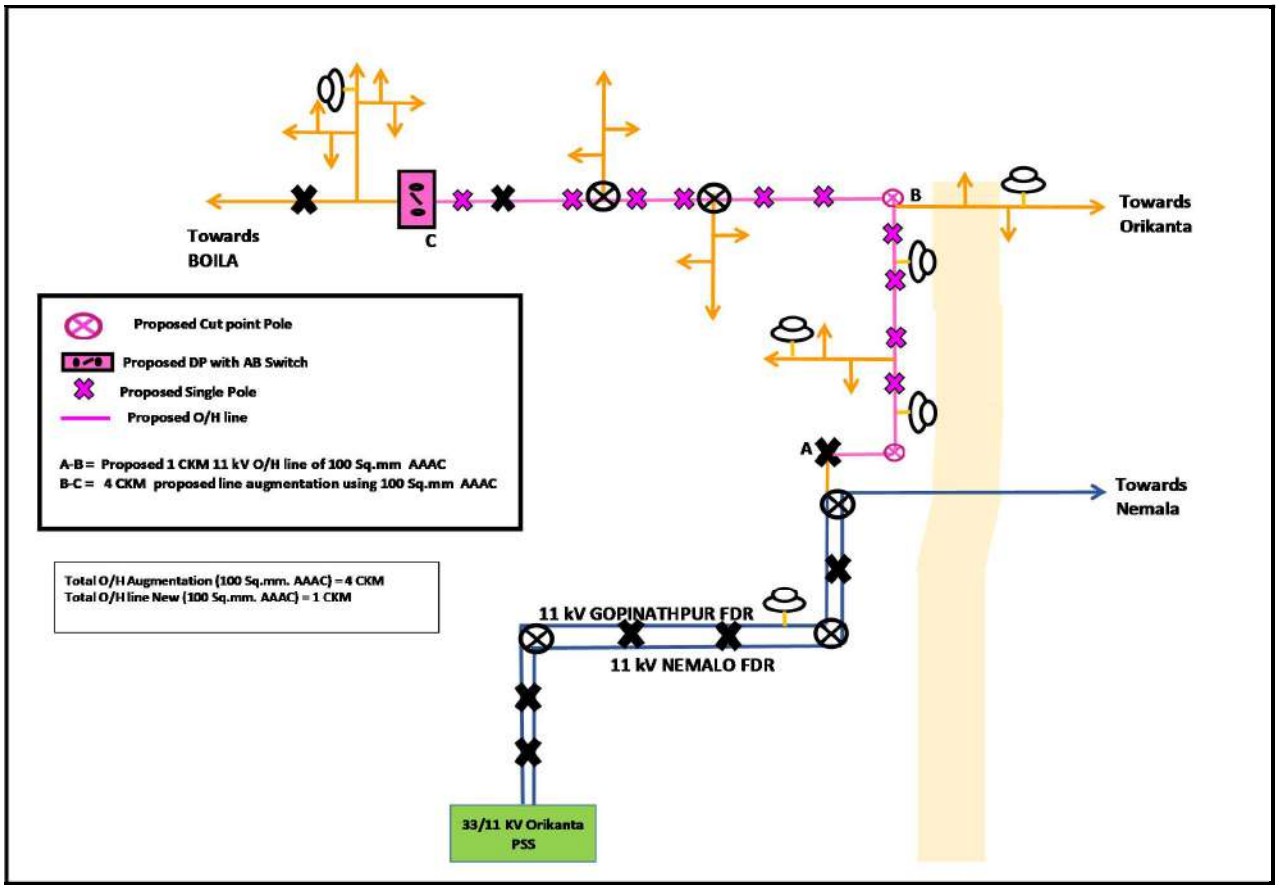
Proposed Scenario:

- Proposal for refurbishment of 4 CKM O/H line of 11 KV Orikanta Gopinathpur Fdr. using 100 Sq.mm AAA Conductor along with construction of 1 CKM 11 kV new line to improve reliability

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of new 11 kV line of 1 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD A-B)
- *Refurbishment of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD B-C)*

Proposed Cost with Estimate Break-up:

ANNEXURE-12.33		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	Salepur	
Name of the Section : -	ORIKANTA	
Name of the Work :-	Proposal for refurbishment of 4 CKM O/H line of 11 KV Orikanta Gopinathpur Fdr. using 100 Sq.mm AAA Conductor along with construction of 1 CKM 11 kV new line to improve reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of new 11 kV line of 1 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD A-B)	18,90,214.13
2	PART B: Refurbishment of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD B-C)	41,29,994.82
3	Part C: Dismantling	1,59,105.30
	Total Amount	**61,79,314.24**
	Total Amount (In Cr.)	**0.62**
Total estimated cost is Rs. 0.62 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.62 Crore (For detailed BoQ refer Annexure- 12.33)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Orikanta Gopinathpur feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

34.0 Proposal for Reliability improvement of 11kV Baranga Feeder:

Proposal:

Proposal for construction of 1.39 CKM 11 kV line along with augmentation of 1.55 CKM 11 kV O/H line for N-1 connectivity between 11 kV Baranga & Phulnakhra feeder and 11 kV Pratapnagari & Uttampur feeder for reliability improvement.

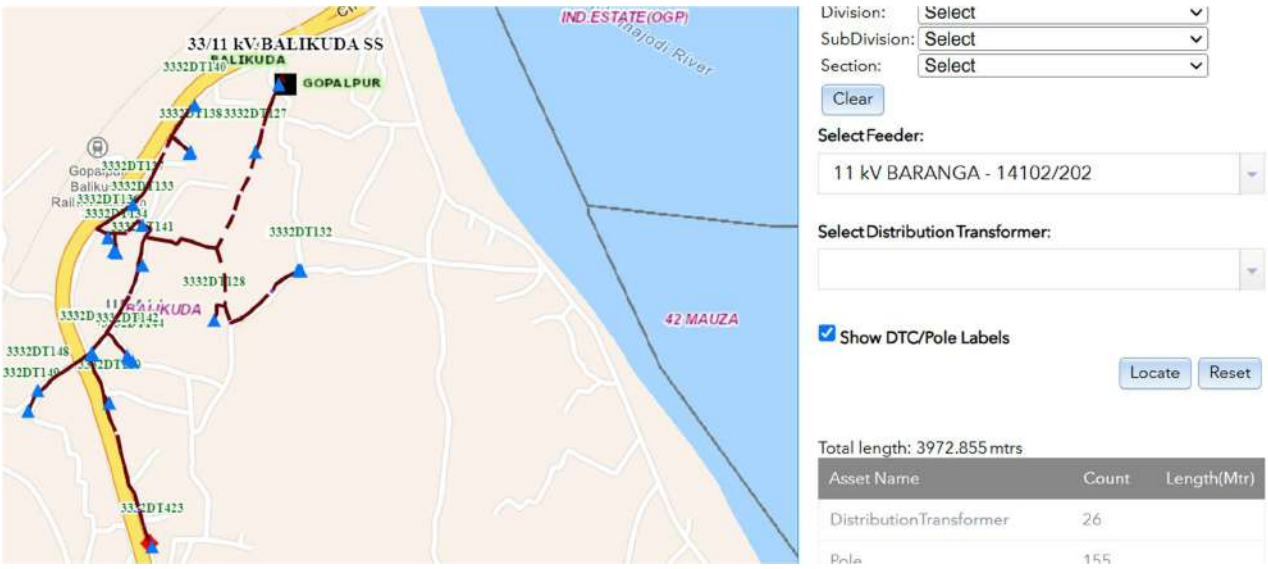
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Baranga Feeder.

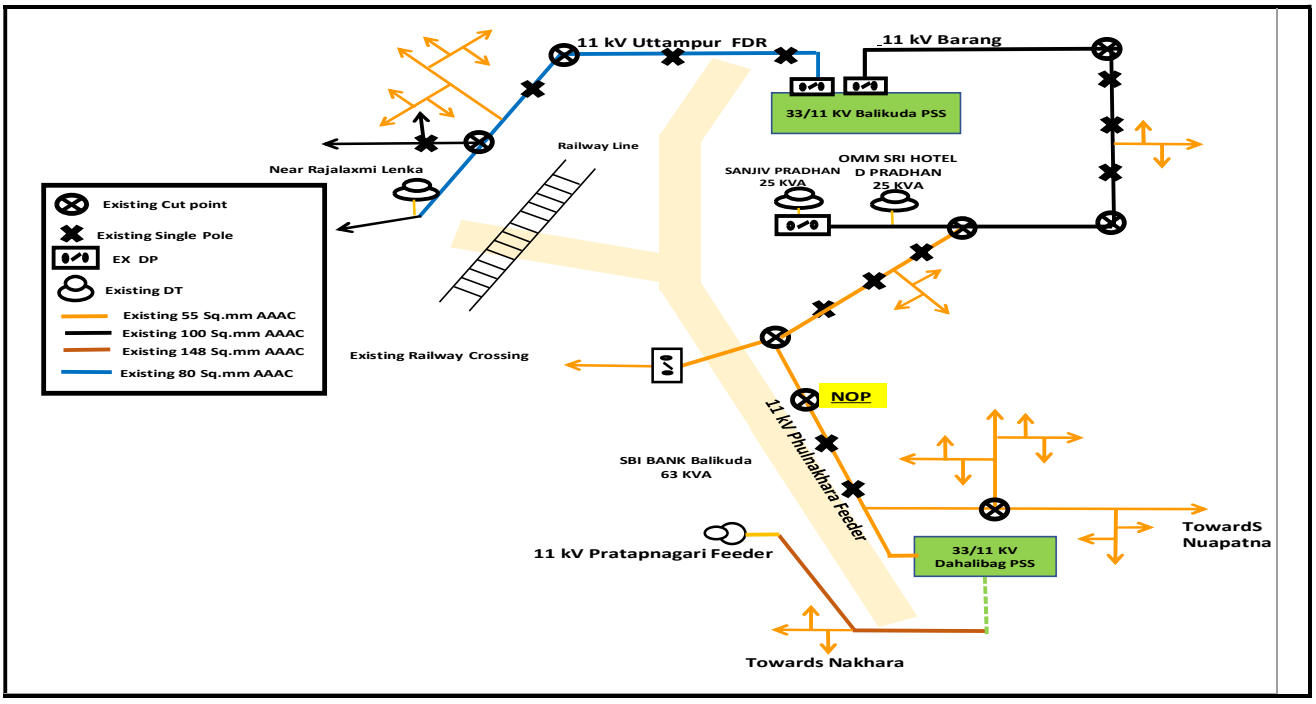
Existing Scenario:

- At present, 11kV Baranga feeder is emanating from 33/11kV Balikuda PSS. The total trunk length of 11kV Baranga Fdr is 3.97 km and peak load is 1.6 MVA.
- The trunk conductor size of feeder is 100 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Baranga feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Baranga feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 32 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the

public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

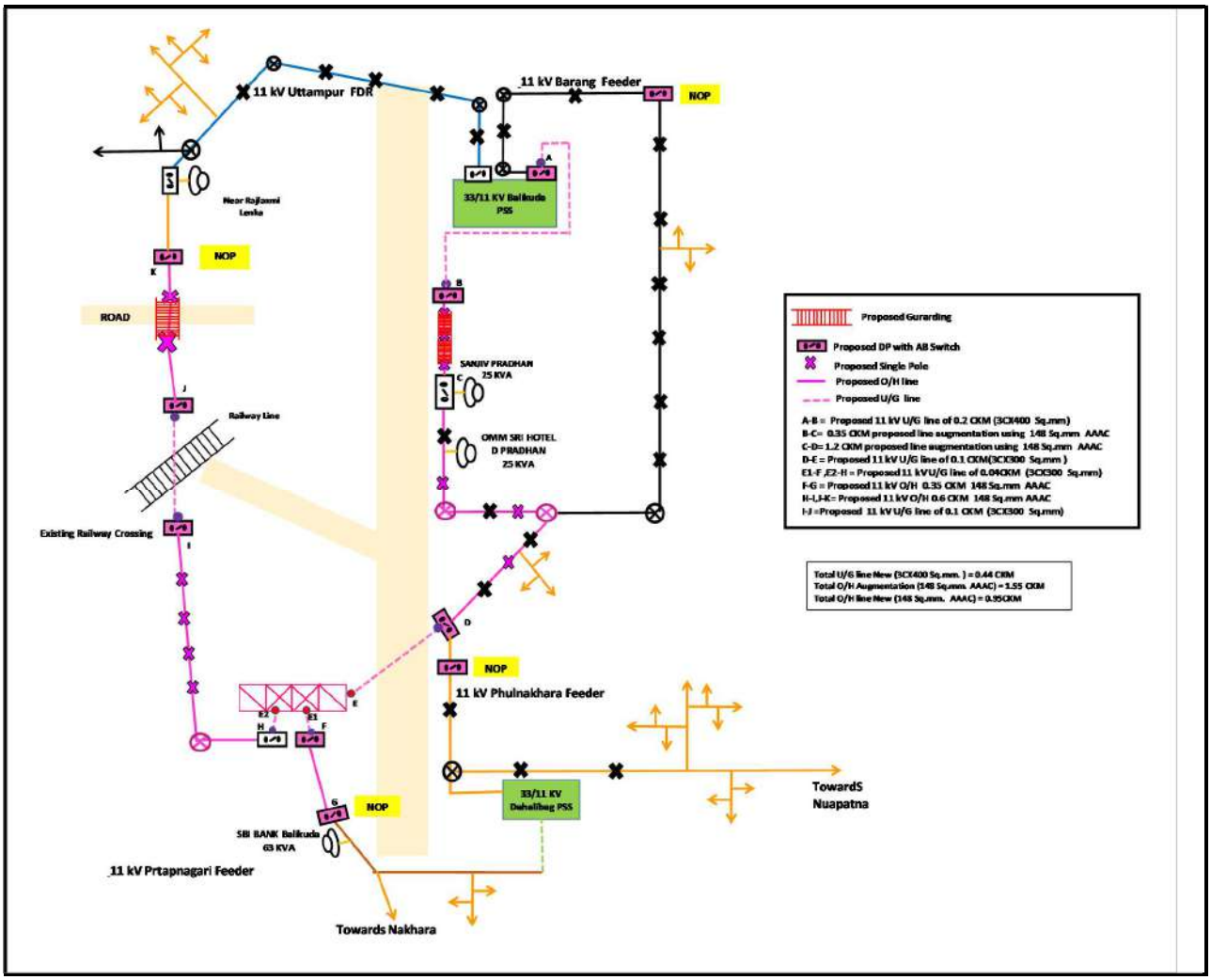
Proposed Scenario:

- Proposal for construction of 1.39 CKM 11 kV line along with augmentation of 1.55 CKM 11 kV O/H line for N-1 connectivity between 11 kV Baranga & Phulnakhra feeder and 11 kV Pratapnagari & Uttampur feeder for reliability improvement.
- Installation of 01 No. of 11 kV 4-way RMU (LLVV) for smooth switching & safe operation.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction New Line of 1.55 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 148 Sq.mm. AAAC (Refer PSLD B-C & C-D).
- Construction New Line of 0.95 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 148 Sq.mm. AAAC (Refer PSLD F-G,H-I,J-K)
- Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Balikuda PSS (Refer PSLD)
- Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 440 MTR Without Spare . (Refer Proposed SLD point A-B,E1-F, E2-H, D-E,I-J)
- Installation of 01 No. of 11 kV 4-way RMU (LLVV) (refer PSLD)
- *Installation of 3 Nos of 11 kV line protecting guarding on single pole for road crossing(Refer PSLD)*

Proposed Cost with Estimate Break-up:

ANNEXURE-12.34		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	GOPALPUR	
Name of the Section : -	BALIKUDA	
Name of the Work :-	Proposal for construction of 1.39 CKM 11 kV line along with augmentation of 1.55 CKM 11 kV O/H line for N-1 connectivity between 11 kV Baranga & Phulnakhra feeder and 11 kV Pratapnagari & Uttampur feeder for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction New Line of 1.55 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 148 Sq.mm. AAAC (Refer PSLD B-C & C-D)	25,73,894.74
2	PART B: Construction New Line of 0.95 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 148 Sq.mm. AAAC (Refer PSLD F-G,H-I,J-K)	25,77,821.98
3	PART C: Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Balikuda PSS (Refer PSLD)	3,15,854.45
4	Part D: 1. Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 440 MTR Without Spare . (Refer Proposed SLD point A-B,E1-F, E2-H, D-E,I-J) 2. Installation of 01 No. of 11 kV 4-way RMU (LLVV) (refer PSLD)	56,33,548.25
5	PART E: Installation of 3 Nos of 11 kV line protecting guarding on single pole for road crossing(Refer PSLD)	84,754.31
6	Part F: Dismantling	30,033.36
7	**Total Amount**	**1,12,15,907.09**
	Total Amount (In Cr.)	**1.12**
Total estimated cost is Rs. 1.12 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 1.12 Crore (For detailed BoQ refer Annexure- 12.34)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Baranga feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

35.0 Proposal for Reliability improvement of 11kV Choudwar Local Feeder:

Proposal:

Proposal for refurbishment of 0.5 CKM O/H line of 11 kV choudwar local Fdr. along with construction of 0.68 CKM U/G line for reliability improvement & safety issue mitigation.

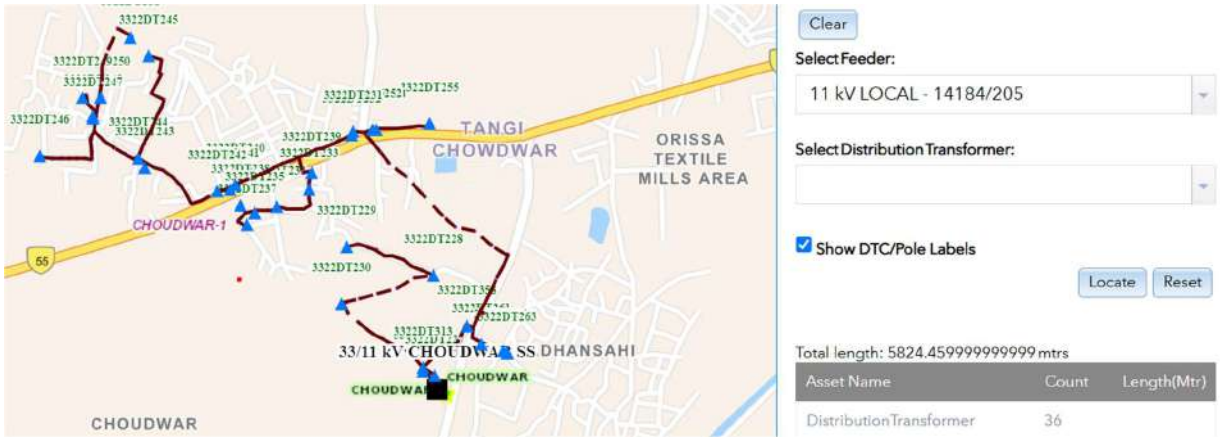
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV choudwar local Feeder.

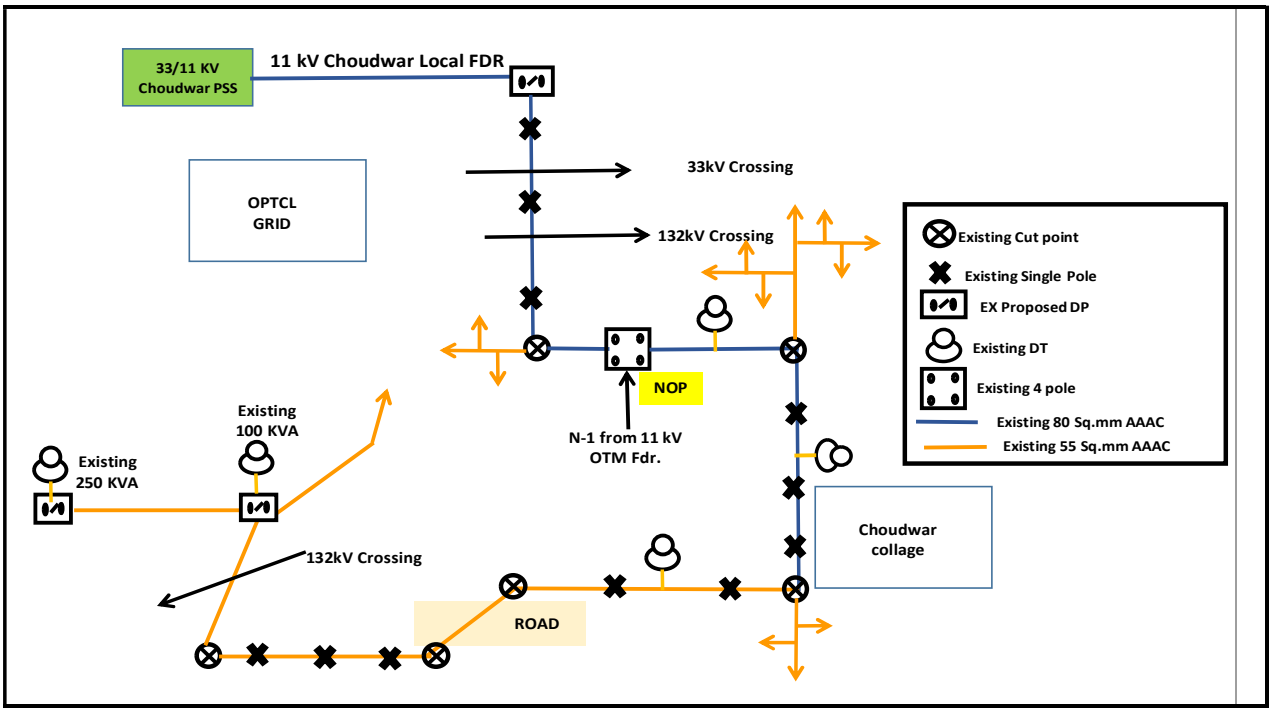
Existing Scenario:

- At present, choudwar local feeder is emanating from 33/11kV choudwar PSS. The total trunk length of 11kV choudwar local Fdr is 5.82 km and peak load is 3 MVA.
- The trunk conductor size of feeder is 80 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV choudwar local feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV choudwar local feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 96 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures,

consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

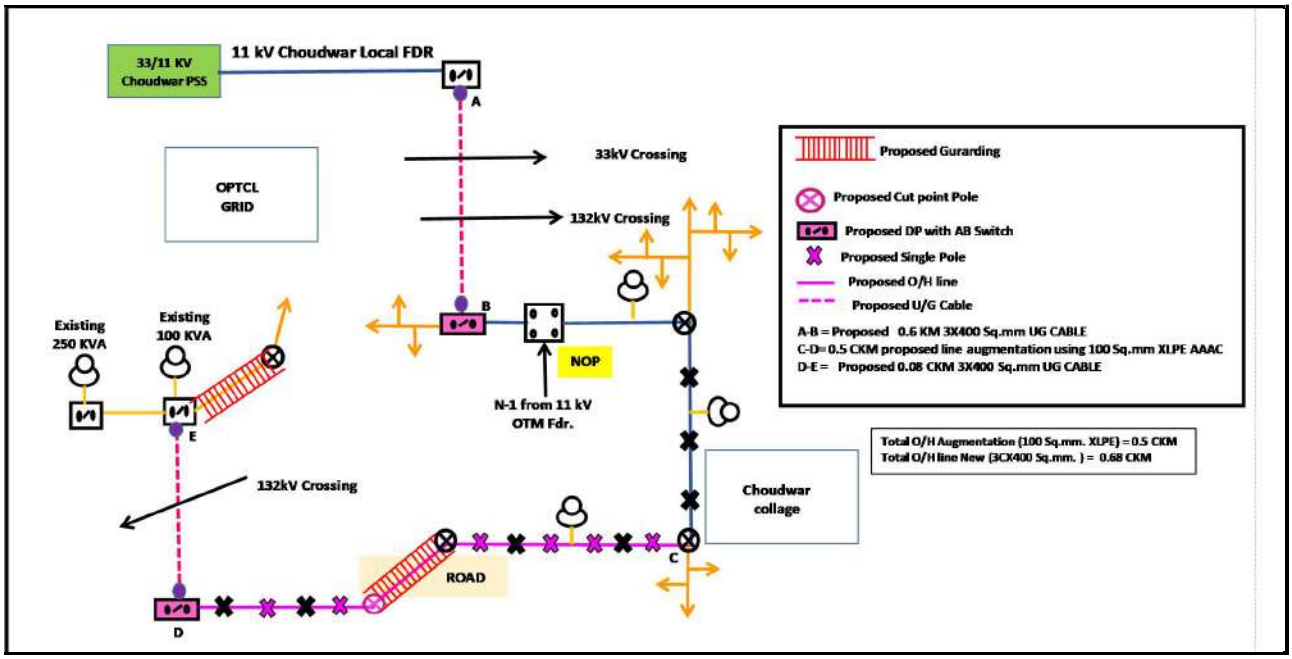
Proposed Scenario:

- Proposal for refurbishment of 0.5 CKM O/H line of 11 kV choudwar local Fdr. along with construction of 0.68 CKM U/G line for reliability improvement & safety issue mitigation.).

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction New Line of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)
- Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 680 MTR Without Spare . (Refer Proposed SLD point A-B,D-E)
- *Installation 02 Nos of 11 kV line protecting guarding on single pole for road crossing having span 20 Mtr. each (Refer PSLD)*
- ***Proposed Cost with Estimate Break-up:***

ANNEXURE-12.35		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	CHOUDWAR	
Name of the Section : -	CHOUDWAR-1	
Name of the Work :-	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV choudwar local Fdr. along with construction of 0.68 CKM U/G line for reliability improvement & safety issue mitigation.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction New Line of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)	11,85,328.14
2	Part B: Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 680 MTR Without Spare . (Refer Proposed SLD point A-B,D-E)	54,58,618.12
3	PART C: Installation 02 Nos of 11 kV line protecting guarding on single pole for road crossing having span 20 Mtr. each (Refer PSLD)	56,502.88
4	Part D: Dismantling	38,614.32
5	**Total Amount**	**67,39,063.46**
	Total Amount (In Cr.)	**0.67**
Total estimated cost is Rs. 0.67 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.67 Crore (For detailed BoQ refer Annexure- 12.35)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV choudwar local feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

36.0 Proposal for Reliability improvement of 11kV Bilahata Feeder:

Proposal:

Proposal for augmentation of of 5 CKM O/H line of 11 kV Bilahata Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole (interposing).

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Bilahata Feeder.

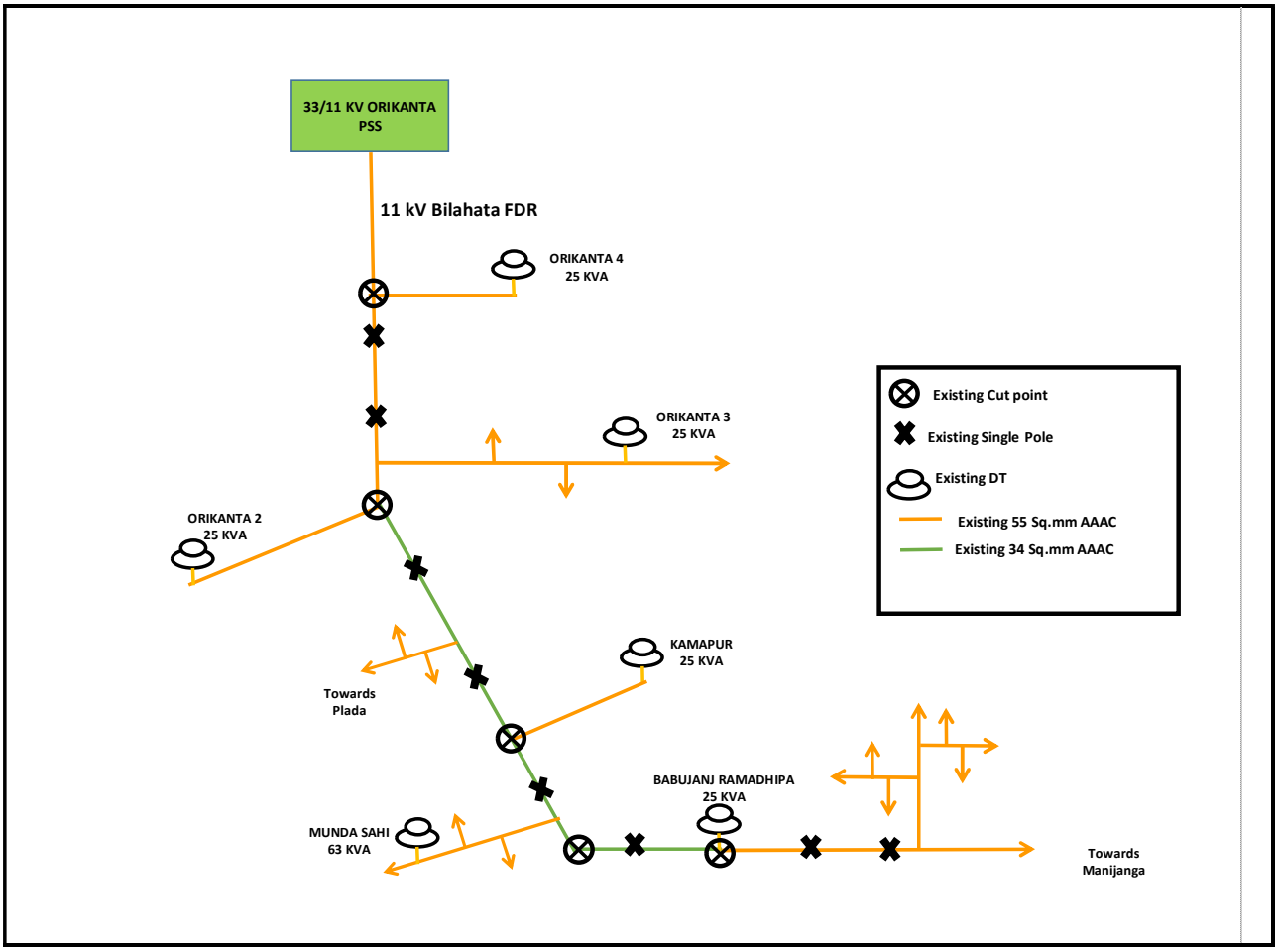
Existing Scenario:

- At present, Bilahata feeder is emanating from 33/11kV Orikanata PSS. The total trunk length of 11kV Bilahata Fdr is 48.26 km and peak load is 3.6 MVA.
- The trunk conductor size of feeder is 55 sq.mm AAAC and it supplies to several rural and sub urban consumers.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Bilahata feeder
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Bilahata feeder caters to a critical Government of Odisha organization and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown

for restoration and maintenance activities. The no. of trippings during the last year was 84 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

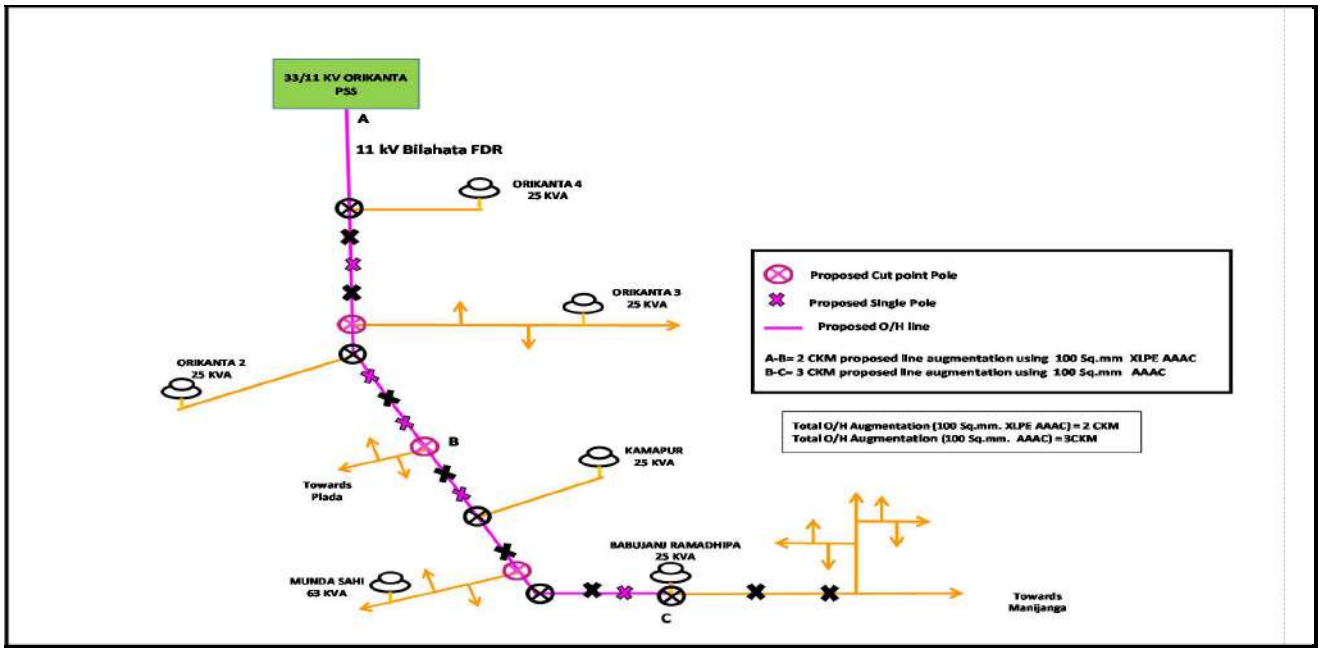
Proposed Scenario:

- Proposal for augmentation of of 5 CKM O/H line of 11 kV Bilahata Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole (interposing).

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC
- Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor
- *Installation of 04 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)*

Proposed Cost with Estimate Break-up:

ANNEXURE-12.36		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	ORIKANTA	
Name of the Work :-	Proposal for augmentation of of 5 CKM O/H line of 11 kV Bilahata Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole (interposing).	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**

1	PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)	26,85,656.09
2	PART B: Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD)	39,14,580.12
3	PART C: Installation of 04 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	1,13,005.75
4	Part D: Dismantling	1,25,139.00
5	**Total Amount**	**68,38,380.96**
	Total Amount (In Cr.)	**0.68**
Total estimated cost is Rs. 0.68 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.68 Crore (For detailed BoQ refer Annexure- 12.36)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Bilahata feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

37.0 Proposal for Length Reduction of 11kV Kamaladhia old Feeder:

Proposal:

Proposal for length reduction of 11KV Kamaladhia old feeder for reliability improvement.

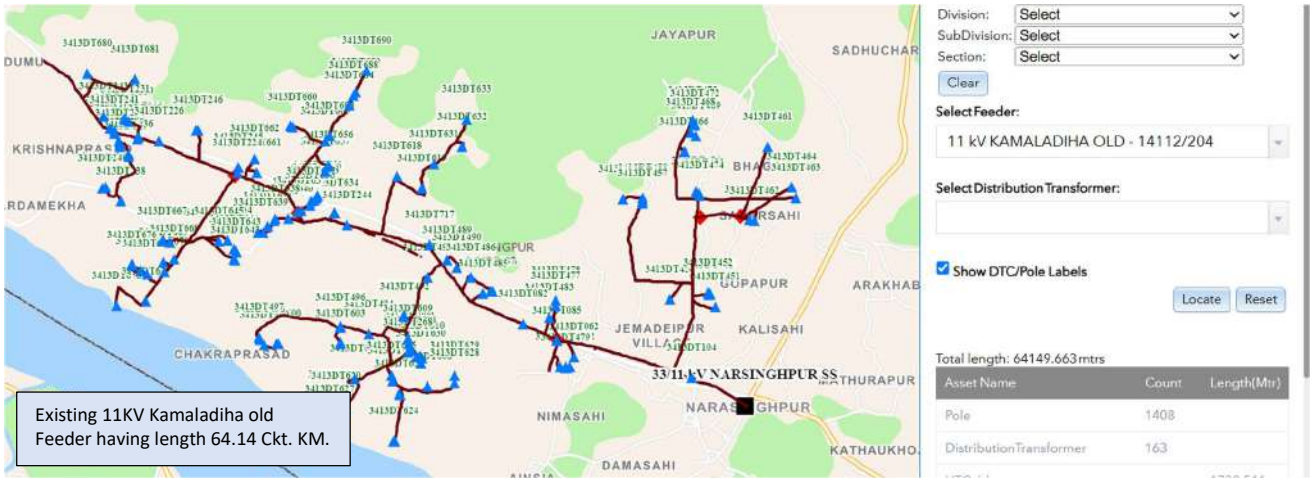
Requirement/ Need of the proposal:

Objective: Length reduction and reliability improvement of 11kV Kamaladhia old Feeder.

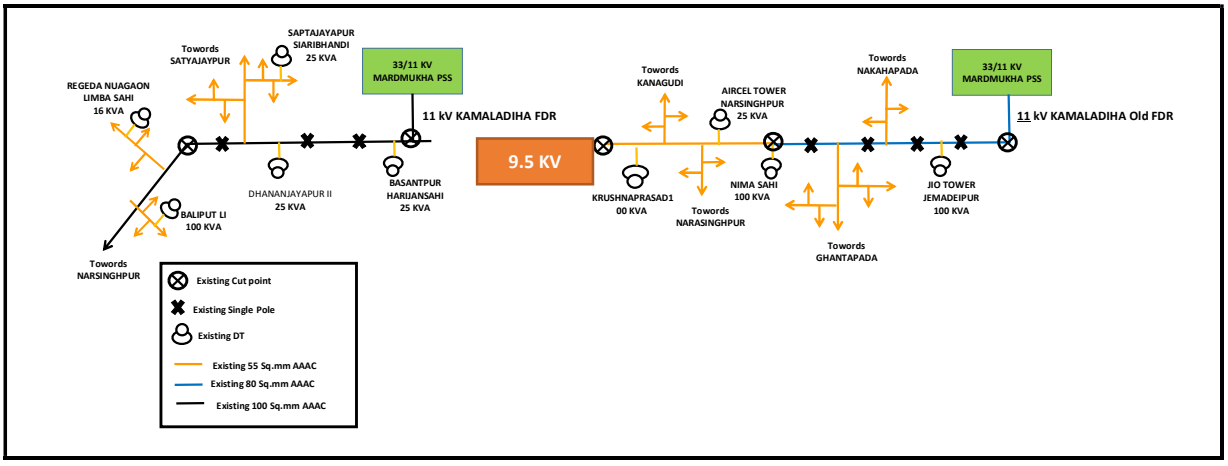
Existing Scenario:

- At present, 11kV Kamaladhia old feeder is emanating from 33/11kV Narasinghpur PSS having a feeder length of 64.14 Ckt. KM and tail end voltage is 9.5 KV.
- Entire 11kV Kamaladiha old Fdr is of 80/55 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

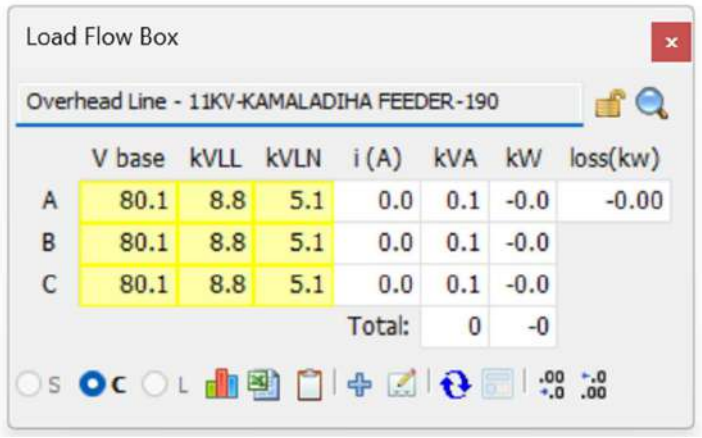
GIS SLD:



Existing SLD:



Tail end Voltage in existing scenario through load flow analysis after two years load growth:



Priority and Timeline of the Project:

Priority: The existing 11kV Kamaladiha old feeder has a length of 64.14 Ckm in the AS-IS scenario, resulting in a tail-end voltage of 9.5 kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 8.8 kV by Summer-2028. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

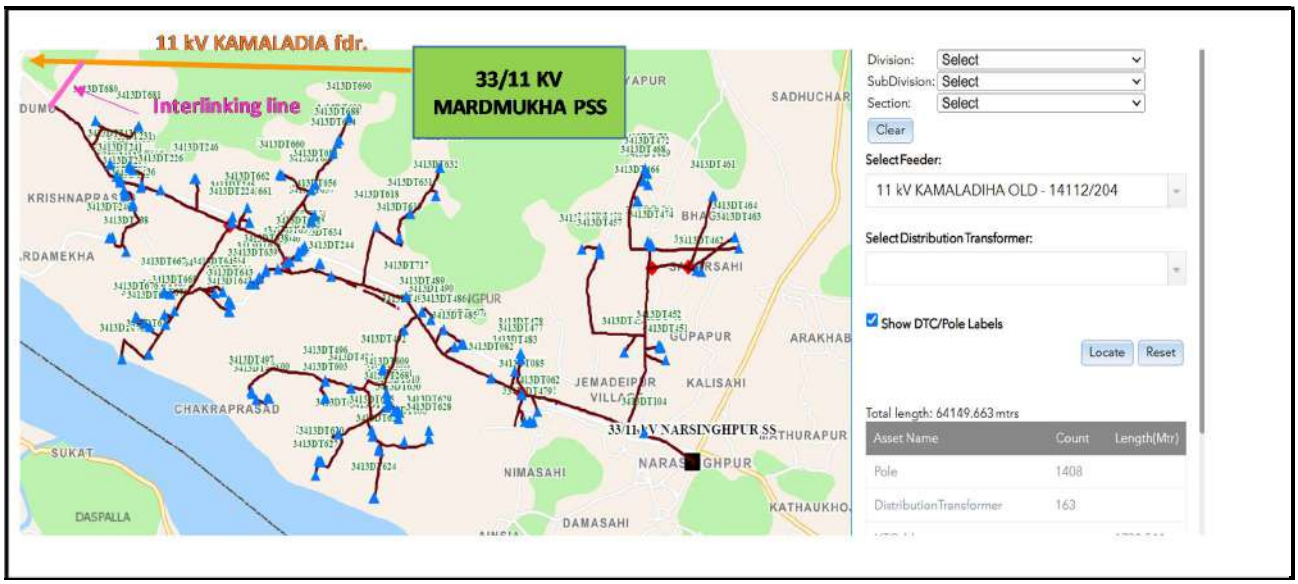
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 9.5 kV. The voltage regulation of the feeder is not within permissible limits.

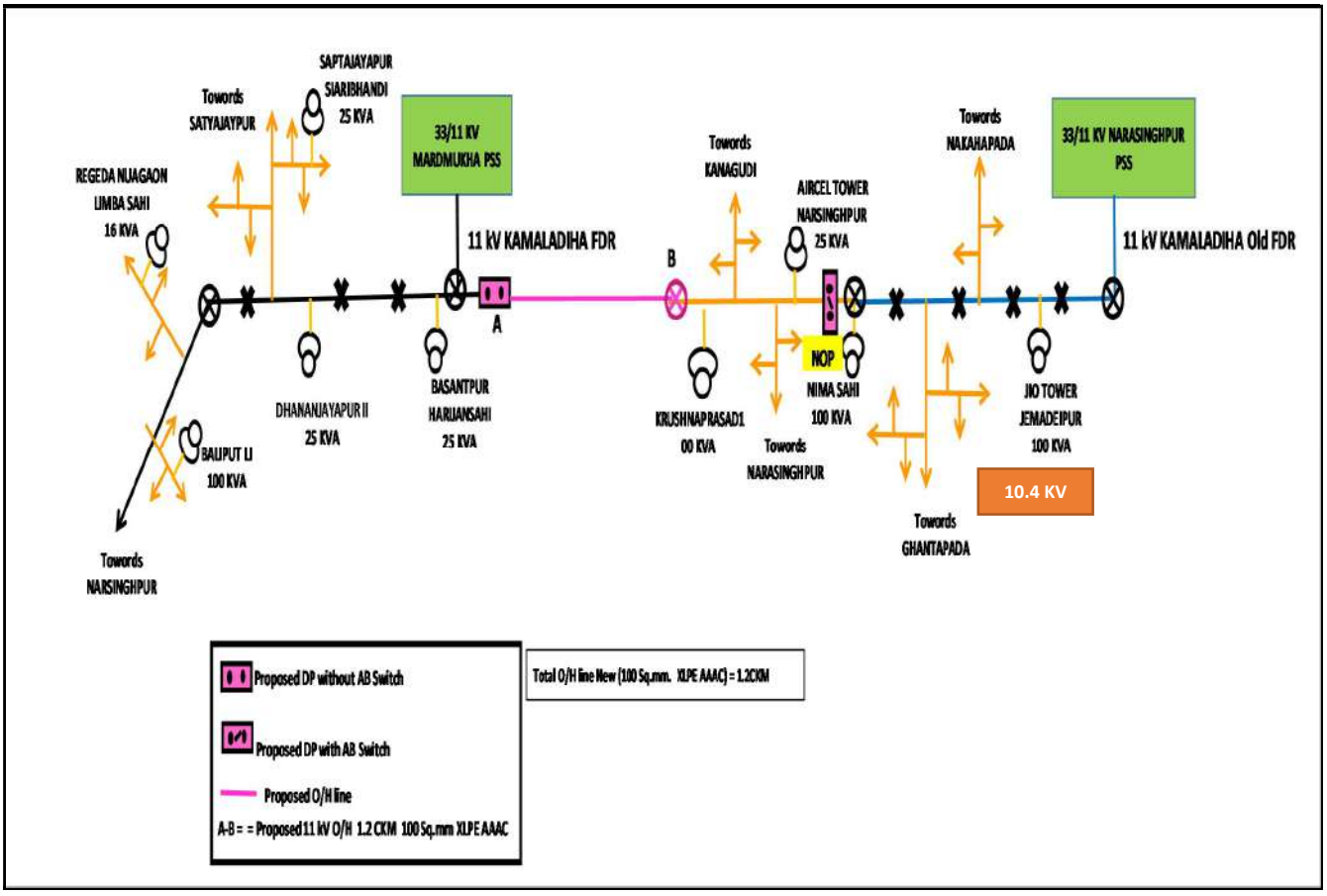
Proposed Scenario:

- Construction of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole and100 Sq.mm. XLPE AAAC
- Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each

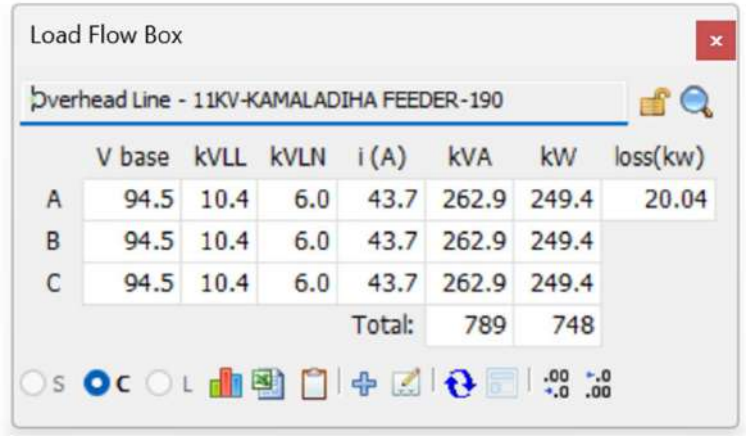
Proposed GIS SLD:



Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:



Length of Sections

	A	B	C	Total
3-phase	48358.68	48358.68	48358.68	48358.68
2-phase	0.0	0.0	0.0	0.0
1-phase	0.0	0.0	0.0	0.0
Total	48358.68	48358.68	48358.68	48358.68

11KV Kamaladiha Old feeder's length has been reduced from 64.14 CKM to 48.35 CKM.

Scope of Work:

- Construction of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole and100 Sq.mm. XLPE AAAC.
- Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.37	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	AED
Name of the Sub-Division : -	Narsinghpur
Name of the Section : -	Narsinghpur
Name of the Work :-	Proposal for Linking line of 1.2 CKM O/H line from Kamaladiha New Fdr. To Old Kamaladiha Fdr.
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole and100 Sq.mm. XLPE AAAC (Refer PSLD)	27,41,164.71
2	PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	56,502.88
	Total Amount	**27,97,667.58**
	Total Amount (In Cr.)	**0.28**
Total estimated cost is Rs. 0.28 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.28 Cr. (For detailed BoQ refer Annexure-12.37)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Compliance with the guidelines of voltage regulation in the distribution network.
c) Reduction of electrocution risk and public safety hazards.
d) Safe operation and isolation of the feeder.
e) Protection of electrical assets against lightening and surge related failure.
f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Kamaladiha old length reduced from 64.14 CKM to 48.35 CKM
- 11KV Kamaladiha old tail end voltage improved from 9.5 KV to 10.4 KV.
- Ring connectivity is established between 11KV Kamaladiha old and 11 kV Kamaladiha feeder which will be helpful for power supply restorations during breakdown and maintenance works.

38.0 Proposal for Reliability Improvement as well as Length Reduction of 11kV Naukhayari Feeder:

Proposal:

Proposal for reliability improvement as well as length reduction of 11KV Naukhayari feeder.

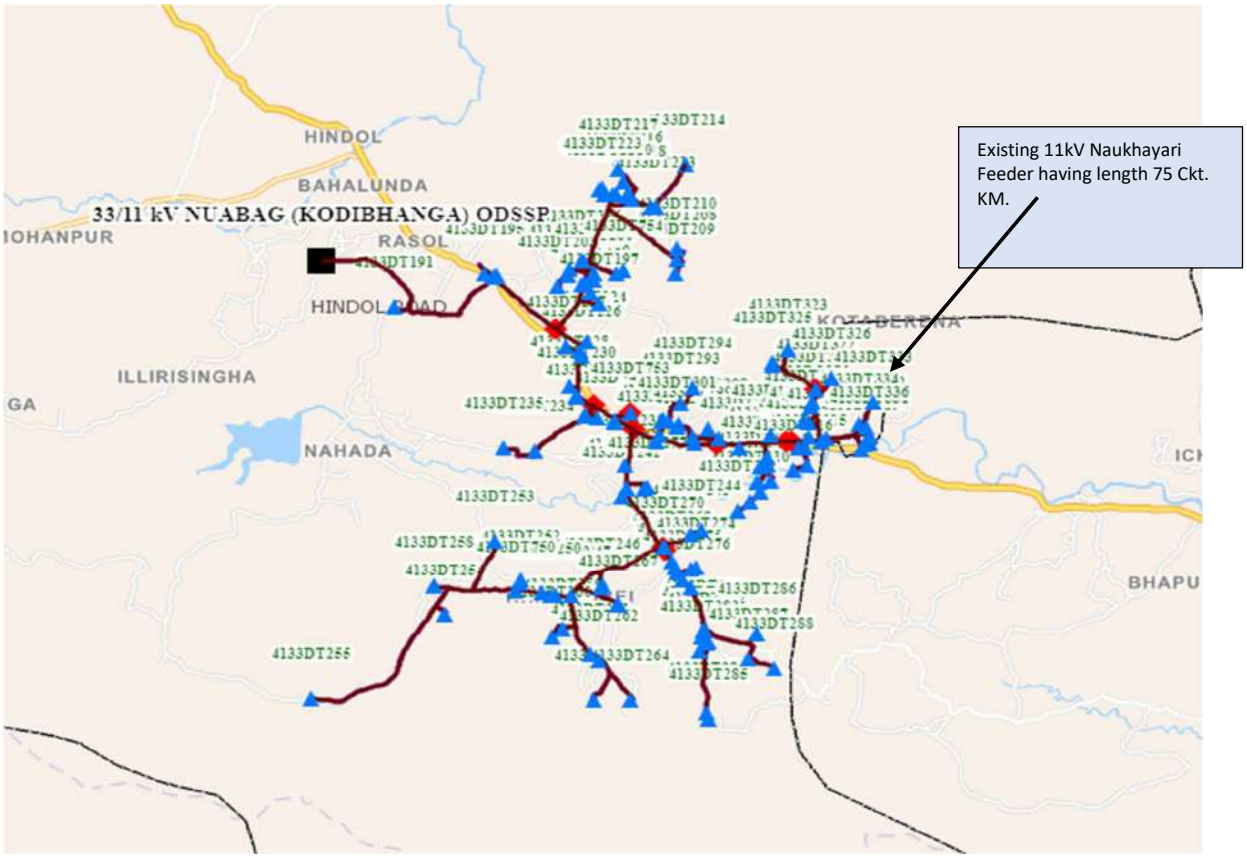
Requirement/ Need of the proposal:

Objective: Reliability improvement and Length reduction of 11kV Naukhayari Feeder.

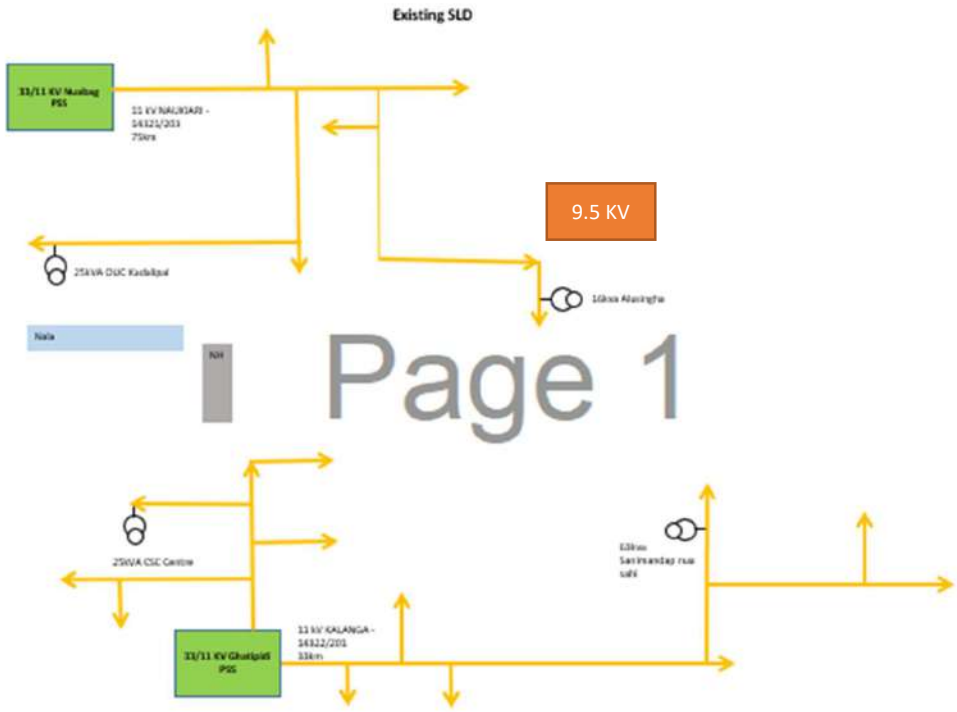
Existing Scenario:

- At present, 11kV Naukhayari Feeder is emanating from 33/11kV Nuabag PSS having a feeder length of 75 Ckt. KM and tail end voltage is 9.1 KV.
- Entire 11kV Naukhayari Feeder is of 55/34 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

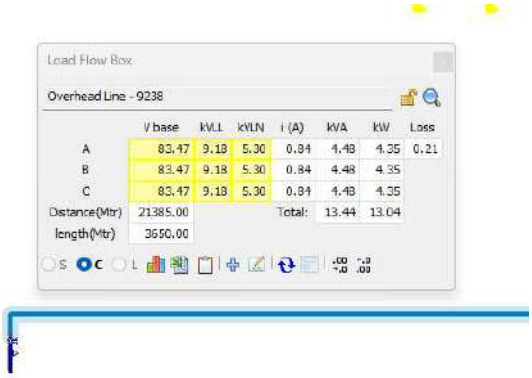
GIS SLD:

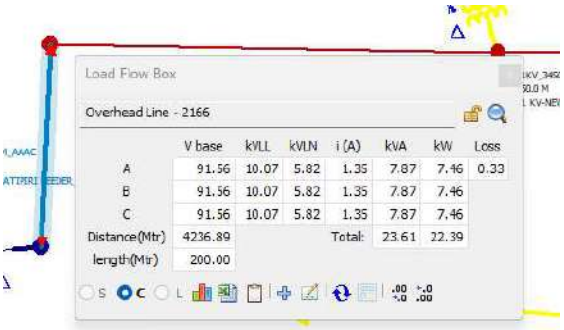


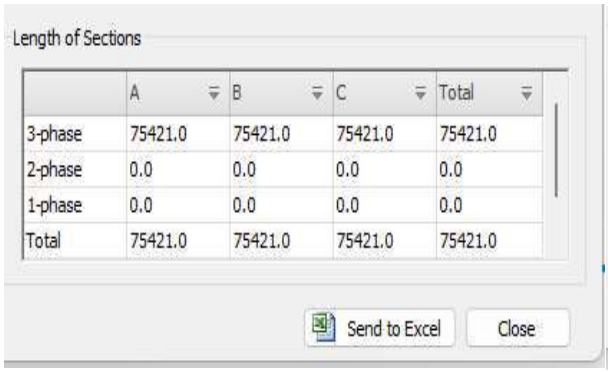
Existing SLD:

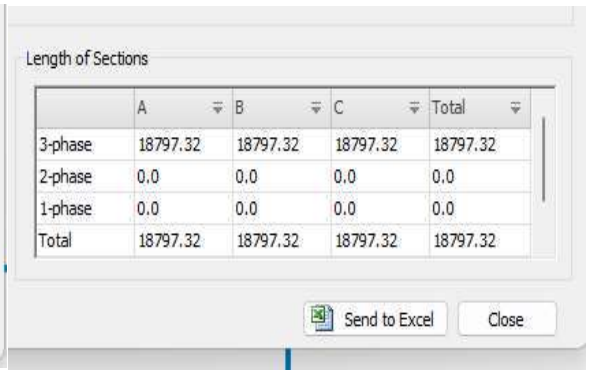


Tail end Voltage in existing scenario through load flow analysis:









Priority:

The existing 11kV Naukhiyari feeder has a length of 75Ckm in the AS-IS scenario, resulting in a tail-end voltage of 9.1 kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 9.9 kV by Summer-2028. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

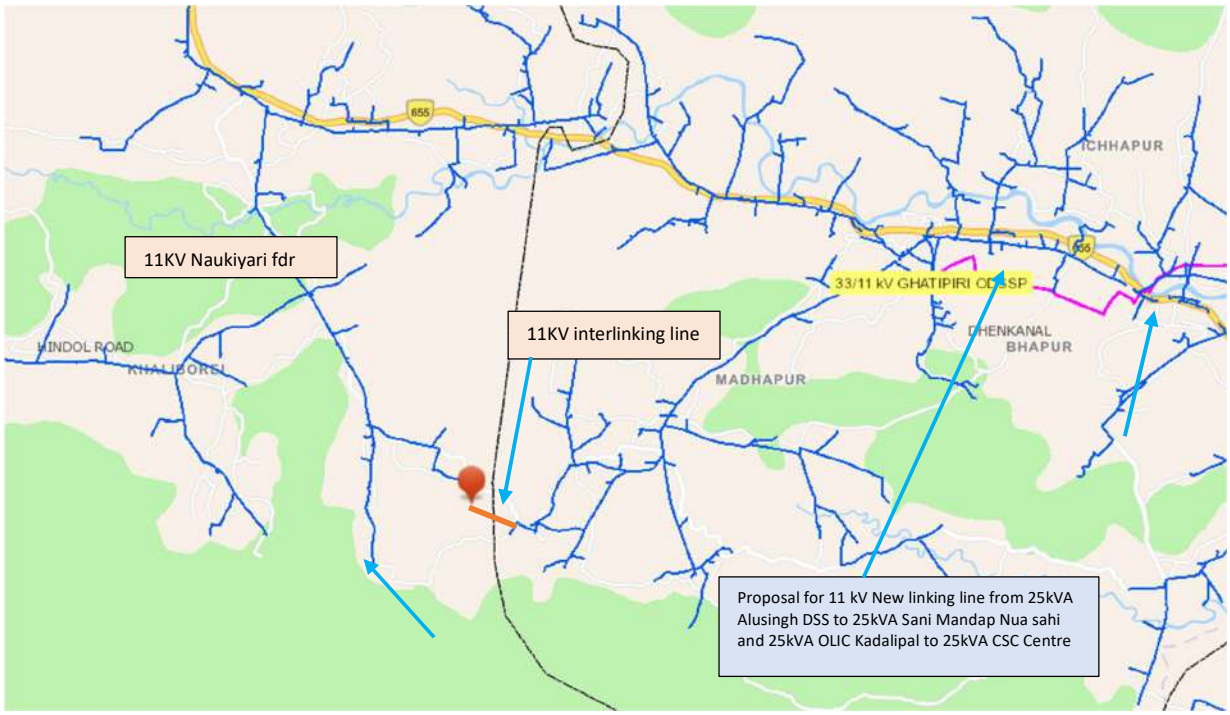
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 9.1. The voltage regulation of the feeder is not within permissible limits.

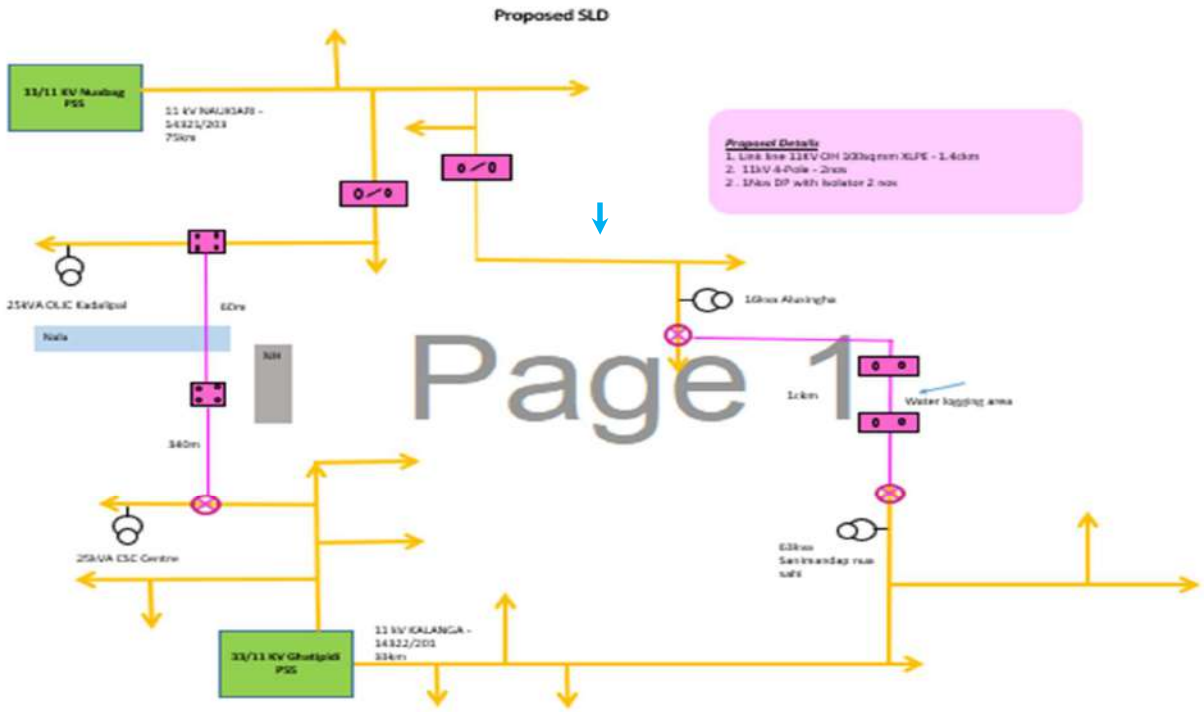
Proposed Scenario:

- It is proposed to inter link existing 11kV Naukhyari feeder with near by 11kV Kalanga feeder emanating from Ghatipidi PSS
- 1.4 CKM 11 kV line interconnection is proposed using 11 Mtr. WPB pole & 100 Sq.mm. XLPE Conductor
- DP along with Isolator 2 nos is proposed for better operation flexibility
- 2nos of 4-Pole is proposed for canal crossing

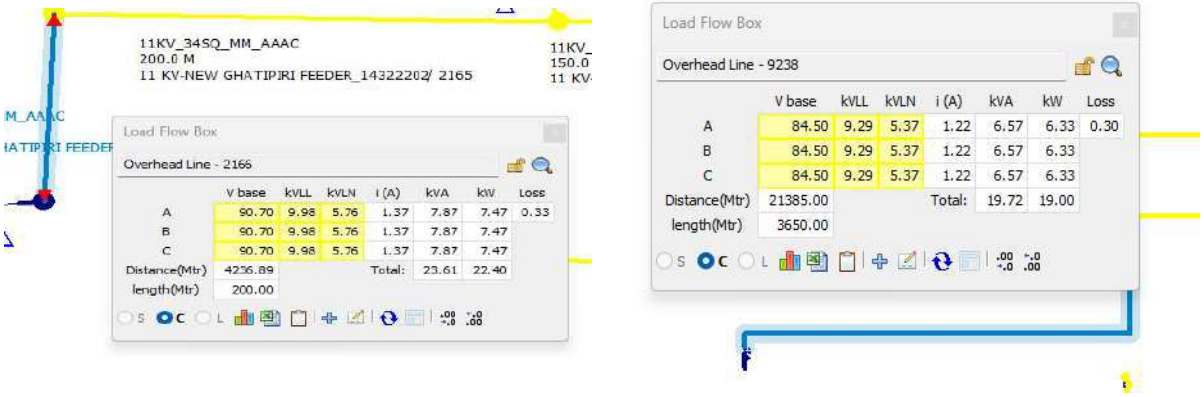
GIS SLD:

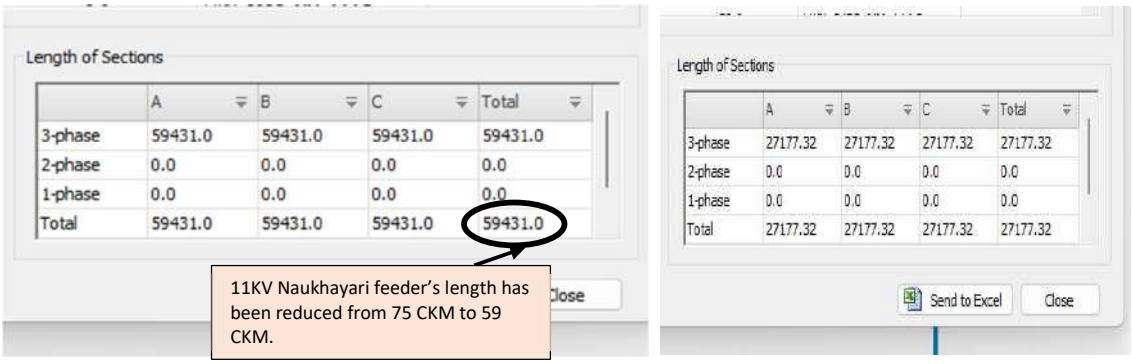


Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:





After execution of proposal 11kV Naukhyari feeder Voltage will Improve from 9.1 kV to 9.9kV and feeder length reduced from 75ckm to 59ckm

Scope of Work:

- It is proposed to link the 11kV Naukiari feeder by linking of 11kV Kalanga Feeder.
- Construction of 1.4 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC.

Proposed Cost with Estimate Break-up:

Annexure-12.38			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**DED**		
Name of the Work :-	***Length Reduction of 11kV Naukiari feeder by linking of 11kV Kalanga Feeder*** Construction of New Linking from 11kV Naukiari feeder to 11kV Kalanga Feeder. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1. Link line 11KV OH 100sqmm XLPE - 1.4ckm 2. 11kV 4-Pole - 2nos 2 . 1Nos DP with Isolator 2 nos		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.4ckm	₹ 35,30,335.13
2	B	Part-B Installation of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with One no. AB Switch and LA Set	₹ 8,08,936.90
		Total Amount	**₹ 43,39,272.03**
		Total Amount (In Cr)	**₹ 0.43**

Cost Estimate: ₹ 0.43 Cr. (For detailed BoQ refer Annexure-12.38)

III. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

IV. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

f) Compliance with electrical safety regulation for distribution system.

g) Compliance with the guidelines of voltage regulation in the distribution network.

h) Reduction of electrocution risk and public safety hazards.

i) Safe operation and isolation of the feeder.

j) Protection of electrical assets against lightening and surge related failure.

k) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Naukhyari feeder length reduced from 75 CKM to 59 CKM
- 11KV Naukhyari feeder's tail end voltage improved from 9.1 KV to 9.9 KV.
- Ring connectivity is established between 11KV Naukhyari feeder with 11KV Kalanga Feeder feeder which will be helpful for power supply restorations during breakdown and maintenance works.

39.0 Proposal for Reliability Improvement as well as Length Reduction of 11kV Handapa Feeder:

Proposal:

Proposal for reliability improvement as well as length reduction of 11KV Hanadapa feeder.

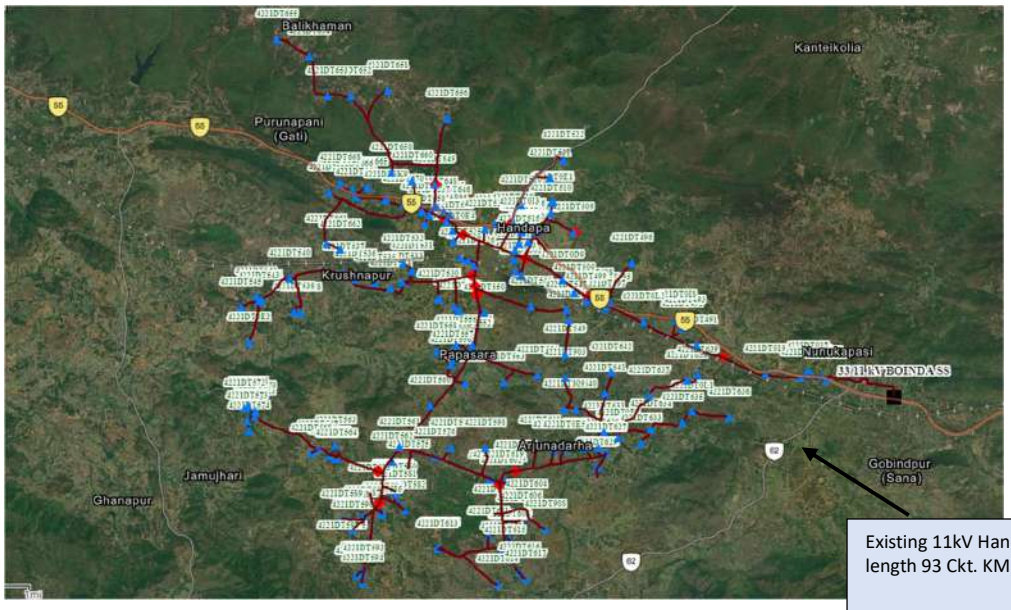
Requirement/ Need of the proposal:

Objective: Reliability improvement and Length reduction of 11kV Handapa Feeder.

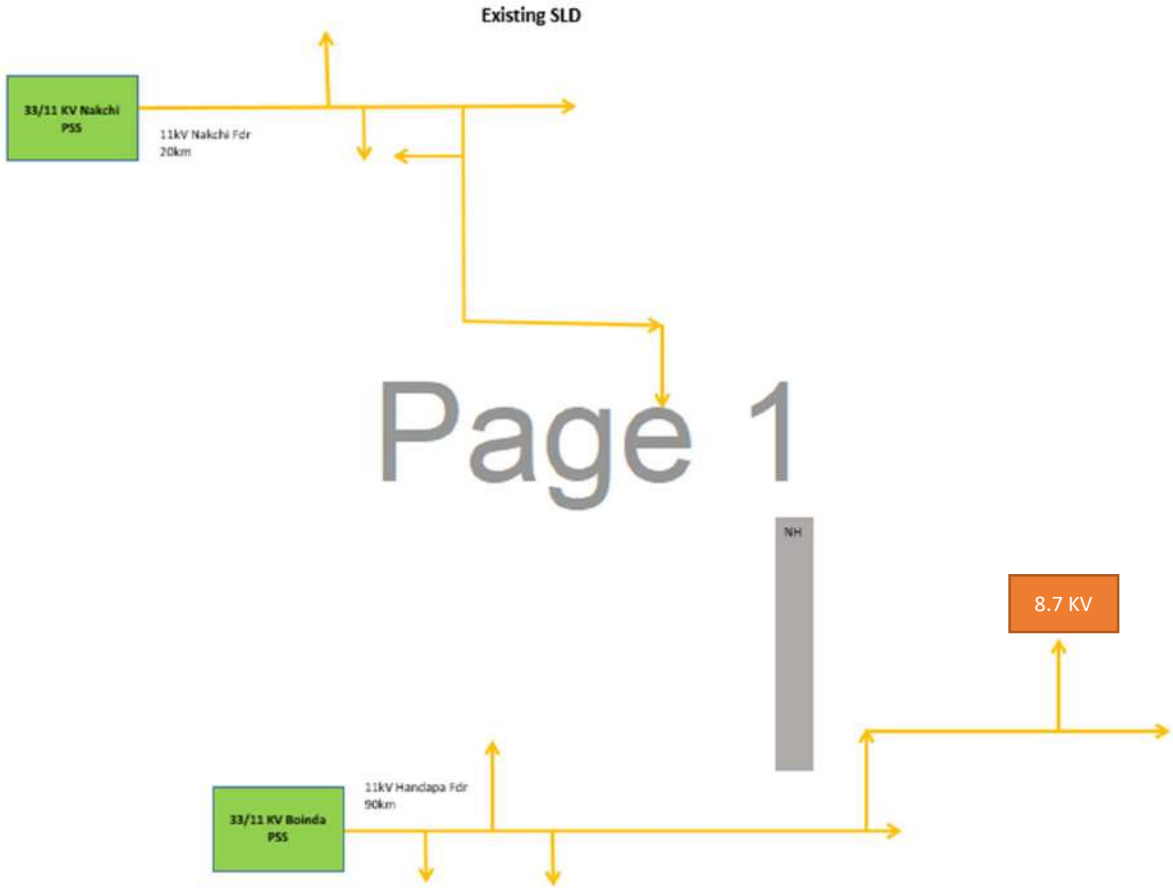
Existing Scenario:

- At present, 11kV Handpa Feeder is emanating from 33/11kV Boinda PSS having a feeder length of 93 Ckt. KM and tail end voltage is 8.7 KV.
- Entire 11kV Handpa Feeder is of 55/34 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

GIS SLD:

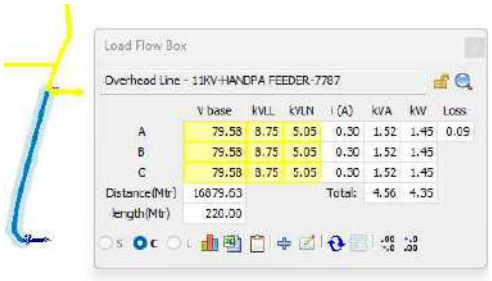


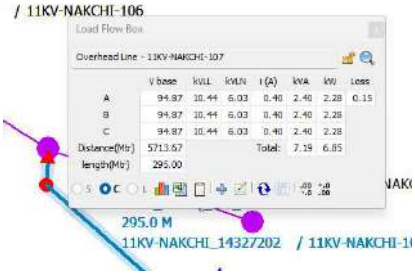
Existing SLD:

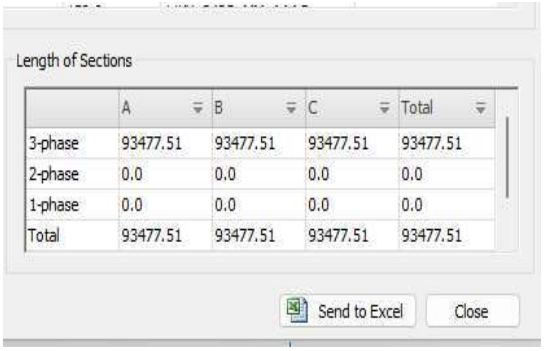


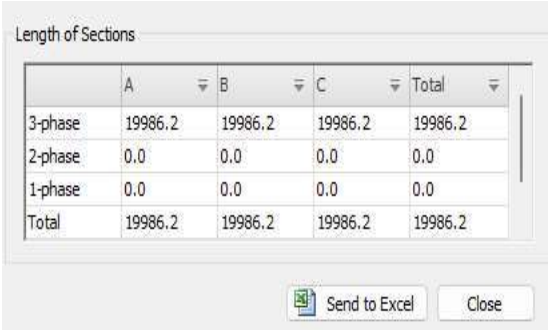
Page 1

Tail end Voltage in existing scenario through load flow analysis:









Priority:

The existing 11kV Handapa feeder has a length of 90Ckm in the AS-IS scenario, resulting in a tail-end voltage of 8.7 kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 8.9 kV by Summer-2028. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

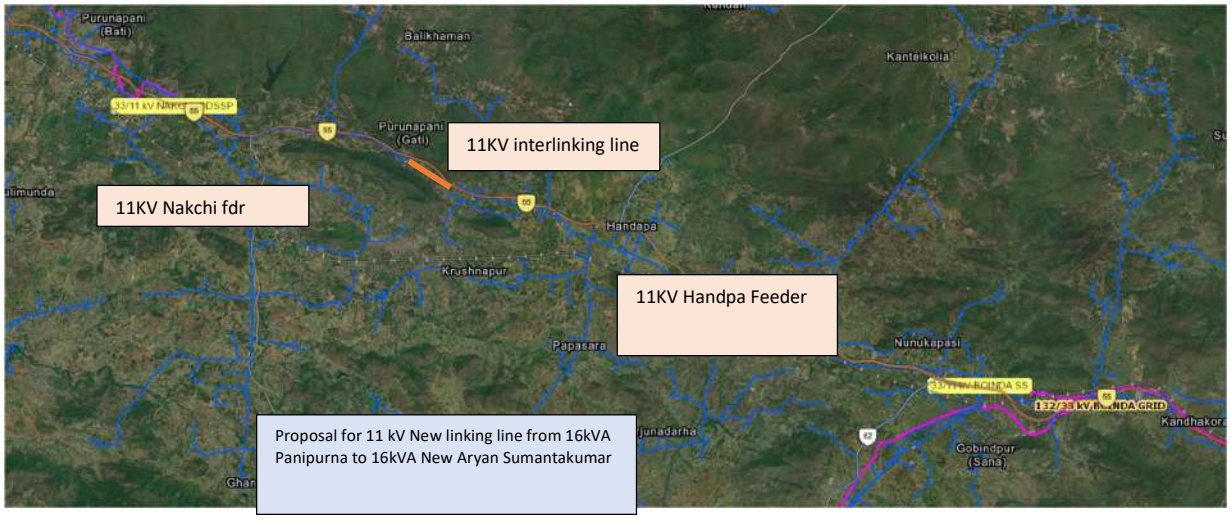
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 8.7kV. The voltage regulation of the feeder is not within permissible limits.

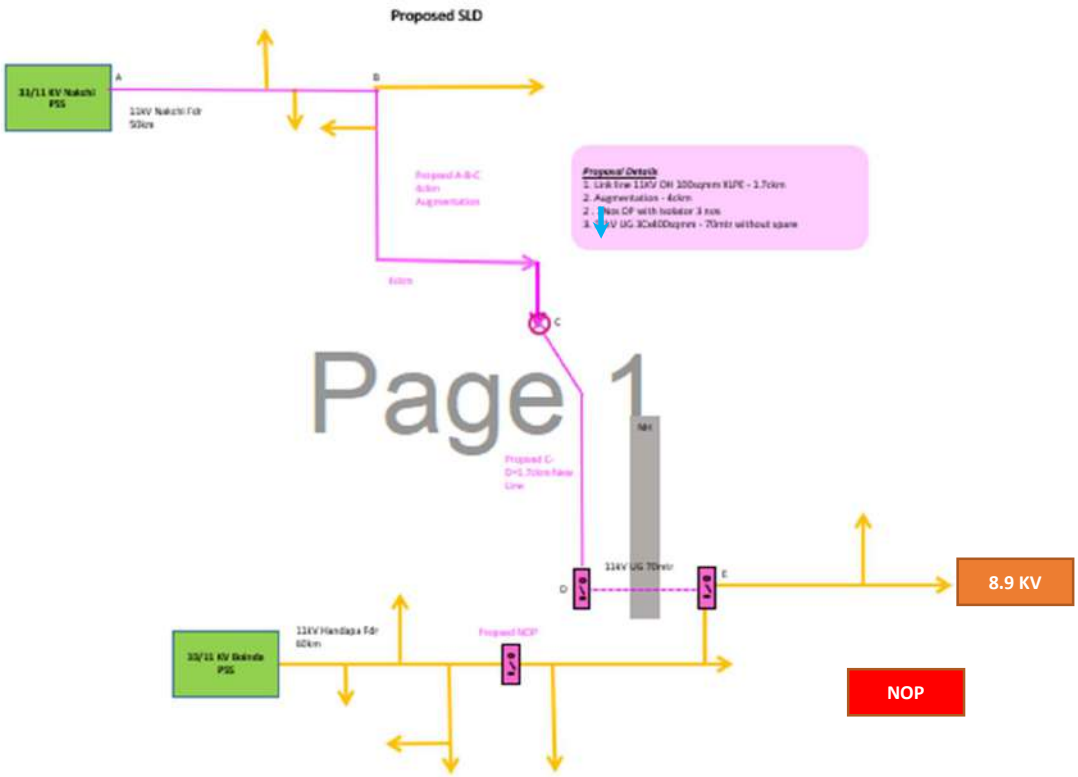
Proposed Scenario:

- It is proposed to inter link existing 11kV Handapa feeder with near by 11kV Nakchi feeder emanating from Nakchi PSS
- 1.7 CKM 11 kV line interconnection is proposed using 11 Mtr. WPB pole & 100 Sq.mm. XLPE Conductor
- DP along with Isolator 4 nos is proposed for better operation flexibility
- It proposed augmentation from Nakchi PSS to New Aryan Sumantakumar from 34sqmm AAAC to 100sqmm XLPE covered conductor

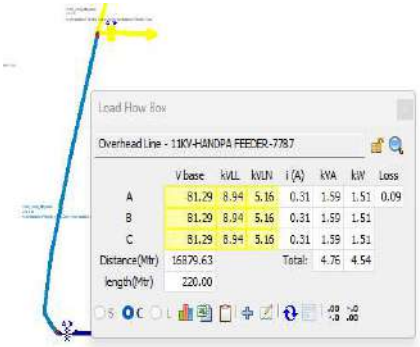
GIS SLD:



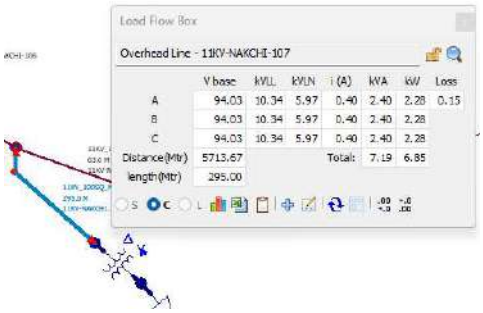
Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:



	V base	kVLL	kVLN	I (A)	kVA	kW	Loss
A	81.29	8.94	5.16	0.31	1.59	1.51	0.09
B	81.29	8.94	5.16	0.31	1.59	1.51	
C	81.29	8.94	5.16	0.31	1.59	1.51	
Distance(Mtr)	16879.63			Total:	4.76	4.54	
length(Mtr)	220.00						



	V base	kVLL	kVLN	I (A)	kVA	kW	Loss
A	94.03	10.34	5.97	0.40	2.40	2.28	0.15
B	94.03	10.34	5.97	0.40	2.40	2.28	
C	94.03	10.34	5.97	0.40	2.40	2.28	
Distance(Mtr)	5713.67			Total:	7.19	6.85	
length(Mtr)	295.00						

Length of Sections

	A	B	C	Total
3-phase	77307.82	77307.82	77307.82	77307.82
2-phase	0.0	0.0	0.0	0.0
1-phase	0.0	0.0	0.0	0.0
Total	77307.82	77307.82	77307.82	77307.82

11kV Handapa fdr Length reduced from 93ckm to 77ckm

Length of Sections

	A	B	C	Total
3-phase	37925.89	37925.89	37925.89	37925.89
2-phase	0.0	0.0	0.0	0.0
1-phase	0.0	0.0	0.0	0.0
Total	37925.89	37925.89	37925.89	37925.89

Send to Excel Close

After execution of proposal 11kV Handapa feeder Voltage will Improve from 8.7 kV to 8.94kV and feeder length reduced from 93ckm to 77ckm and voltage of 11kv Nakchi feeder will be 10.34

Scope of Work:

- It is proposed to link the 11kV Handpa feeder by linking of 11kV Nakchi Feeder.
- Construction of 1.7 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC. And 4ckm Augmentation of 11kV Nakchi Feeder

Proposed Cost with Estimate Break-up:

Annexure-12.39			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**ANED**		
Name of the Work :-	***Length Reduction of 11kV Handapa feeder by linking of 11kV Nakchi Feeder*** Construction of New Linking from 11kV Handapa feeder to 11kV Nakchi Feeder. To improve power supply & mitigating Reliability, Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1. Link line 11KV OH 100sqmm XLPE - 1.7ckm 2. Augmentation - 4ckm 2 . 1Nos DP with Isolator 3 nos 3. 11kV UG 3Cx400sqmm - 70mtr without spare		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.7ckm	₹ 42,39,442.29
2	B	Part-B Augmentation of 11kV Nakchi Feeder from 34sqmm AAAC to 100sqmm XLPE covered conductor-4ckm	₹ 57,56,630.97
3	C	Part-C Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.07km	₹ 5,20,220.79
		Total Amount	**₹ 1,05,16,294.05**
		Total Amount (In Cr)	**₹ 1.05**

Cost Estimate: ₹ 1.05 Cr. (For detailed BoQ refer Annexure-12.39)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Compliance with the guidelines of voltage regulation in the distribution network.

c) Reduction of electrocution risk and public safety hazards.

d) Safe operation and isolation of the feeder.

e) Protection of electrical assets against lightening and surge related failure.

f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Handapa feeder length reduced from 93 CKM to 77 CKM
- 11KV Handpa feeder's tail end voltage improved from 8.7 KV to 8.9 KV.
- Ring connectivity is established between 11KV Handpa feeder with 11KV Nakchi Feeder which will be helpful for power supply restorations during breakdown and maintenance works.

40.0 Proposal for Reliability Improvement as well as Length Reduction of 11kV Raniakata Feeder:

Proposal:

Proposal for reliability improvement as well as length reduction of 11KV Raniakata feeder.

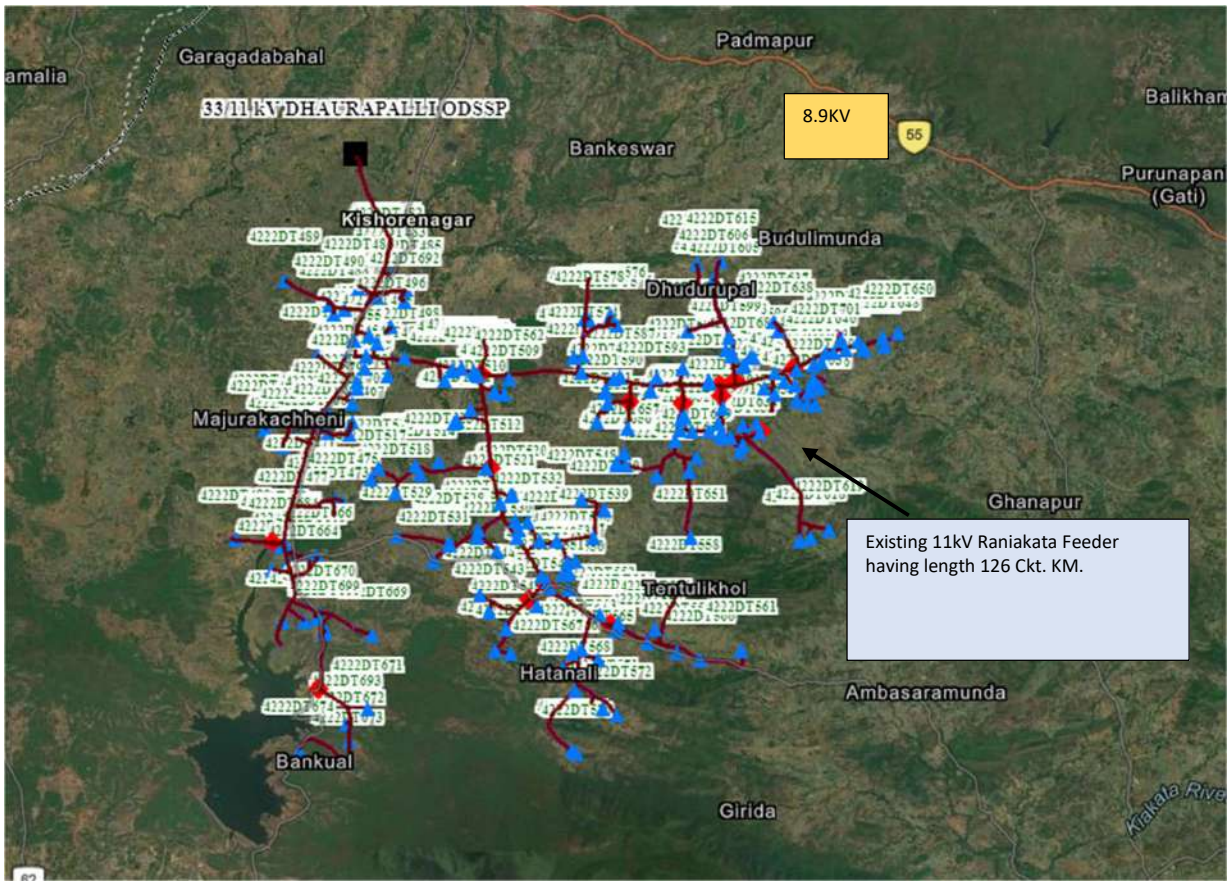
Requirement/ Need of the proposal:

Objective: Reliability improvement and Length reduction of 11kV Raniakata Feeder.

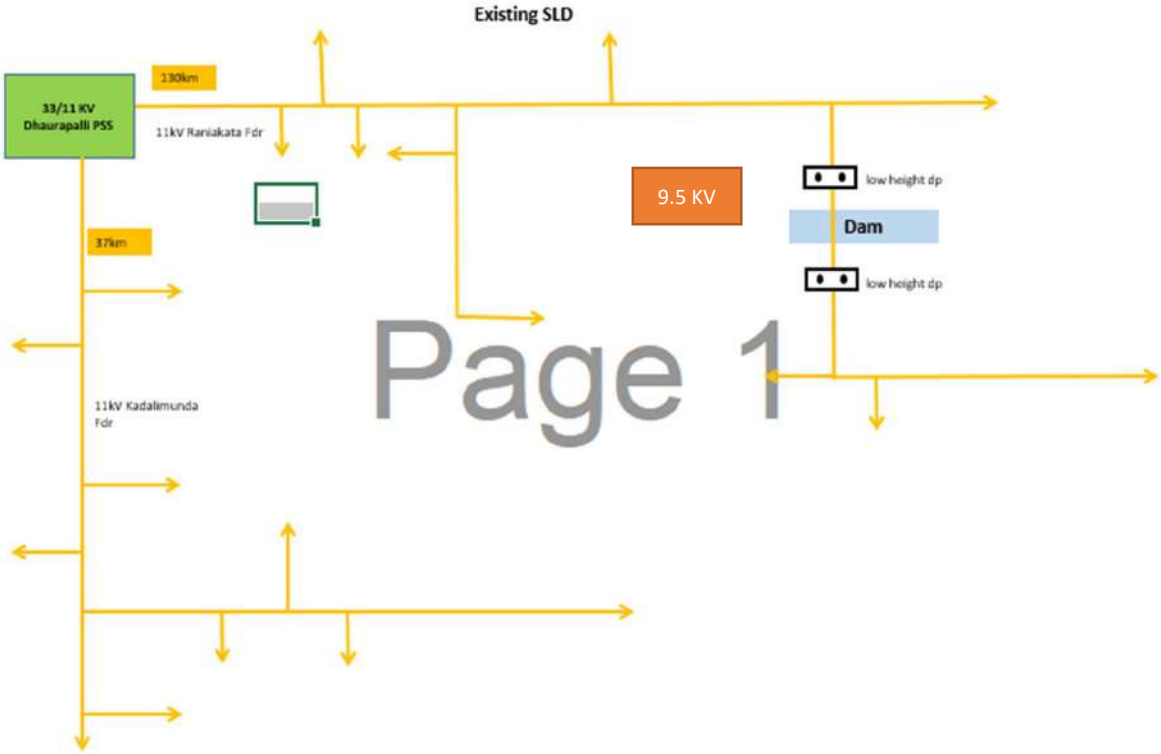
Existing Scenario:

- At present, 11kV Raniakata Feeder is emanating from 33/11kV Dhaurapalli PSS having a feeder length of 126 Ckt. KM and tail end voltage is 8.9 KV.
- Entire 11kV Raniakata Feeder is of 55/34 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

GIS SLD:

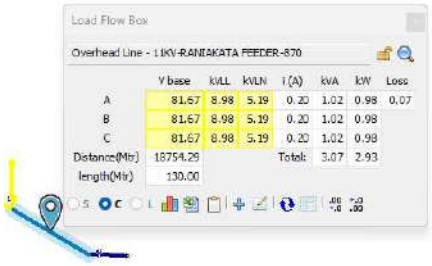


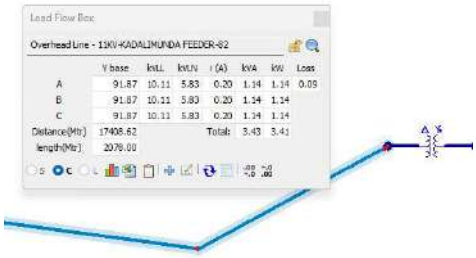
Existing SLD:

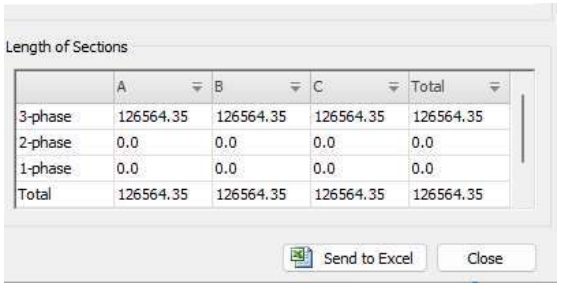


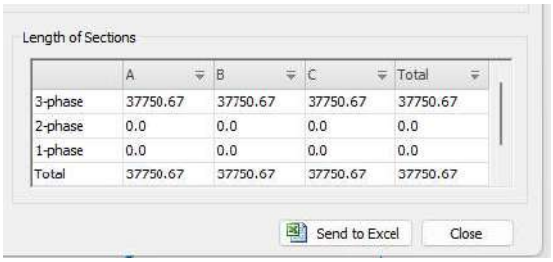
Page 1

Tail end Voltage in existing scenario through load flow analysis:









Priority:

The existing 11kV Raniakata feeder has a length of 126Ckm in the AS-IS scenario, resulting in a tail-end voltage of 8.9 kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 9.1 kV by Summer-2028. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

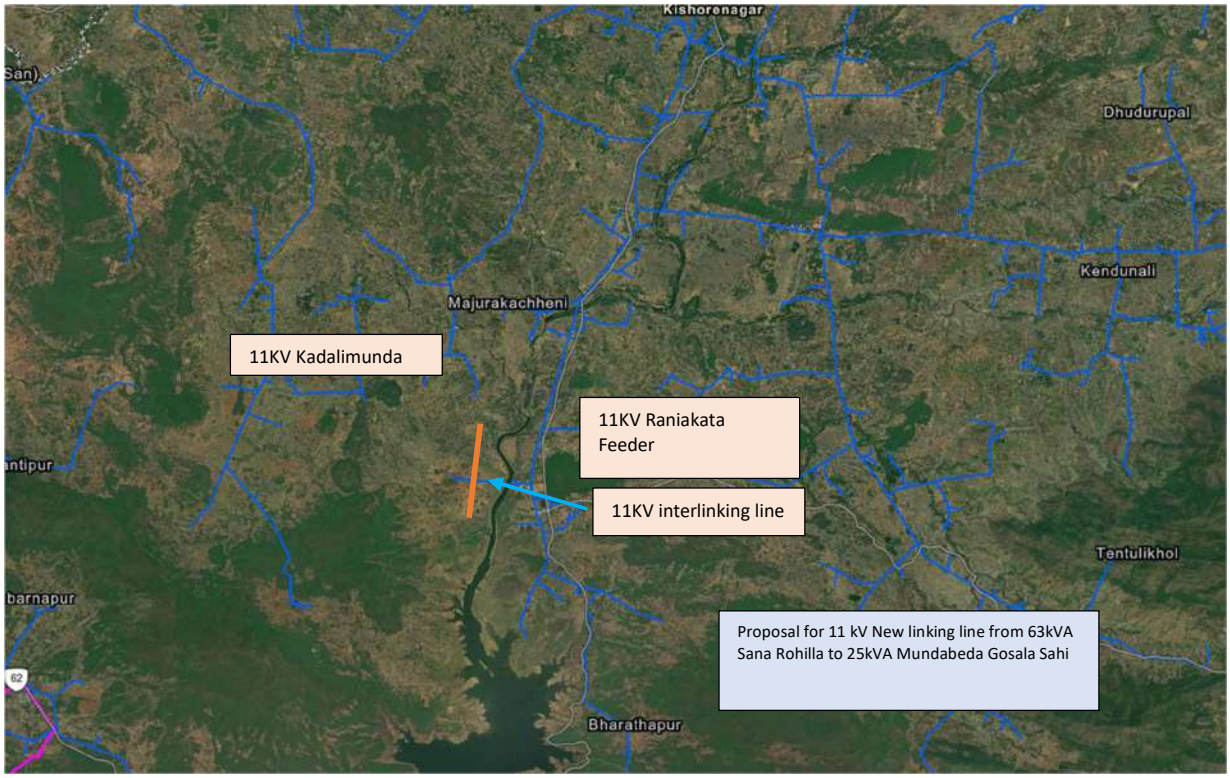
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 8.9. The voltage regulation of the feeder is not within permissible limits.

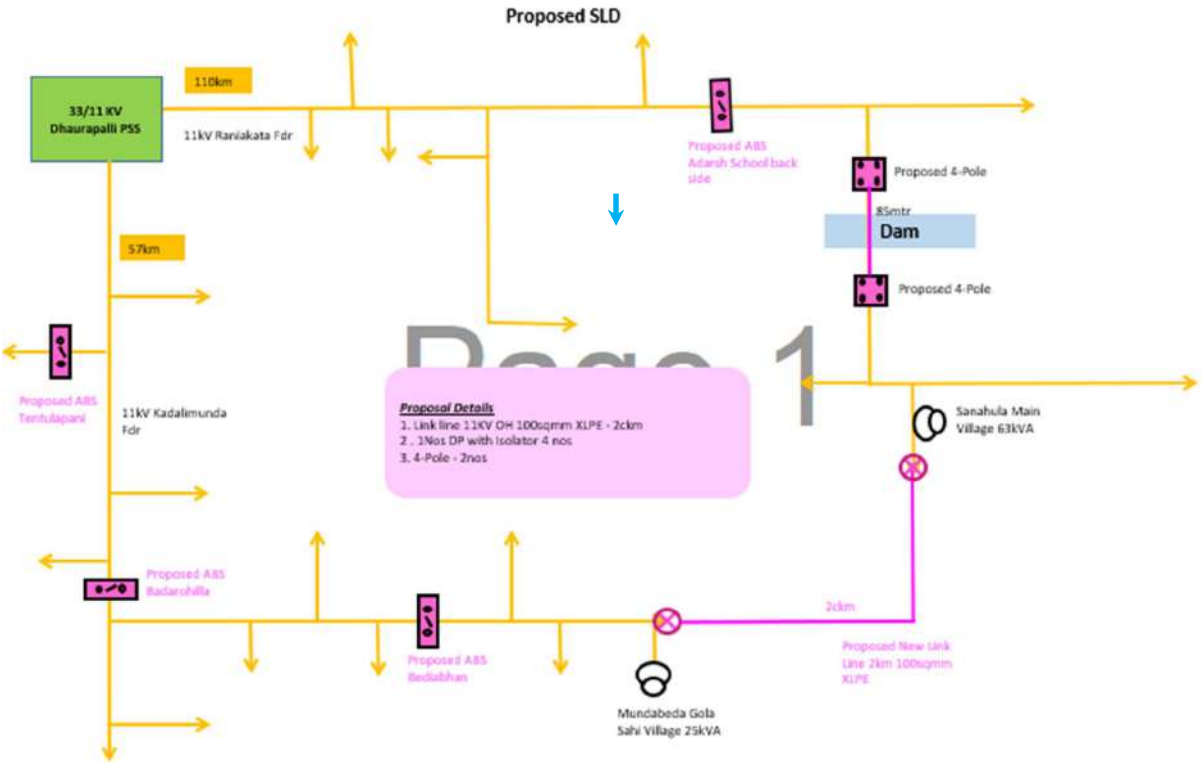
Proposed Scenario:

- It is proposed to inter link existing 11kV Raniakata feeder with near by 11kV Kalidimunda feeder emanating from Dhaurapalli PSS
- 2 CKM 11 kV line interconnection is proposed using 11 Mtr. WPB pole & 100 Sq.mm. XLPE Conductor
- DP along with Isolator 4 nos is proposed for better operation flexibility
- 2nos of 4-Pole is proposed for canal crossing

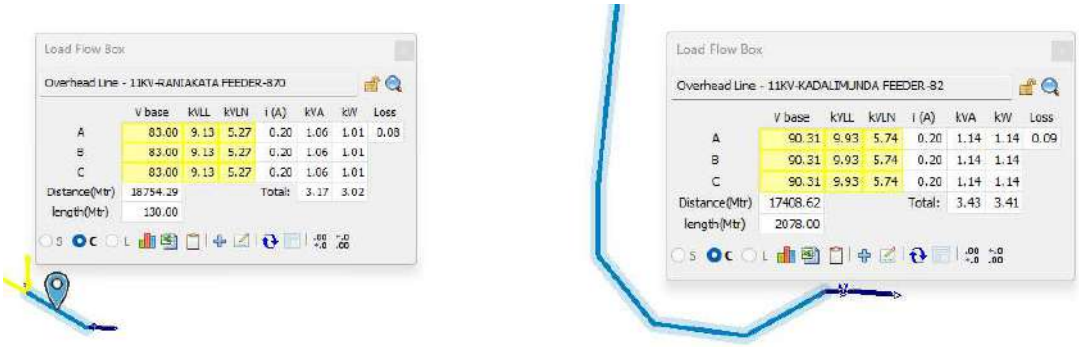
GIS SLD:



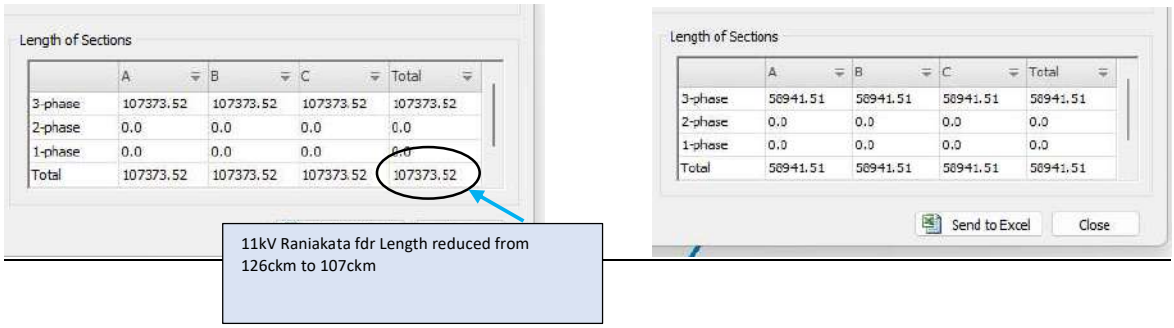
Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:



After execution of proposal 11kV Raniakata feeder Voltage will Improve from 8.9 kV to 9.13kV and feeder length reduced from 126ckm to 107ckm and Voltage of Kadalimunda Feeder will be 9.93kV



<u>Scope of Work:</u>

- It is proposed to link the 11kV Raniakata feeder by linking of 11kV Kadalimunda Feeder.
- Construction of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC.

<u>Proposed Cost with Estimate Break-up:</u>

Annexure-12.40	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Circle :-	**Dhenkanal**
Name of the Division :-	**ANED**
Name of the Work :-	***<u>Length Reduction of 11kV Raniakata feeder by linking of 11kV Kadalimunda Feeder</u>*** Construction of New Linking from 11kV Raniakata feeder to 11kV Kadalimunda Feeder. To improve power supply & mitigating Reliability, Reduce feeder length and loss reduction.
Scope of work:-	Proposal Details 1. Link line 11KV OH 100sqmm XLPE - 2ckm 2 . 1Nos DP with Isolator 4 nos 3. 4-Pole - 2nos

Names of Schemes: -		*TPCODL CAPEX (FY 27-28)*	
		ABSTRACT OF ESTIMATE	
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Installation of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with One no. AB Switch and LA Set	₹ 8,08,936.90
2	B	Part-B Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-2ckm	₹ 50,19,636.47
		Total Amount	**₹ 58,28,573.37**
		Total Amount (In Cr)	**₹ 0.58**

Cost Estimate: ₹ 0.58 Cr. (For detailed BoQ refer Annexure-12.40)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Compliance with the guidelines of voltage regulation in the distribution network.

c) Reduction of electrocution risk and public safety hazards.

d) Safe operation and isolation of the feeder.

e) Protection of electrical assets against lightening and surge related failure.

f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Raniakata feeder length reduced from 126 CKM to 107 CKM
- 11KV Kadalimunda feeder's tail end voltage improved from 8.9 KV to 9.1 KV.
- Ring connectivity is established between 11KV Raniakata feeder with 11KV Kadalimunda Feeder which will be helpful for power supply restorations during breakdown and maintenance works.

41.0 Proposal for Reliability improvement of 11kV Bhapur Feeder:

Proposal:

Proposal for Conversion of 11kV Bhapur Feeder from Sarakapatna Primary School 20.5458,85.5108 to 20.55311,85.5120 Chandrasekhar Prasad for reliability purpose-1CKM

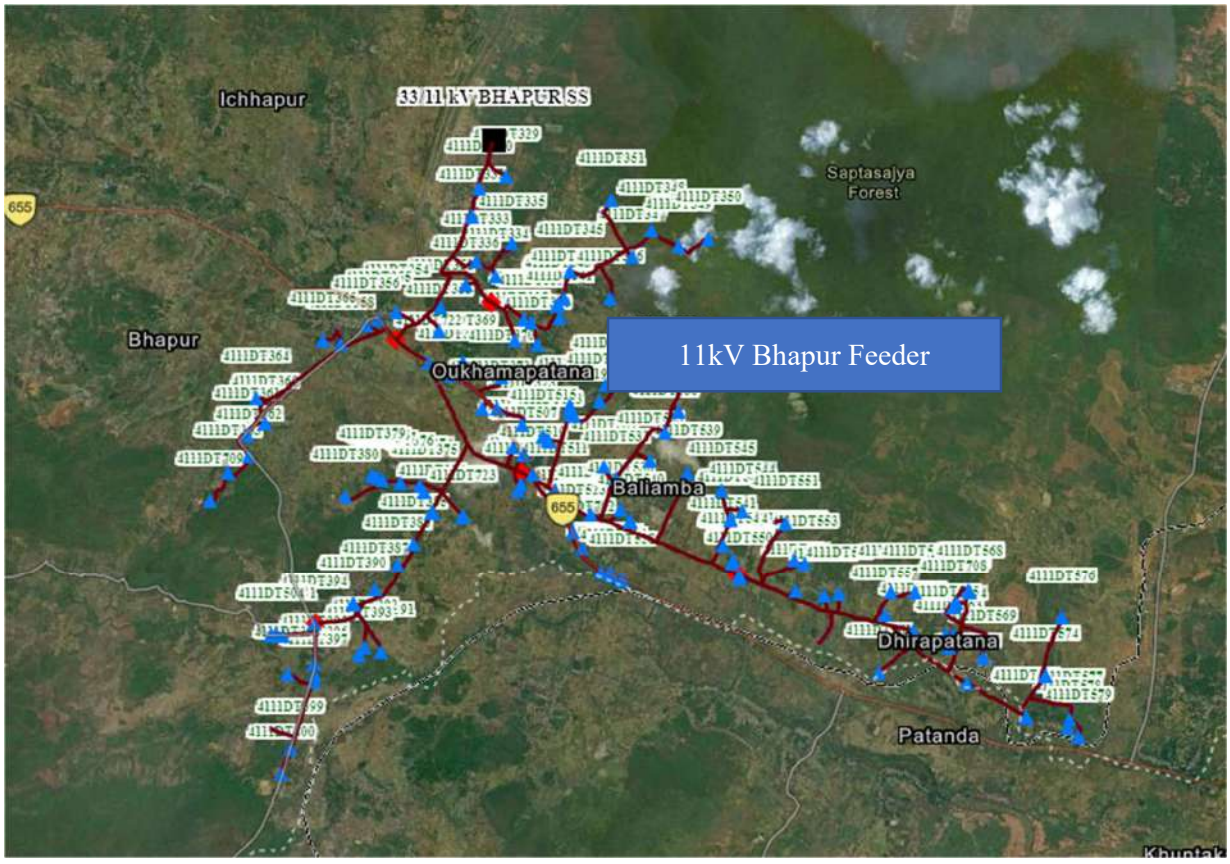
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Bhapur Feeder.

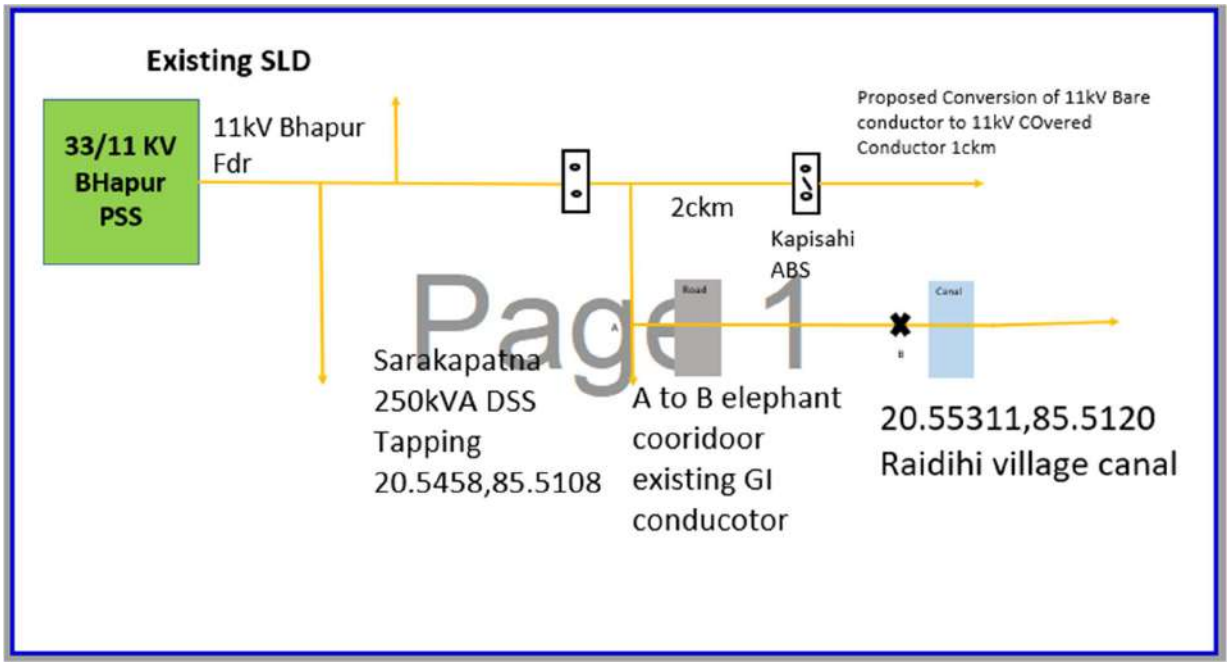
Existing Scenario:

- At present, 11kV Bhapur feeder is emanating from 33/11kV Bhapur PSS. The total trunk length of 11kV Kalanga is 11 km and peak load is 2 MVA.
- The trunk conductor size of feeder is 55sqmm AAAC and it supplies to Bhapur, Oukhamapatana, Baliamba Village.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Bhapur feeder.
- At present frequent shutdowns are required for connecting feeder restoration

GIS MAP



Existing SLD:



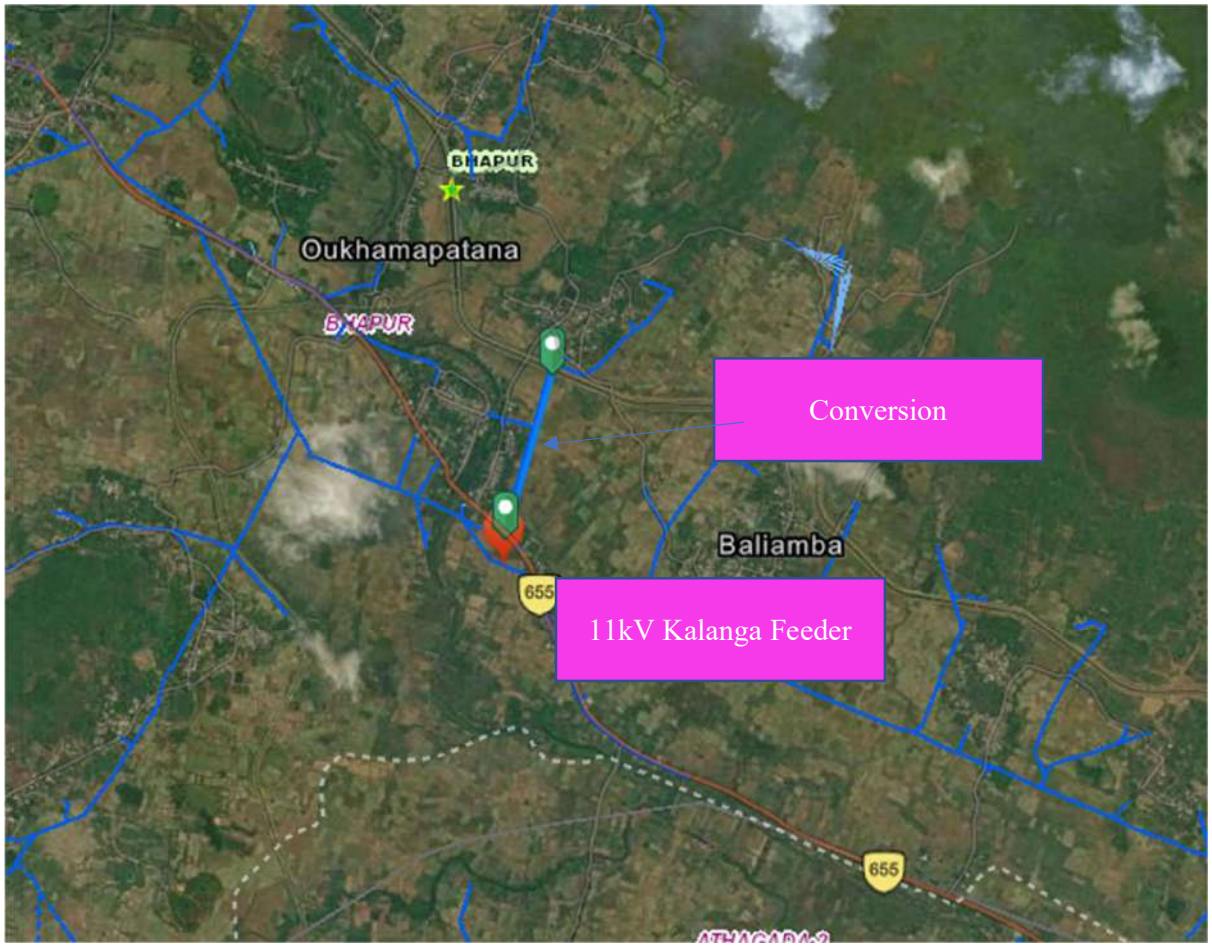
Priority:

Since the 11kV Bhapur feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 32nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

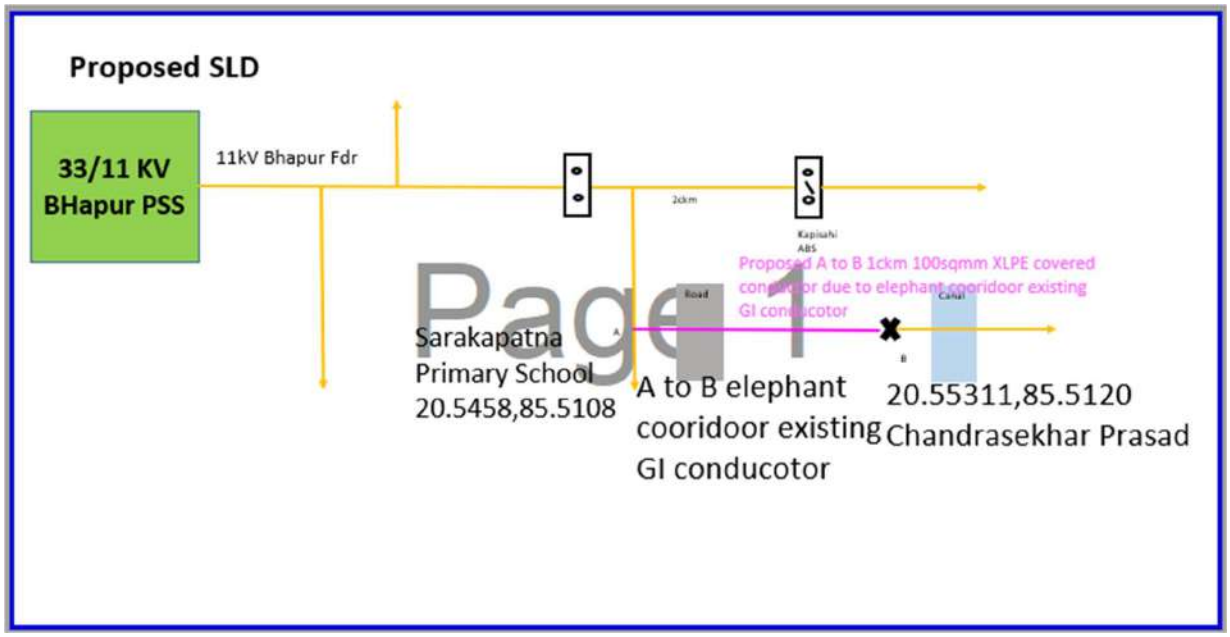
Proposed Scenario:

- Conversion of Bare to Covered conductor from Sarakapatna Primary School 20.5458,85.5108 to 20.55311,85.5120 Chandrasekhar Prasad.
- Due to Elephant corridor of 11KV Bhapur feeder is in unsafe condition.
- The New feeder will help for maintaining reliable power supply for smooth operation as well as enhancement in safety for moving elephants.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Conversion of 11kV Bhapur Feeder from Sarakapatna Primary School 20.5458,85.5108 to 20.55311,85.5120 Chandrasekhar Prasad for reliability purpose-1CKM

Proposed Cost with Estimate Break-up:

Annexure-12.41			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**DED**		
Name of the Work :-	***Reliability of 11kV Bhapur feeder by Augmentation*** Proposal for Augmentation of 11 kV Bhapur fdr from Sarakapatna Primar school to Chandrasekhar prasad		
Scope of work:-	1.Augmentation 1ckm 100sqmm XLPE		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Conversion of Bare to XLPE from 34sqmm AAAC to 100 SQ.MM. -XLPE AAA Covered Conductor-1ckm	₹ 14,88,025.73
		Total Amount	**₹ 14,88,025.73**
		Total Amount (In Cr)	**₹ 0.15**

Cost Estimate: ₹ 0.15 Cr. (For detailed BoQ refer Annexure-12.41)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11kV Bhapur.
- Feeder restoration will be quick.

- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.

- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

42.0 Proposal for Reliability Improvement as well as Length Reduction of 11kV Sankhamur Feeder:

Proposal:

Proposal for reliability improvement as well as length reduction of 11KV Sankhamur feeder.

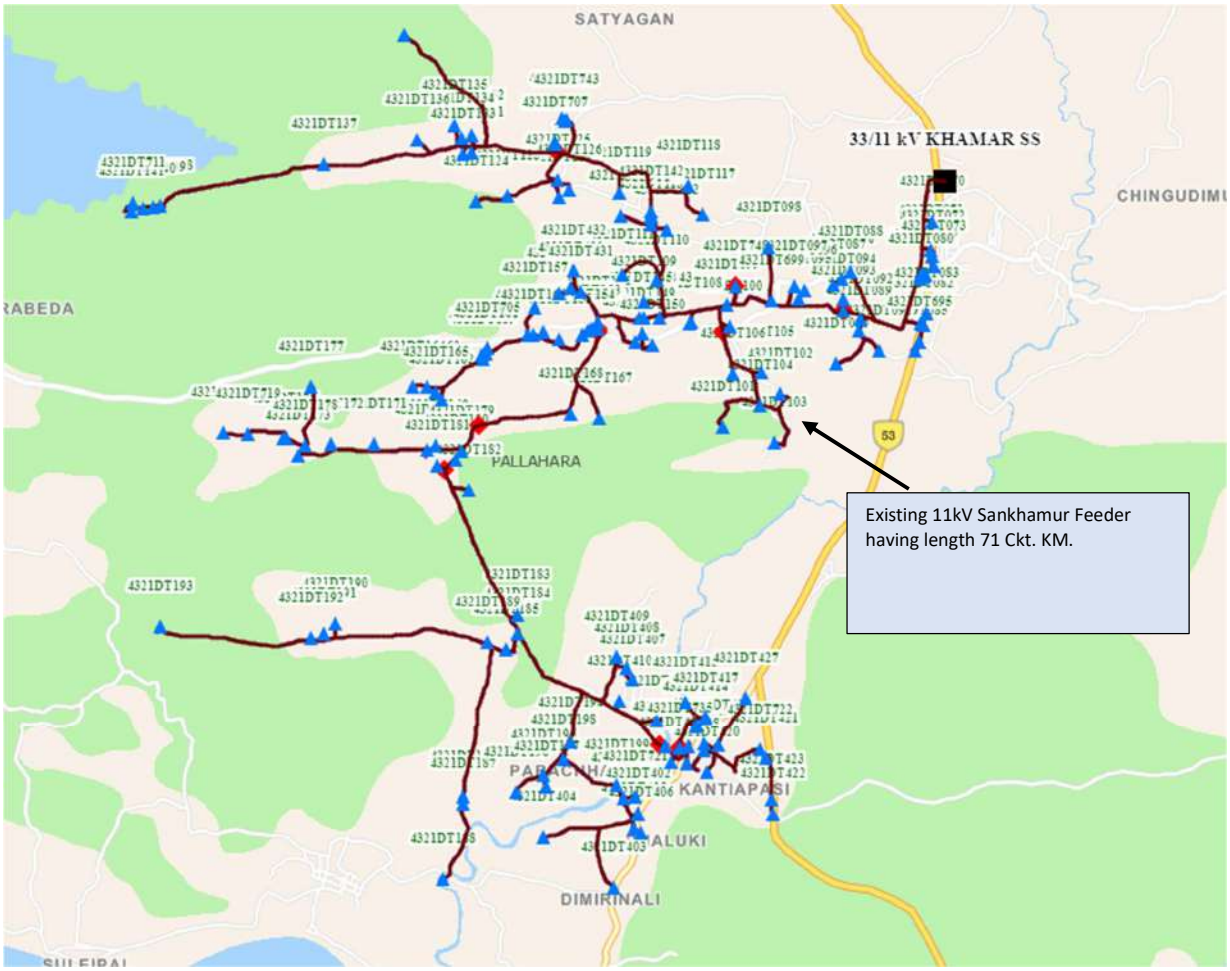
Requirement/ Need of the proposal:

Objective: Reliability improvement and Length reduction of 11kV Sankhamur Feeder.

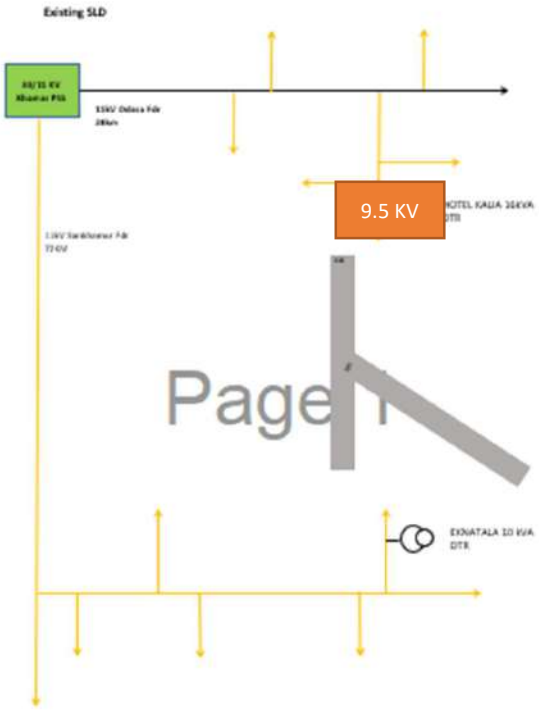
Existing Scenario:

- At present, 11kV Sankhmur Feeder is emanating from 33/11kV Khamar PSS having a feeder length of 71 Ckt. KM and tail end voltage is 9.0 KV.
- Entire 11kV Sankhamur Feeder is of 55/34 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

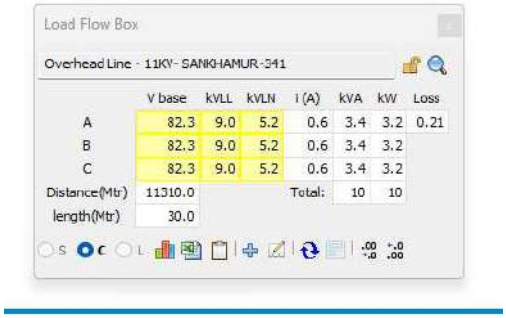
GIS SLD:

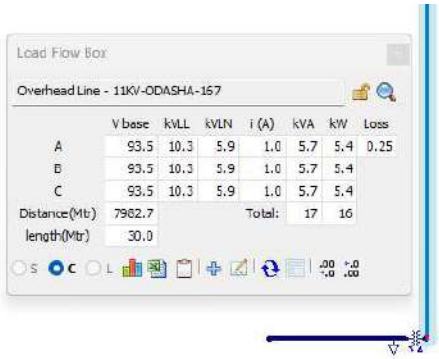


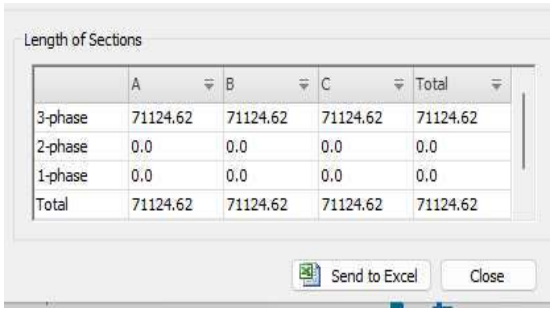
Existing SLD:

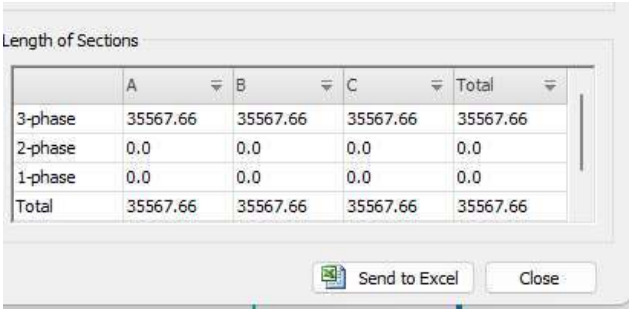


Tail end Voltage in existing scenario through load flow analysis:









Priority: The existing 11kV Sankhamur feeder has a length of 72Ckm in the AS-IS scenario, resulting in a tail-end voltage of 9.0 kV. With the projected load growth, the tail-end voltage is expected to drop

further and reach 9.6 kV by Summer-2028. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

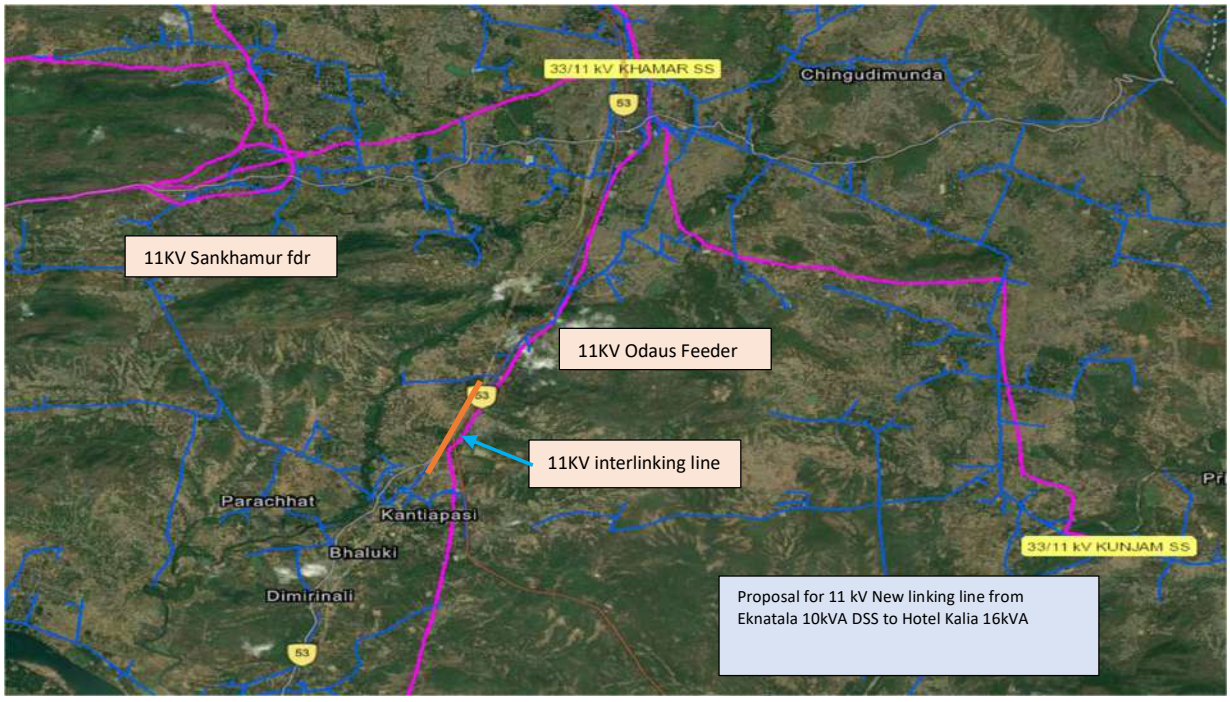
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 9.0. The voltage regulation of the feeder is not within permissible limits.

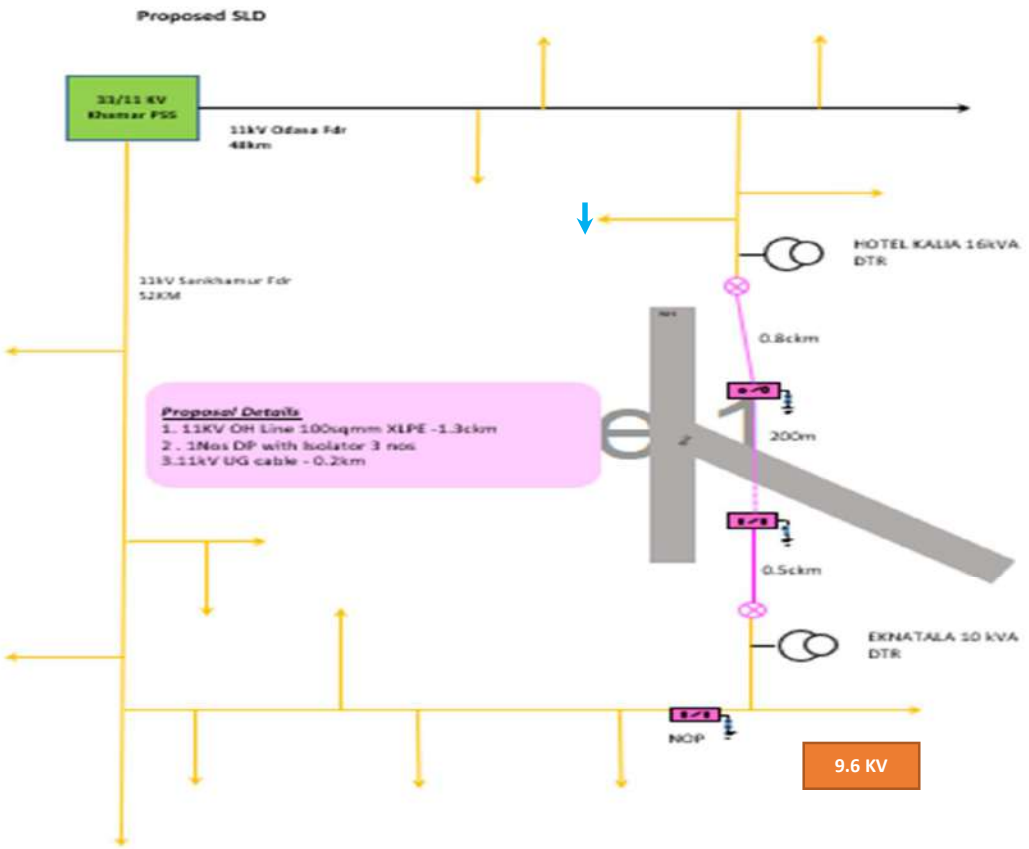
Proposed Scenario:

- It is proposed to inter link existing 11kV Sankhamur feeder with near by 11kV Odaus feeder emanating from Khamar PSS
- 1.3 CKM 11 kV line interconnection is proposed using 11 Mtr. WPB pole & 100 Sq.mm. XLPE Conductor
- DP along with Isolator 2 nos is proposed for better operation flexibility

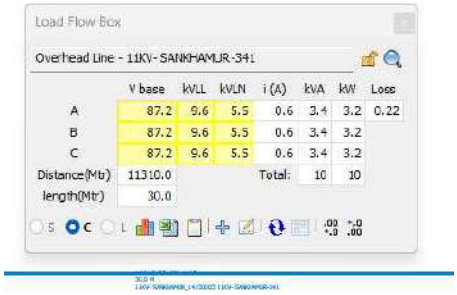
GIS SLD:

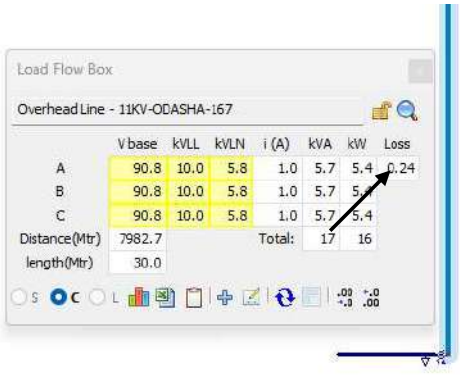


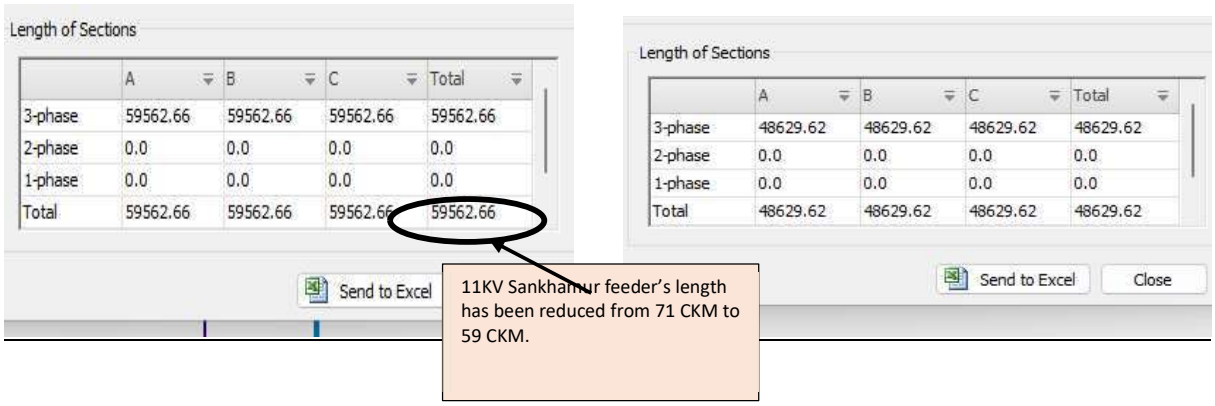
Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:







After execution of proposal 11kV Sankhmaur feeder Voltage will Improve from 9.0 kV to 9.6kV and feeder length reduced from 71ckm to 59ckm

Scope of Work:

- It is proposed to link the 11kV Sankhamur feeder by linking of 11kV Odaus Feeder.
- Construction of 1.3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC. And 0.2km UG

Proposed Cost with Estimate Break-up:

Annexure-12.42			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**TED**		
Name of the Work :-	***Length Reduction of 11kV Sankhmur feeder by linking of 11kV Odaus Feeder*** Construction of New Linking from 11kV Sankhmur feeder by linking of 11kV Odaus Feeder. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1. 11KV OH Line 100sqmm XLPE -1.3ckm 2 . 1Nos DP with Isolator 3 nos 3.11kV UG cable - 0.2km		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.3ckm	₹ 34,60,704.59
2	B	Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare - 0.2KM	₹ 14,24,896.32
		Total Amount	**₹ 48,85,600.91**
		Total Amount (In Cr)	**₹ 0.49**

Cost Estimate: ₹ 0.49 Cr. (For detailed BoQ refer Annexure-12.42)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Compliance with the guidelines of voltage regulation in the distribution network.

c) Reduction of electrocution risk and public safety hazards.

d) Safe operation and isolation of the feeder.

e) Protection of electrical assets against lightening and surge related failure.

f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Sankhamur feeder length reduced from 71 CKM to 59 CKM
- 11KV Sankhamur feeder's tail end voltage improved from 9.0 KV to 9.6 KV.
- Ring connectivity is established between 11KV Sankhamur feeder with 11KV Odaus Feeder which will be helpful for power supply restorations during breakdown and maintenance works.

43.0 Proposal for Reliability improvement of 11kV Banarpa Feeder:

Proposal:

Proposal for Construction of 11kV New linking line Overhead from 25kVA Kusunua OLIC(11kV Banarpal Hindol Feeder Emanating from Banarpal PSS)to 25kVA Santrapur OLIC Sunil Gananaik(11kV Phulpada Fdr emanating from Phulpada PSS) for reliability purpose-2.5CKM

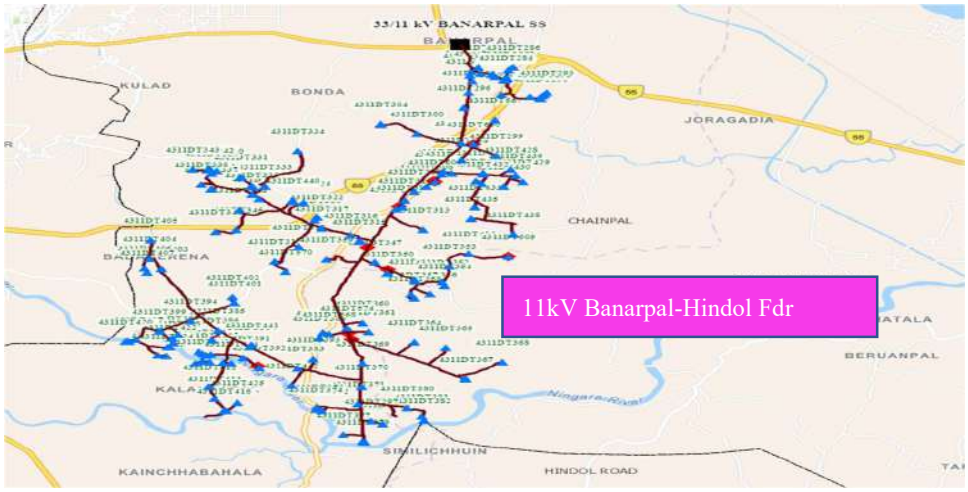
Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by construction of new linking line.

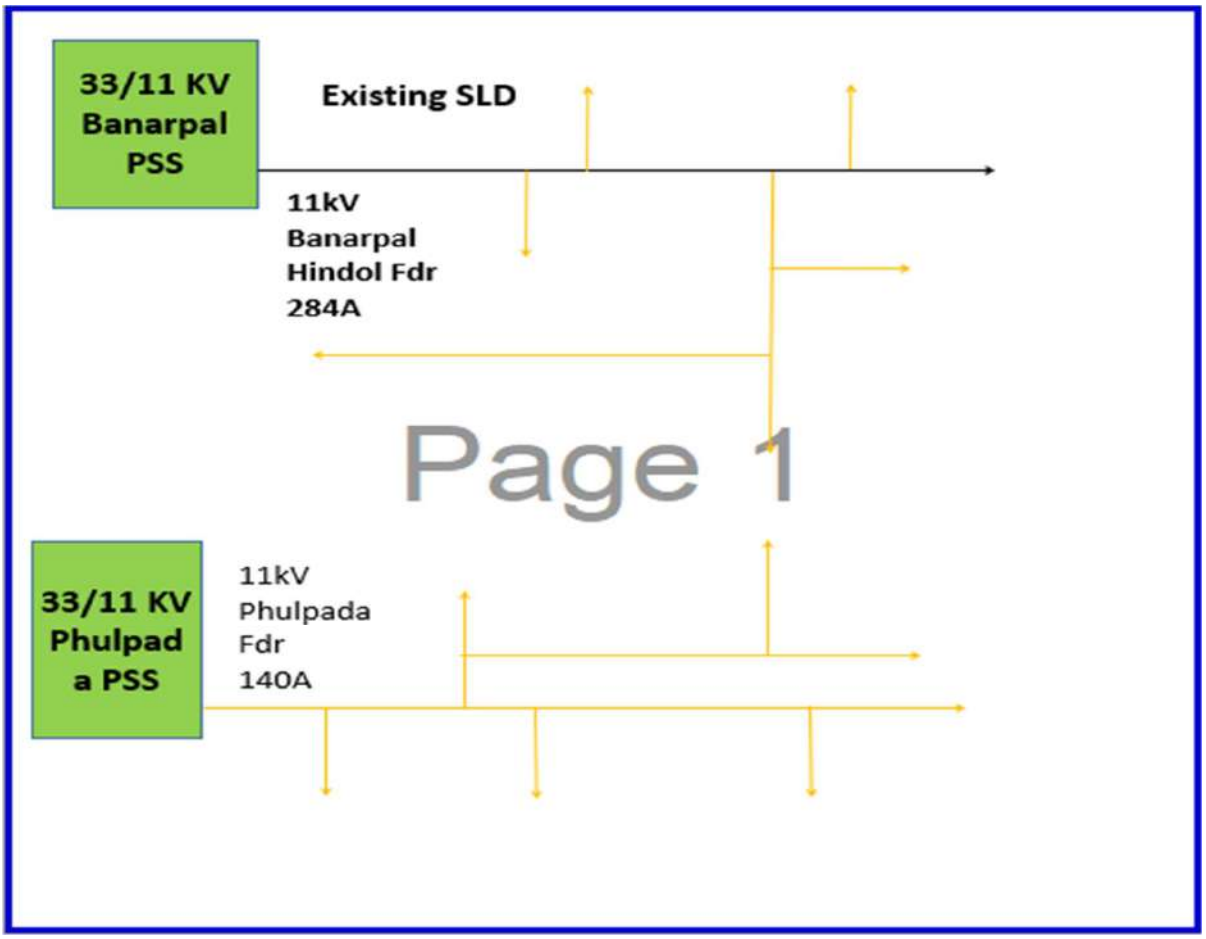
Existing Scenario:

- At present, 11kV Banarpal feeder is emanating from 33/11kV Banarpal PSS. The total trunk length of 11kV Banarpal feeder is 62 km and peak load is 5.4MVA.
- The trunk conductor size of feeder is 55sqmm AAAC and it supplies to Banarpal And Hindol Village.
- The trunk conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Banarpal-Hindol feeder.
- At present frequent shutdowns are required for connecting feeder restoration

GIS Map:-



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Banarpal-Hindol feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. The no. of trippings during the last year was 1430nos. In addition, substantial vegetation growth along the

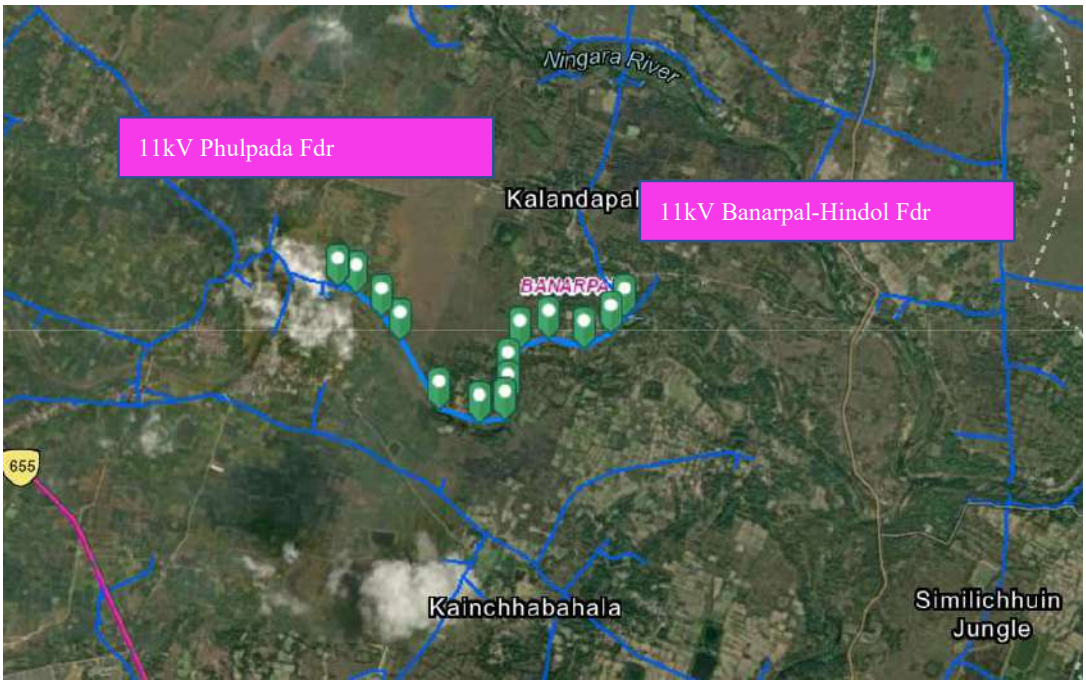
feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Timeline for completion of Project: March 2028

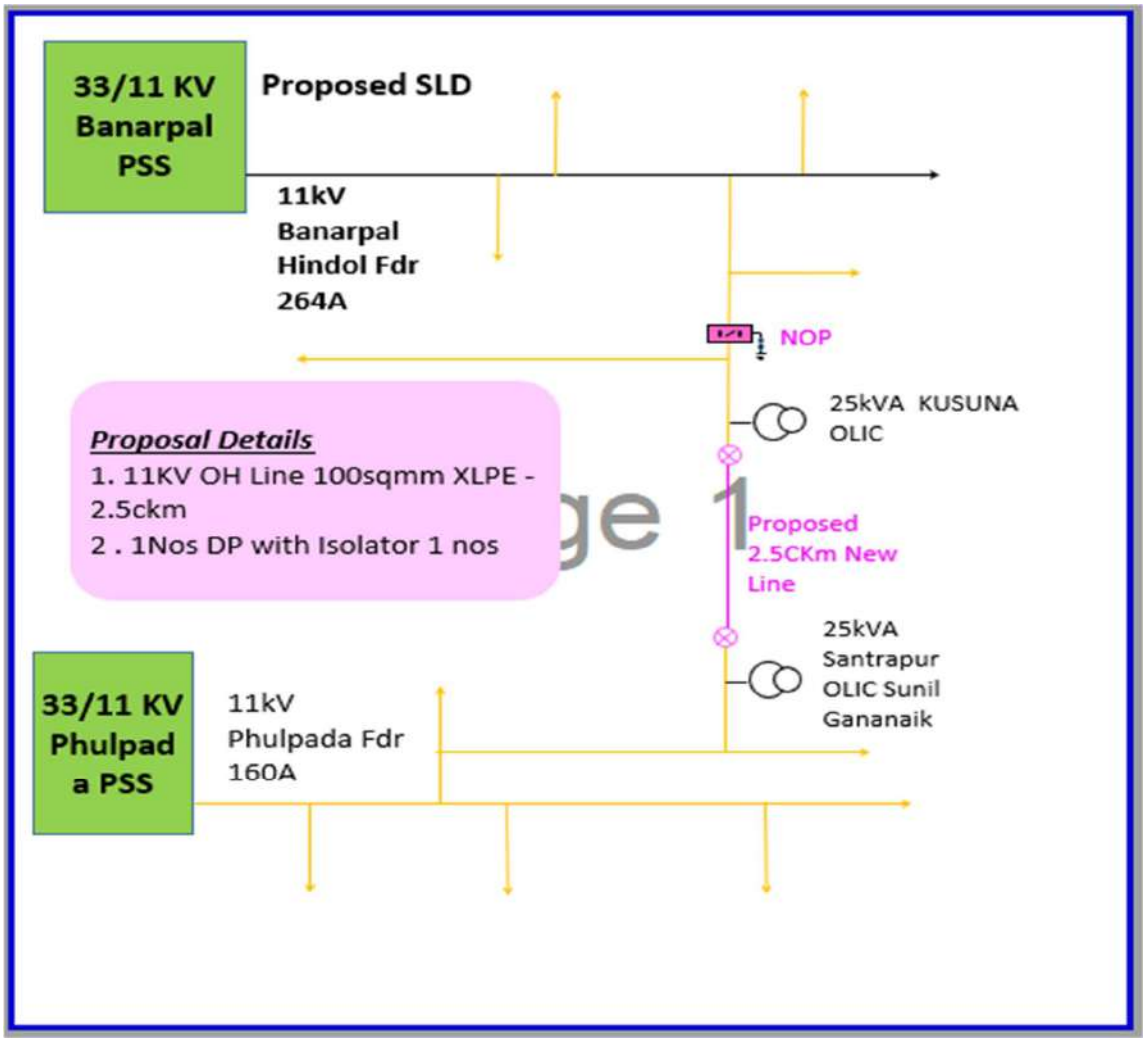
Proposed Scenario:

- Construction of 11kV New Linking line from 25kVA Kusunua OLIC to 25kVA Santrapur OLIC Sunil Gananaik.
- The New feeder will help for maintaining reliable power supply for smooth operation

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 11kV New Linking line from 25kVA Kusunua OLIC to 25kVA Santrapur OLIC Sunil Gananaik -2.5CKm .

Proposed Cost with Estimate Break-up:

Annexure-12.43	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Circle :-	**Dhenkanal**
Name of the Division :-	**TED**
Name of the Work :-	***Overloading Mitigation of 11kV Banarpal Hindol feeder by linking of 11kV Phulpada Feeder*** Construction of New Linking from 11kV Banarpal HIndol feeder by linking of 11kV Phulpada Feeder from 25kVA Kusunua OLIC to 25kVA Santrapur OLIC Sunil Gananaik . To improve power supply & mitigating Reliability,R educe feeder length and loss reduction.

Scope of work:-	Proposal Details 1. 11KV OH Line 100sqmm XLPE -2.5ckm 2 . 1Nos DP with Isolator 1 nos
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***

ABSTRACT OF ESTIMATE

Sl. No.	Part	Description	Amount
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-2.5ckm	₹ 54,70,861.24
		Total Amount	**₹ 54,70,861.24**
		Total Amount (In Cr)	**₹ 0.55**

Cost Estimate: ₹ 0.55 Crore (For detailed BoQ refer Annexure- 12.43)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11kV Banarpal-Hindol Feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

44.0 Proposal for Length Reduction of 11kV Garadpur-I Feeder:

Proposal:

Proposal for reduction in length for 11KV Garadpur-I feeder and reliability improvement.

Requirement/ Need of the proposal:

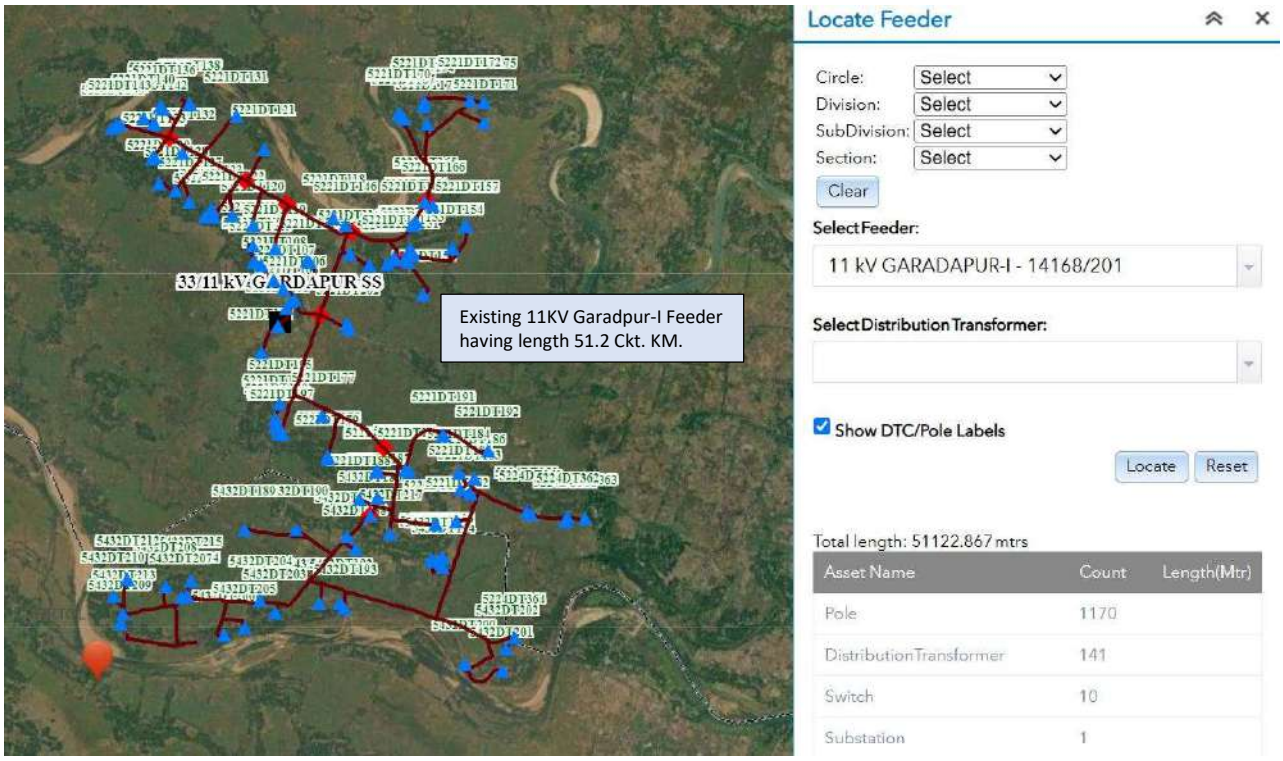
Objective: Length reduction and reliability improvement of 11kV Garadpur-I Feeder.

Existing Scenario:

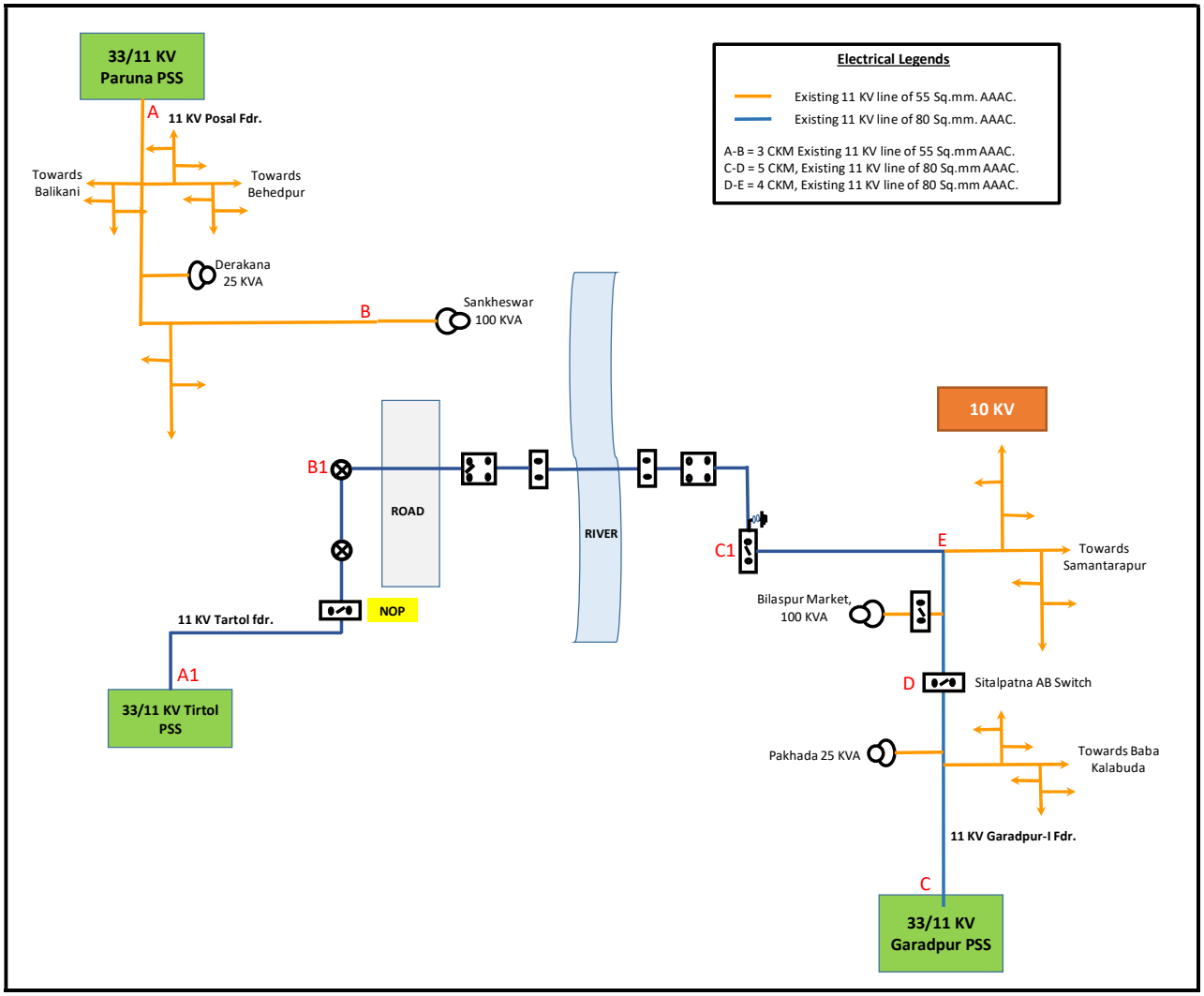
- At present, 11kV Garadpur-I feeder is emanating from 33/11kV Garadpur PSS having a feeder length of 51.2 Ckt. KM and tail end voltage is 10 KV.
- Entire 11kV Garadpur-I Fdr is of 55/80 Sq.mm. AAAC.

- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

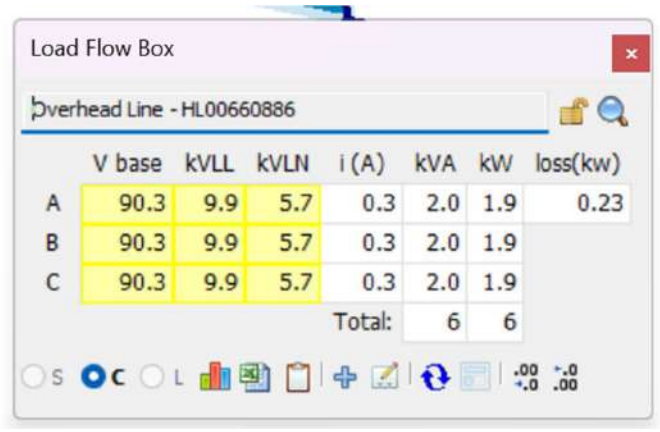
GIS SLD:



Existing SLD:



Tail end Voltage in existing scenario through load flow analysis with 2 years load growth:



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	90.3	9.9	5.7	0.3	2.0	1.9	0.23
B	90.3	9.9	5.7	0.3	2.0	1.9	
C	90.3	9.9	5.7	0.3	2.0	1.9	
				Total:	6	6	

Priority and Timeline of the Project:

Priority: The existing 11kV Garadpur-I feeder has a length of 51.2 Ckm in the AS-IS scenario, resulting in a tail-end voltage of 10 kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 9.9 kV by Summer-2028 with 2year load growth. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

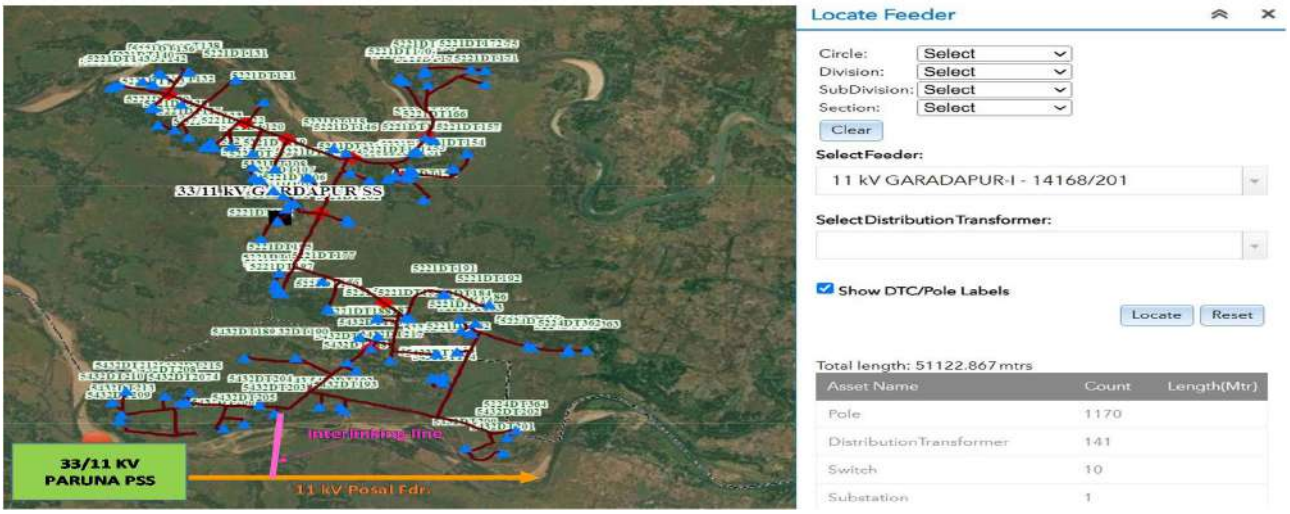
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 10 kV. The voltage regulation of the feeder is not within permissible limits.
- The feeder is facing frequent interruption since the feeder is lengthy & passed through difficult terrains such as paddy field area, dense vegetation etc. In case of any fault it takes longer duration for fault identification & restoration. Total 3311 No's consumer connected to the 11KV Garadpur-I feeder. No of 11KV feeder tripping in FY26 is 31 No's & 53 No's till July 26.
- In existing scenario 11KV Garadpur-I feeder feeding consumers of two different section of two different Division. This is also causes delay in restoration due to multiple co-ordination required for isolation & restoration .This also causes energy auditing issue to overlapping of two section boundary.

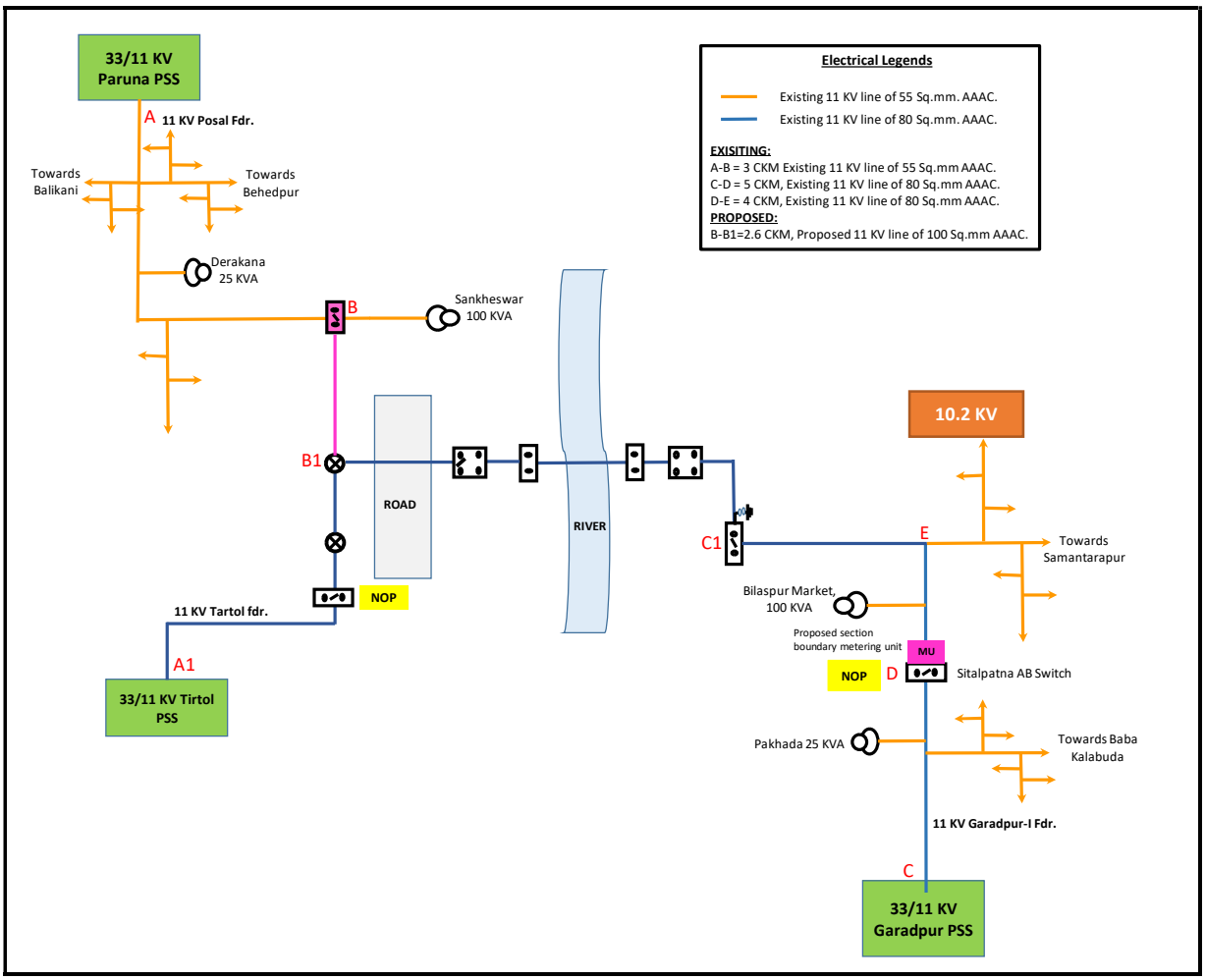
Proposed Scenario:

- It is proposed for interlinking of existing 11KV Garadpur-I feeder with nearby 11KV Posal feeder emanating from Paruna PSS for existing Garadpur-I feeder length reduction by construction of 2.6 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC.
- Installation of 01 No. HT Meter at the section boundary for energy auditing purpose.

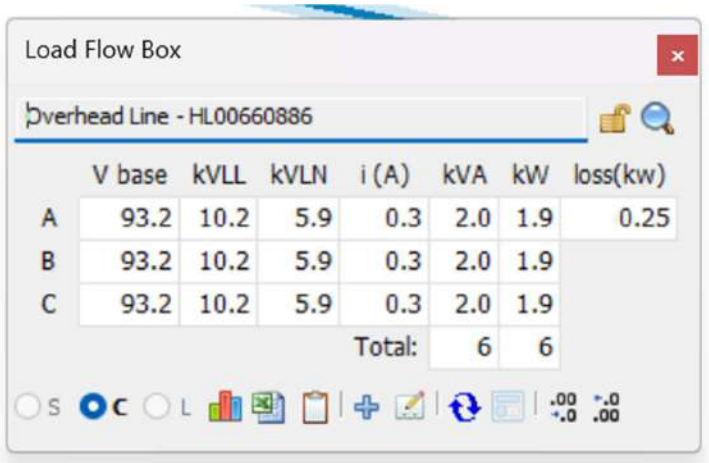
GIS SLD:



Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:



Length of Sections

	A	B	C	Total
3-phase	29611.0	29611.0	29611.0	29611.0
2-phase	0.0	0.0	0.0	0.0
1-phase	0.0	0.0	0.0	0.0
Total	29611.0	29611.0	29611.0	29611.0

11KV Garadpur-I feeder's length has been reduced from 51.2 CKM to 29.61 CKM.

Scope of Work:

- Construction of 2.6 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAA Conductor.
- Installation of 01 No. section boundary meter.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.44		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Garadpur	
Name of the Work :-	Proposal for construction of 2.6 CKM 11 kV linking line between 11 kV Postal & Garadpur-I Fdr. for n-1 reliability and length reduction of 11 kV Garadpur-I Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 2.6 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAA Conductor.(Refer PSLD - B-B1)	6,831,343.16
2	PART B: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60

	Total Amount	**6,924,258.76**
	Total Amount (In Cr.)	**0.69**
Total estimated cost is Rs. 0.69 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.69 Cr. (For detailed BoQ refer Annexure-12.44)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Compliance with the guidelines of voltage regulation in the distribution network.
c) Reduction of electrocution risk and public safety hazards.
d) Safe operation and isolation of the feeder.
e) Protection of electrical assets against lightening and surge related failure.
f) Improvement in operational safety for maintenance personnel and public.
g) This will also resolve energy auditing issue to overlapping of two section boundary.

45.0 Proposal for Reliability improvement of 11kV Ortaghat Feeder:

Proposal:

Proposal for shifting of existing feeder from water logging and dense vegetation area at Rajgarh area and re construction of 2.3 CKM new line for reliability improvement of 11 kV Ortaghat feeder.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Ortaghat Feeder.

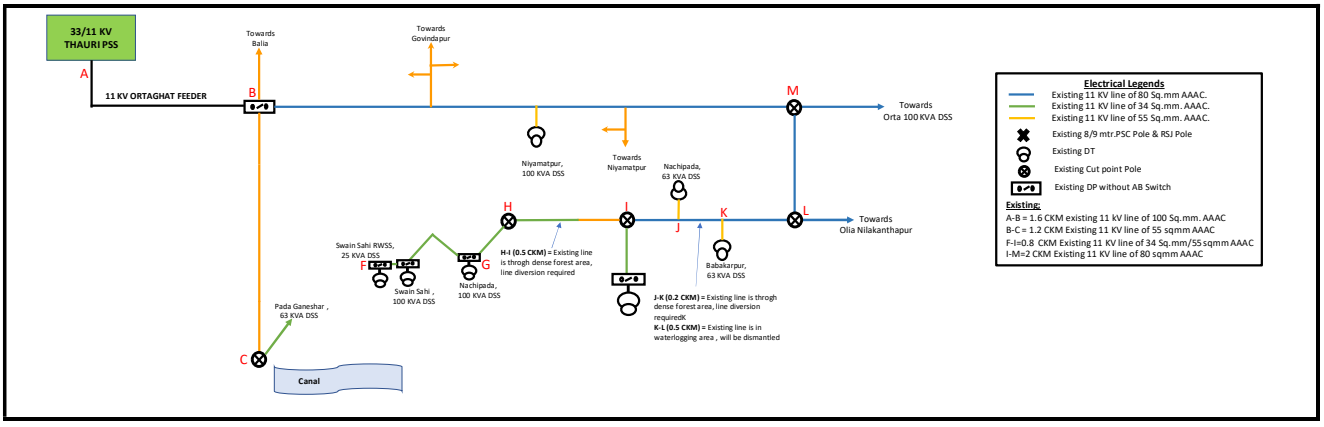
Existing Scenario:

- At present, 11kV Ortaghat feeder is emanating from 33/11kV Thauri PSS. The total length of 11kV Ortaghat is 22 km and peak load is 1.31 MVA.
- At rajgarh area 11 kV feeder is passing through dense forest and water logging area which create difficulties during maintenance and in case of any fault occurs it takes long time to identify fault and restore line.
- Frequent tripping is observed in the 11KV Ortghat feeder due to dense forest area.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Ortghat feeder is experiencing frequent interruptions as 11 kV existing line is passing through dense vegetation area & water logging area and it takes long time for restoration and maintenance activities. Total 3314 No's consumer connected to the 11KV Ortghat feeder. No of 11KV feeder tripping in FY26 is 24 No's & 32 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply

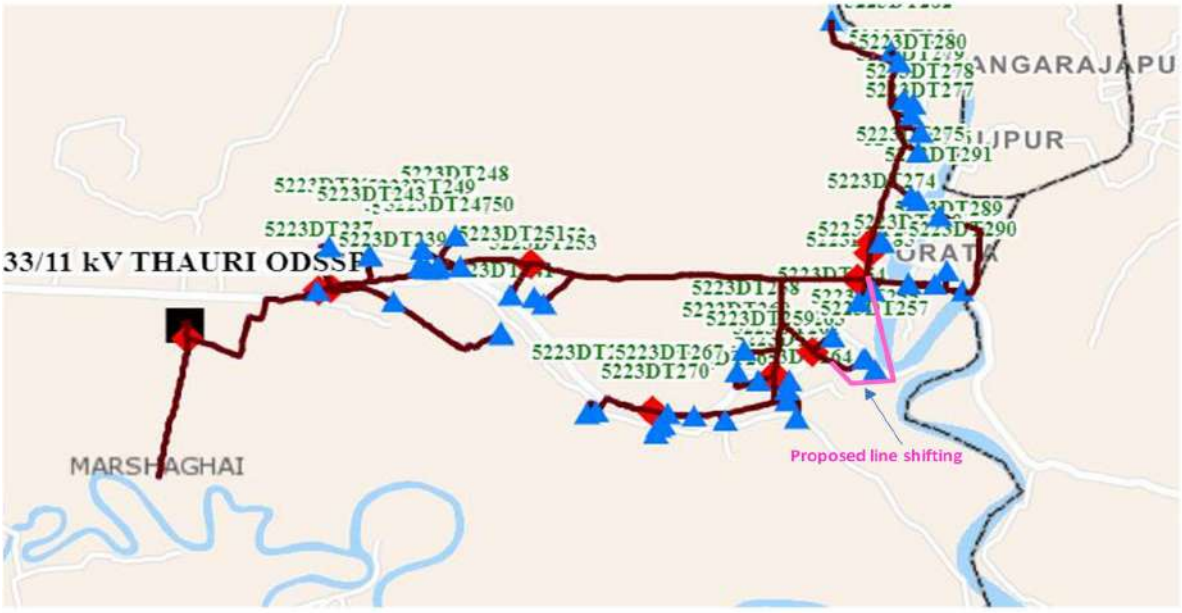
interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

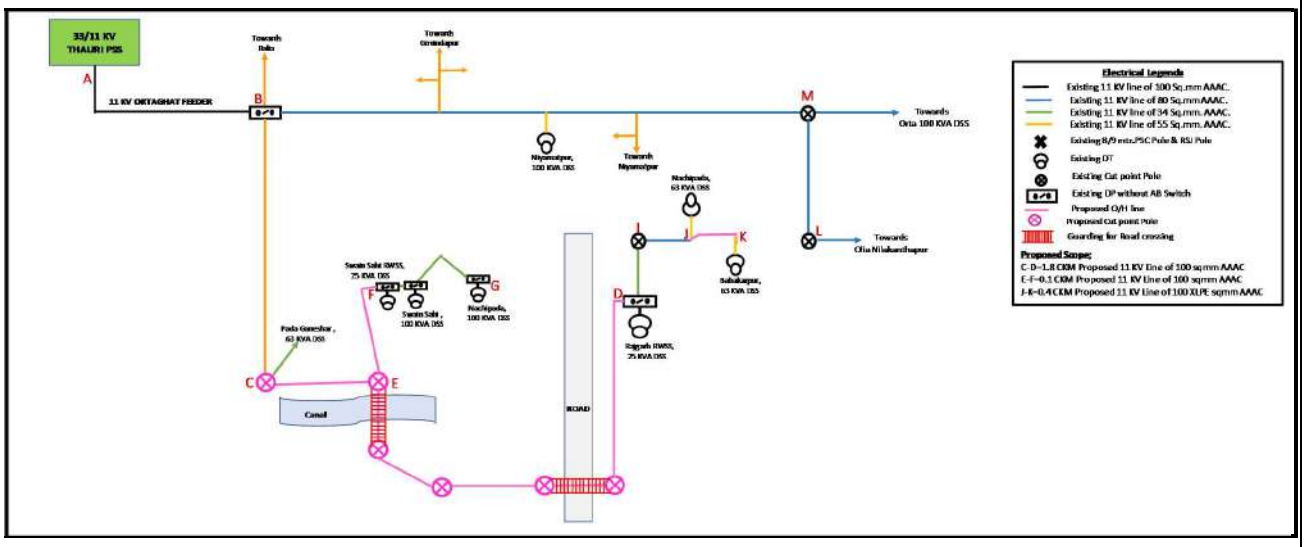
- Construction of 1.9 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. H-Pole for shifting of existing line from water logging area.
- Construction of 0.4 CKM 11 kV O/H line using 100 sq.mm. XLPE AAAC in dense forest area to restrict frequent earth fault.

- Installation of 3 Nos of 11 kV line protecting guarding having span 30 Mtr. For road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 1.9 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC.
- Construction of 0.4 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC.
- Installation of 3 Nos of 11 kV line protecting guarding having span 30 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.45		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Marsaghai	
Name of the Work :-	Proposal for diversion of existing O/H line of 11 kV Ortaghat Fdr. from Waterlogging area/dense forest area and construction of 2.3 CKM new 11 kV line to improve reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 1.9 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD C-D & E-F)	4,933,753.41
2	PART B: Construction of 0.4 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD J-K)	1,174,662.41
3	PART C: Installation of 3 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	88,032.94
4	PART D: Dismantling Portion	66,147.16
5	**Total Amount**	**6,262,595.92**
	Total Amount (In Cr.)	**0.63**

Total estimated cost is Rs. 0.63 Crore. (On TPCODL Capex Scheme)

Cost Estimate: ₹ 0.63 Cr. (For detailed BoQ refer Annexure-12.45)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Ortghat feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Earth fault will be reduced in dense forest area.
- Safety issue will be mitigated after shifting of existing line from water logging area.

46.0 Proposal for Reliability improvement of 11kV Angulai Feeder:

Proposal:

Proposal for Construction of 11kV interlinking line between 11 kV Angulai & Kurtunga feeder for length-2.5KM for reliability purpose.

Requirement/ Need of the proposal:

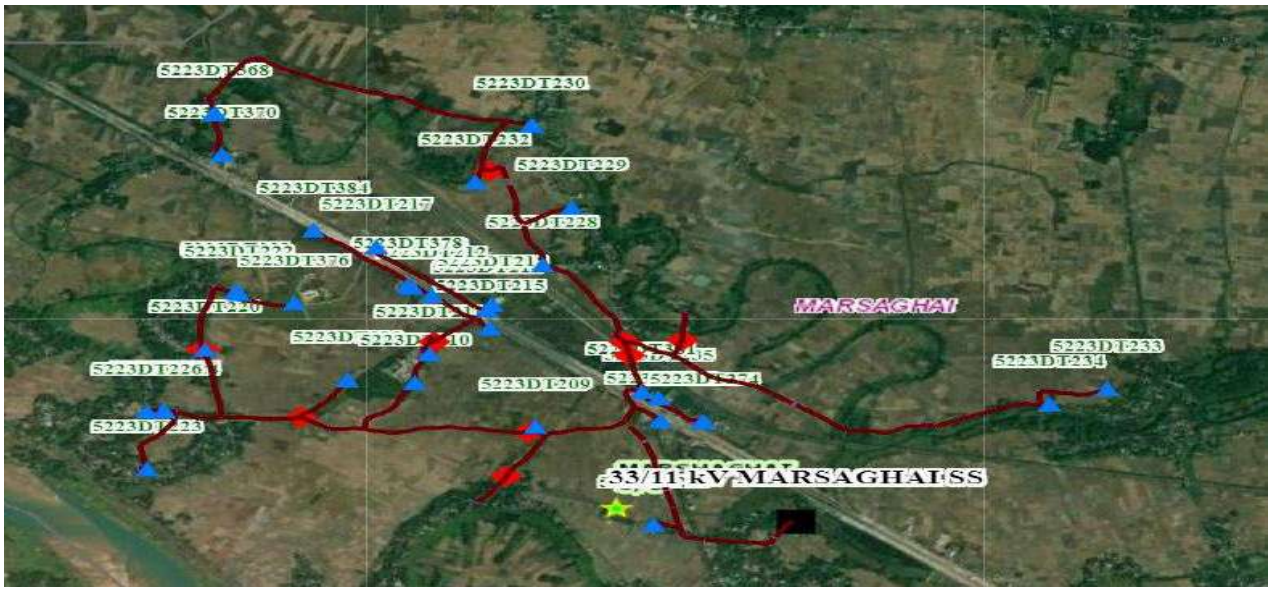
Objective: Reliability improvement of 11kV Angulai Feeder.

Existing Scenario:

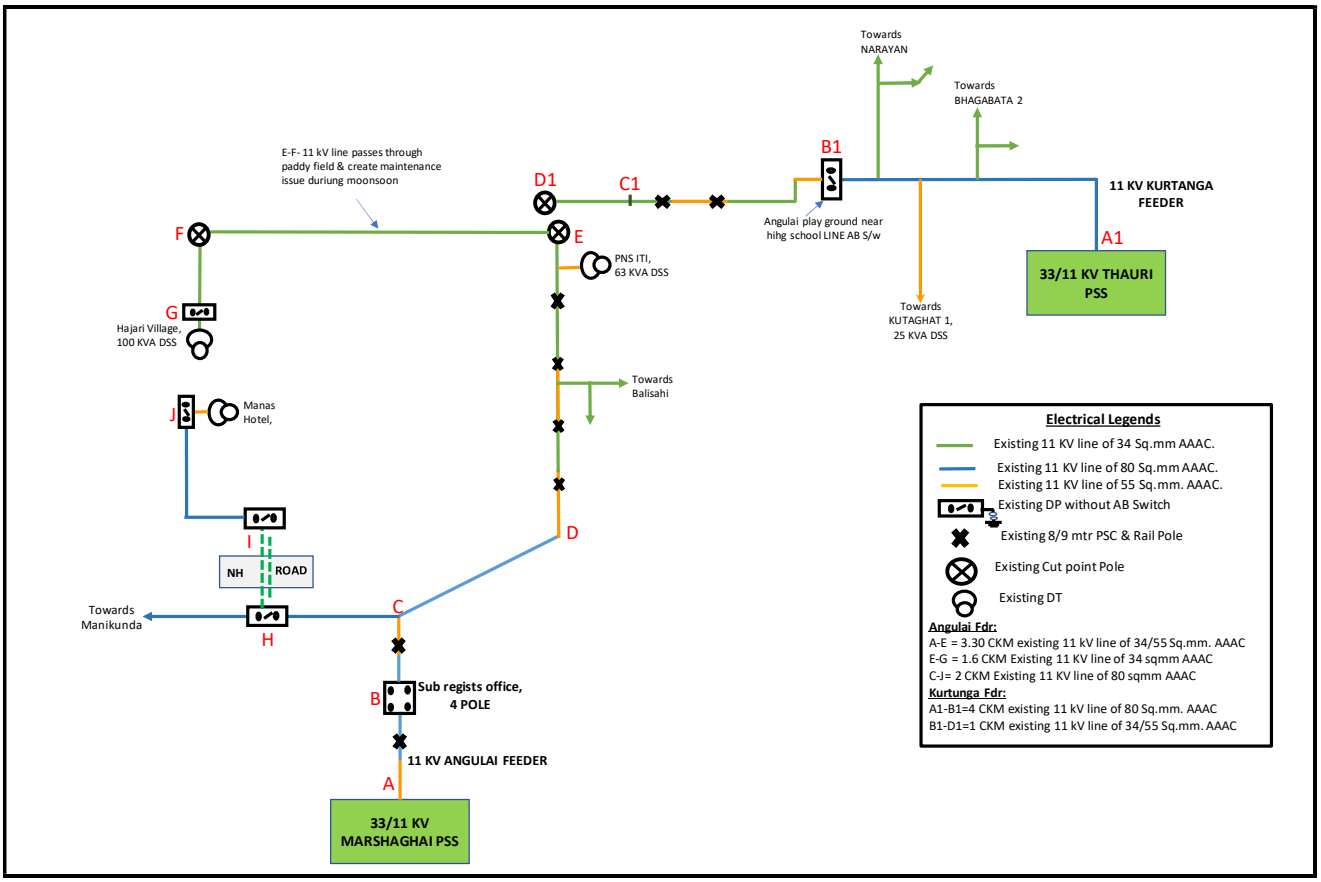
- At present, 11kV Angulai feeder is emanating from 33/11kV Marsaghai PSS. The total length of 11kV Angulai feeder is 15.2 km and peak load is 0.7 MVA.
- The trunk as well as branch conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.

- 11 kV Kurtunga feeder is nearby to 11 kV angulai feeder.
- Frequent tripping is observed in the 11KV Angulai feeder
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



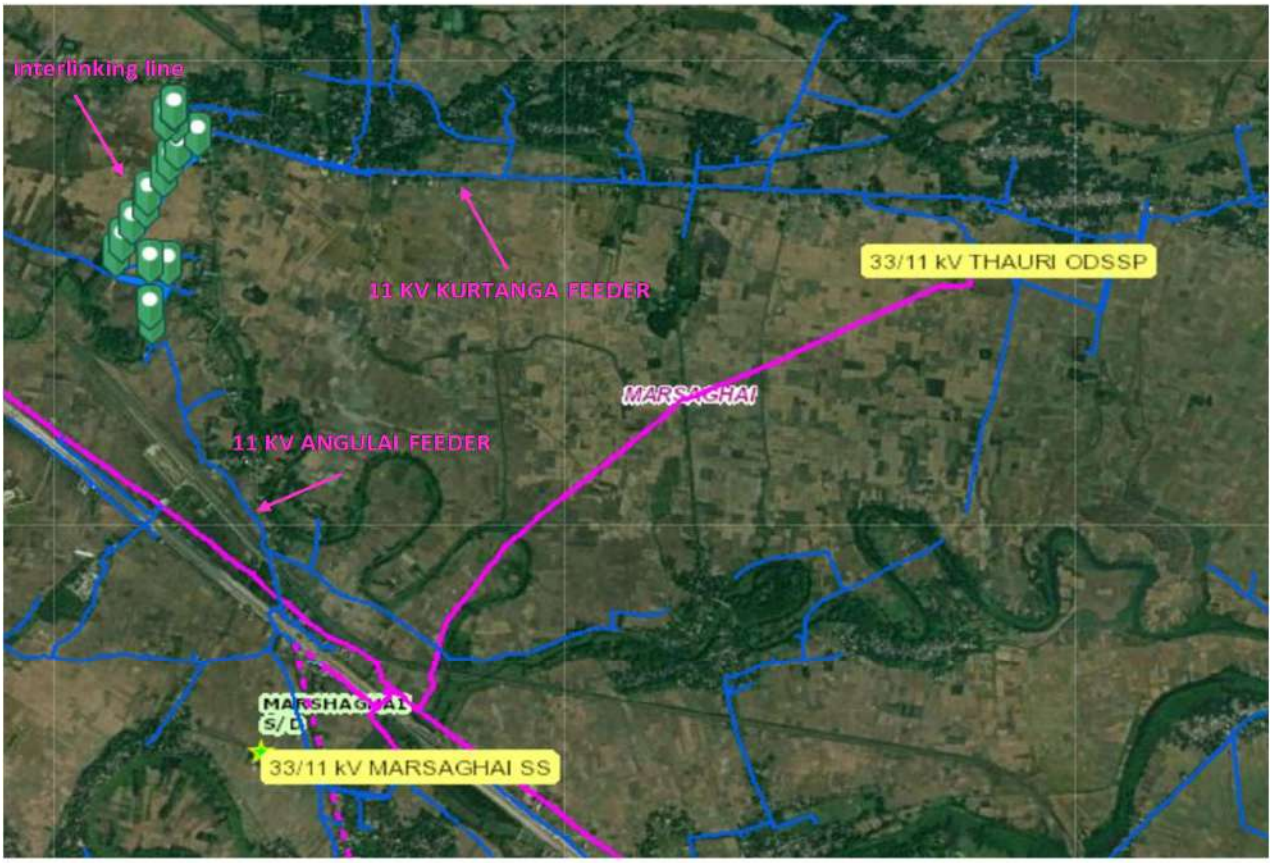
Priority and Timeline of the Project:

Priority: Since the 11kV Angulai feeder is experiencing experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 945 No's consumer connected to the 11KV Angulai feeder. No of 11KV feeder tripping in FY26 is 108 No's & 51 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

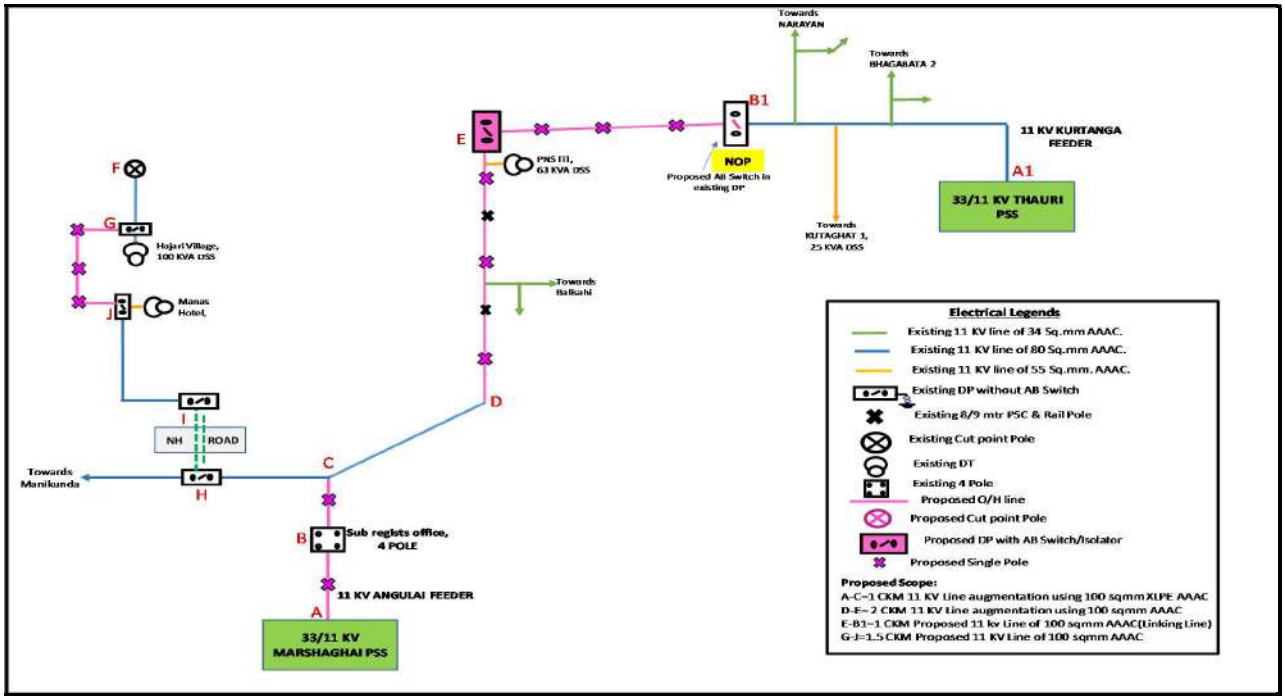
Proposed Scenario:

- Construction of 11kV linking line of 2.5 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC for N-1 connectivity between 11 kV Angulai & Kurtunga feeder.
- Augmentation of 11 kV O/H line of 3 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC for strengthening of existing line.
- Installation of 02 Nos of 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor.
- Construction of the 2.5 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor.
- Augmentation of the 2 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor.
- Installation of 11 KV line protecting guarding of 2 Nos having span 30 Mtr. Each.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.46		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-2	
Name of the Sub-Division : -	MARSHAGHAI	
Name of the Section : -	MARSHAGHAI	
Name of the Work :-	Proposal for Augmentation of 3 CKM line of 11 Kv Angulai Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 2.5 CKM linking line for N-1 reliability with 11 kV Kurtanga Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD A-C)	1,735,610.97

2	PART-B : 1.Construction of the 2.5 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor (refer to PSLD E-B1 and G-J) 2. Augmentation of the 2 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor (refer to PSLD D-E)	5,789,965.32
3	PART-C: Installation of 11 KV line protecting guarding of 2 Nos having span 30 Mtr. Each (Refer PSLD)	58,688.63
4	PART D: Dismantling Portion	192,219.11
	Total Amount	**7,776,484.03**
	Total Amount (In Cr.)	**0.78**
Total estimated cost is Rs. 0.78 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.78 Cr. (For detailed BoQ refer Annexure-12.46)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Angulai as well as Kurtunga feeder.
- Feeder restoration will be quick.
- By linking 11KV Angulai feeder and 11KV Kurtunga feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

47.0 Proposal for Length Reduction of 11kV Jamboo Feeder:

Proposal:

Proposal for reduction in length for 11KV Jamboo feeder and reliability improvement.

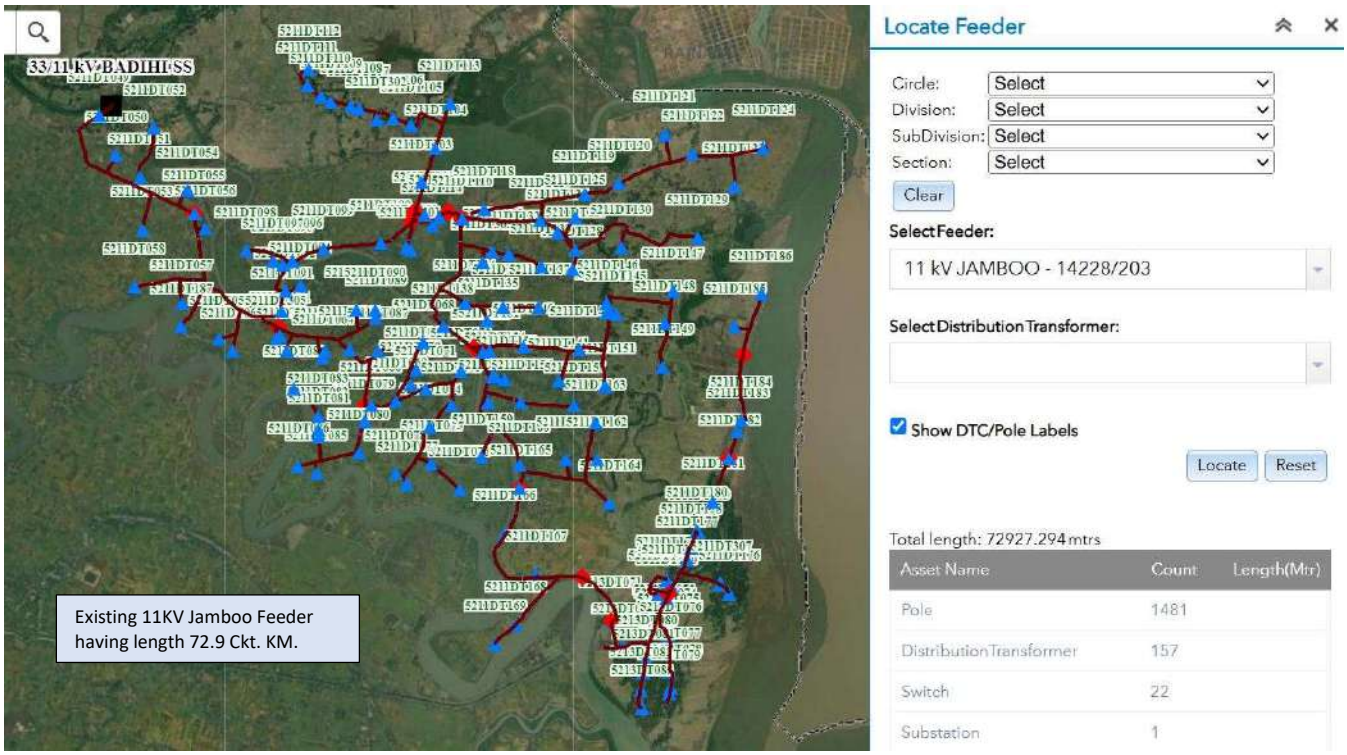
Requirement/ Need of the proposal:

Objective: Length reduction and reliability improvement of 11kV Jamboo Feeder.

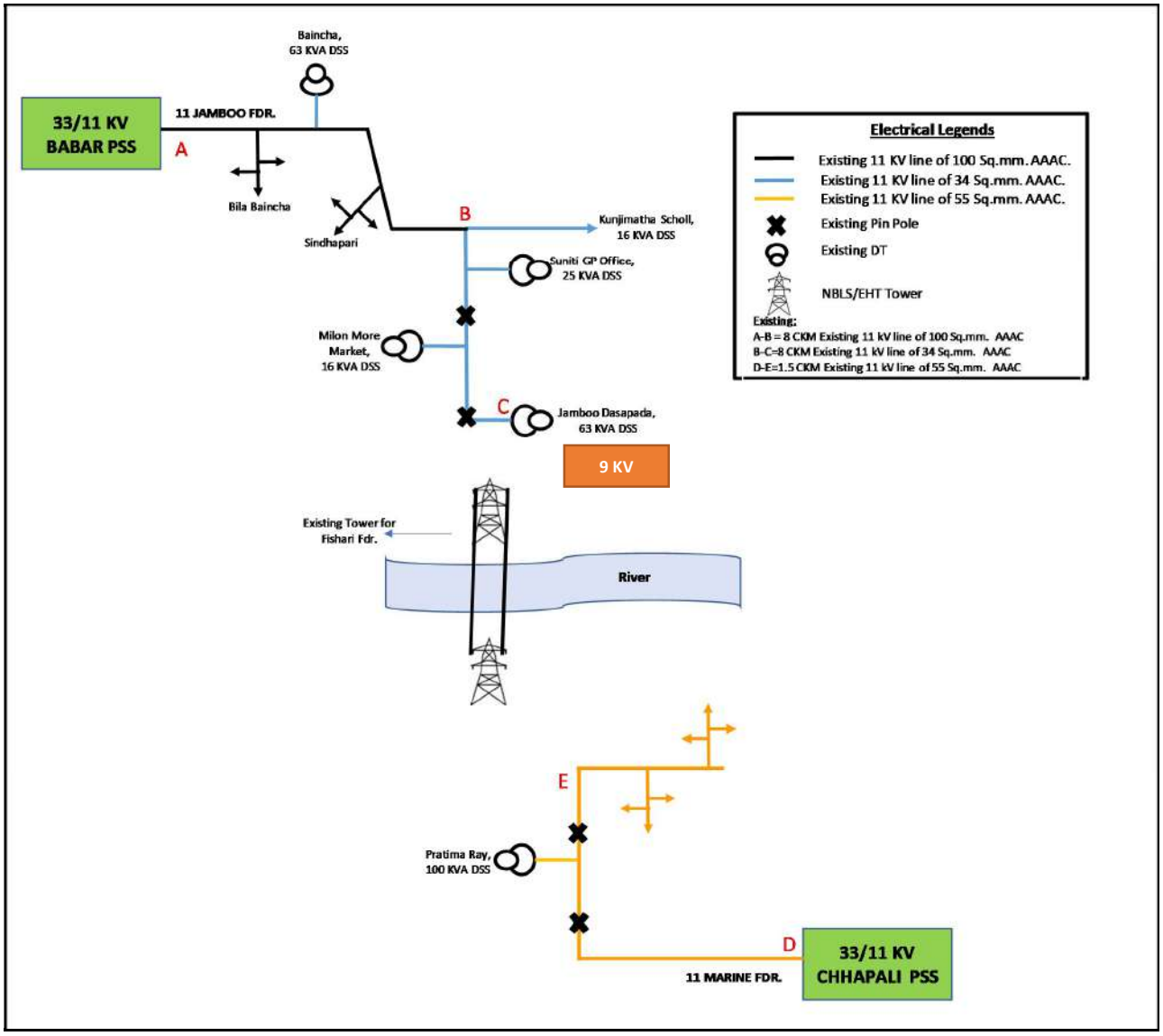
Existing Scenario:

- At present, 11kV Jamboo feeder is emanating from 33/11kV Badhi/Babar PSS having a feeder length of 72.9 Ckt. KM and tail end voltage is 9 KV.
- Entire 11kV Jamboo Fdr is of 34/55/100 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

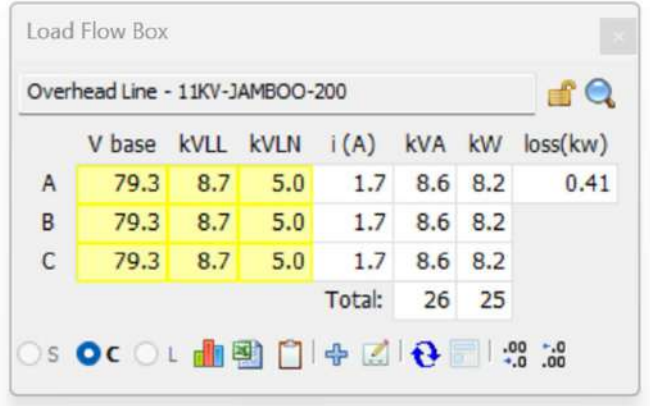
GIS SLD:



Existing SLD:



Tail end Voltage in existing scenario through load flow analysis with 2 years load growth:



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	79.3	8.7	5.0	1.7	8.6	8.2	0.41
B	79.3	8.7	5.0	1.7	8.6	8.2	
C	79.3	8.7	5.0	1.7	8.6	8.2	
				Total:	26	25	

Priority and Timeline of the Project:

Priority: The existing 11kV Jamboo feeder has a length of 72.9 Ckm in the AS-IS scenario, resulting in a tail-end voltage of 9 kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 8.7 kV by Summer-2028 with 2year load growth. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

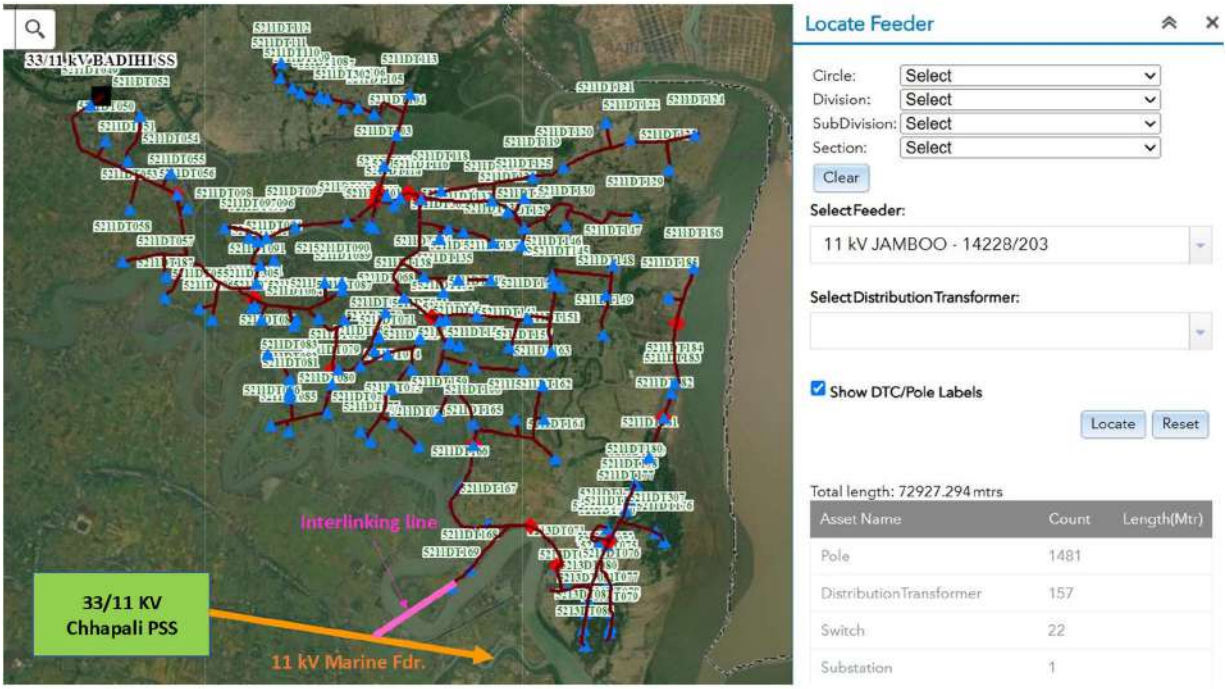
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 9 kV. The voltage regulation of the feeder is not within permissible limits.
- The feeder is facing frequent interruption since the feeder is lengthy & passed through difficult terrains such as Paddy field area, River crossing, dense vegetation & in narrow market lane area. In case of the any fault it takes longer duration for fault identification & restoration. Total 5010No's consumer connected to the 11KV Jamboo feeder. No of 11KV feeder tripping in FY26 is 153 No's & 78 No's till July 26.

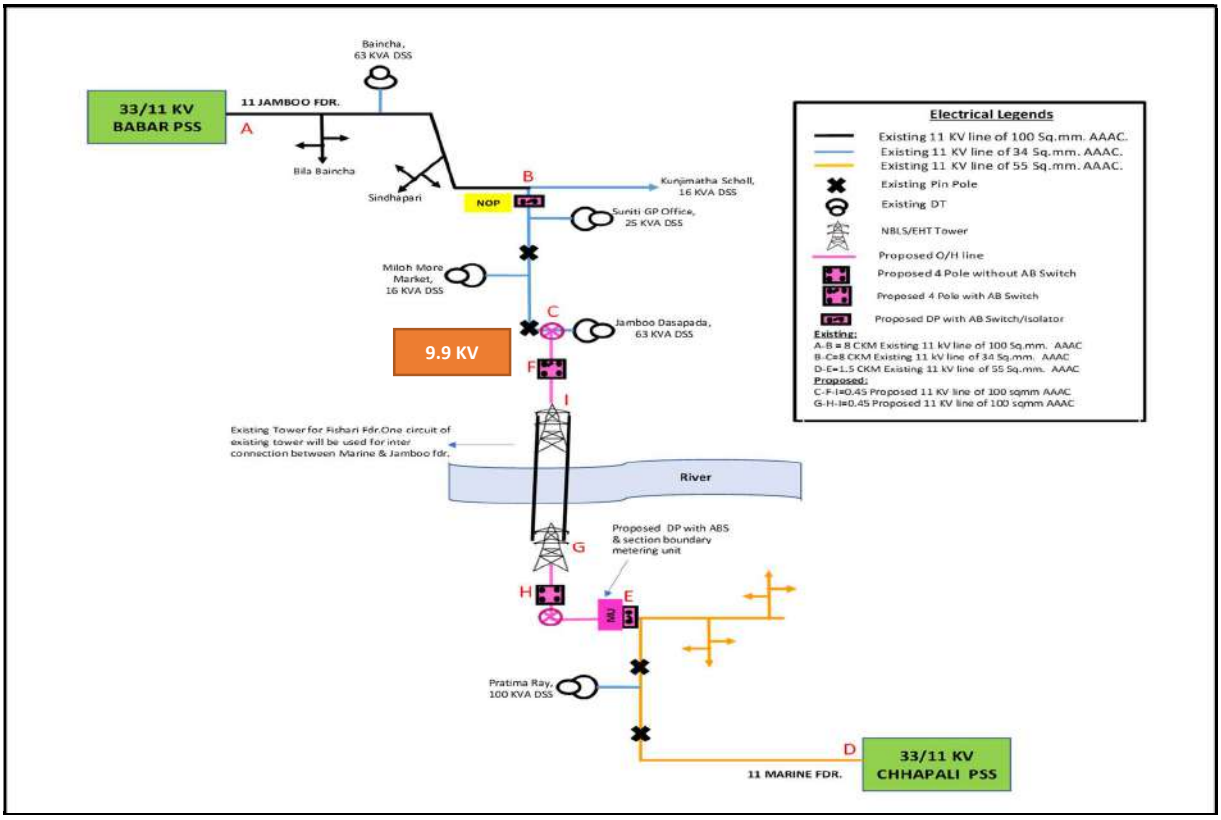
Proposed Scenario:

- It is proposed for interlinking of existing 11KV Jamboo feeder with nearby 11KV Marine feeder emanating from Chhapali PSS for existing Jamboo feeder length reduction by construction of 0.9 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC for
- Installation of 02 No. of 4-Pole connecting the OH line Dropping from River crossing Tower
- Installation of 01 No. HT Meter at the section boundary for energy auditing purpose.

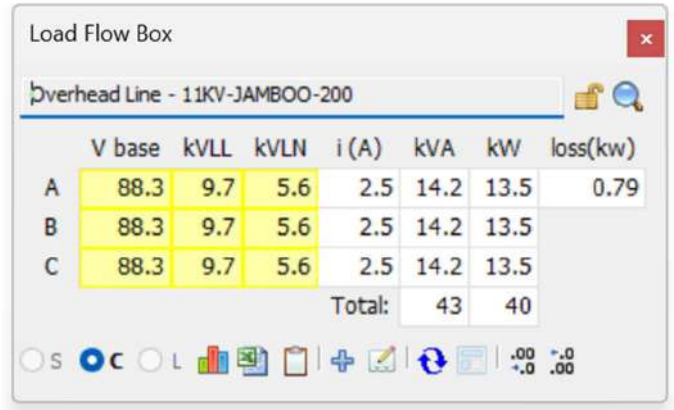
GIS SLD:



Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:



Length of Sections

	A	B	C	Total
3-phase	45099.5	45099.5	45099.5	45099.5
2-phase	0.0	0.0	0.0	0.0
1-phase	0.0	0.0	0.0	0.0
Total	45099.5	45099.5	45099.5	45099.5

11KV Jamboo feeder's length has been reduced from 72.9 CKM to 45.09 CKM.

Scope of Work:

- Construction of 0.9 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAAC.
- Installation of 01 No. of 4-Pole without AB Switch
- Installation of 01 No. of 4-Pole with 01 No. of AB Switch
- Installation of 01 No. section boundary meter.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.47	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	KED-II
Name of the Sub-Division : -	Mahakalpada
Name of the Section : -	Mahakalpada
Name of the Work :-	Proposal for construction of 0.9 CKM 11 KV line using 100 Sq.mm AAA Conductor for N-1 connectivity between 11 kV Jamboo & Marine Fdr. and reduction of length of 11 kV Jamboo Fdr.

Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.9 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAAC (Refer PSLD)	2,466,126.18
2	PART B: 1. Installation of 01 No. of 4-Pole without AB Switch (Refer PSLD) 2. Installation of 01 No. of 4-Pole with 01 No. of AB Switch (Refer PSLD)	792,437.71
3	PART C: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
4	**Total Amount**	**3,351,479.49**
	Total Amount (In Cr.)	**0.34**
Total estimated cost is Rs. 0.34 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.34 Cr. (For detailed BoQ refer Annexure-12.47)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Compliance with the guidelines of voltage regulation in the distribution network.
c) Reduction of electrocution risk and public safety hazards.
d) Safe operation and isolation of the feeder.
e) Protection of electrical assets against lightening and surge related failure.
f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Jamboo feeder length will be reduced from 72.9 CKM to 45.09 CKM to comply Hon'ble OERC directive to keep 11KV feeder length below 50Ckt.KM.
- 11KV Jamboo feeder's tail end voltage improved from 8.7 KV to 9.7 KV & will improve power quality of the all connected consumers to the 11KV feeder.
- Ring connectivity is established between 11KV Jamboo feeder and 11 kV Marine feeder which will be helpful for power supply restorations during breakdown and maintenance works.

48.0 Proposal for Reliability improvement along with mitigation of overloading issue of 11kV Jaynagar Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Jaynagar feeder for length 6 CKM for improvement of reliability along with mitigation of overloading issue.

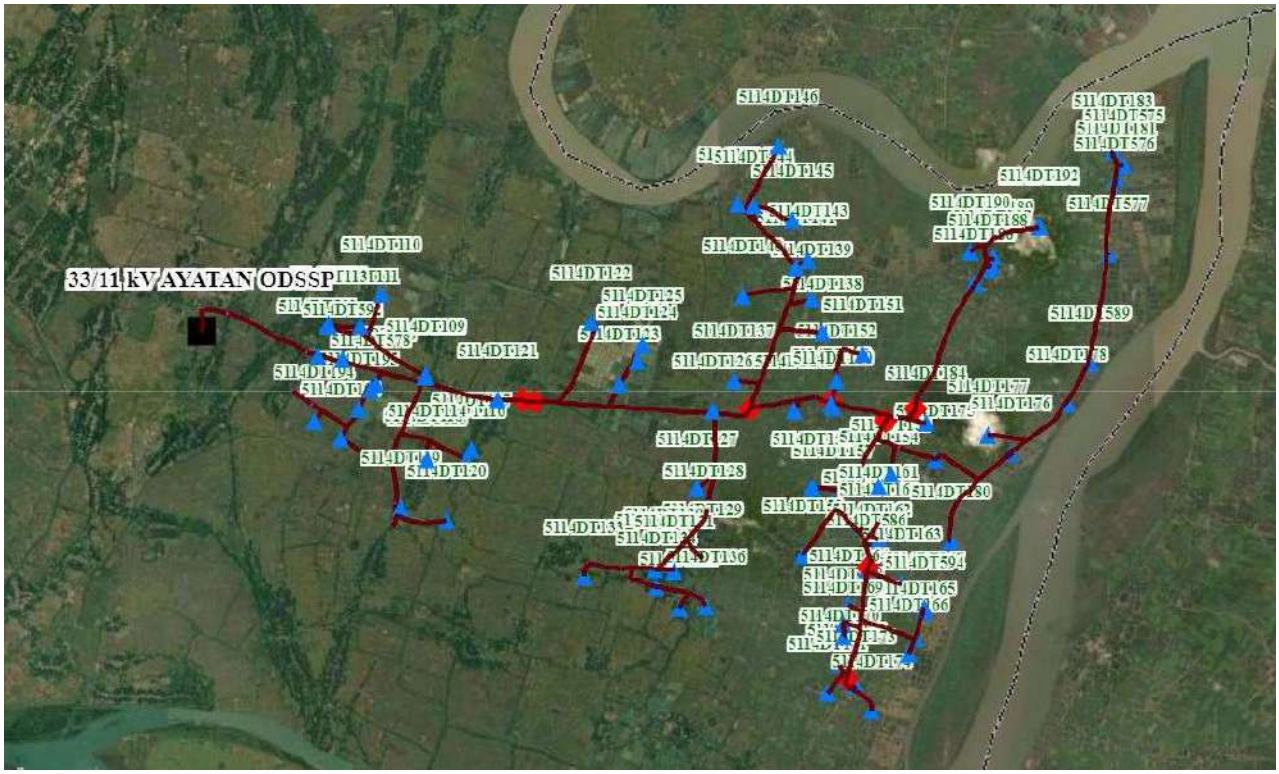
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Jaynagar Feeder.

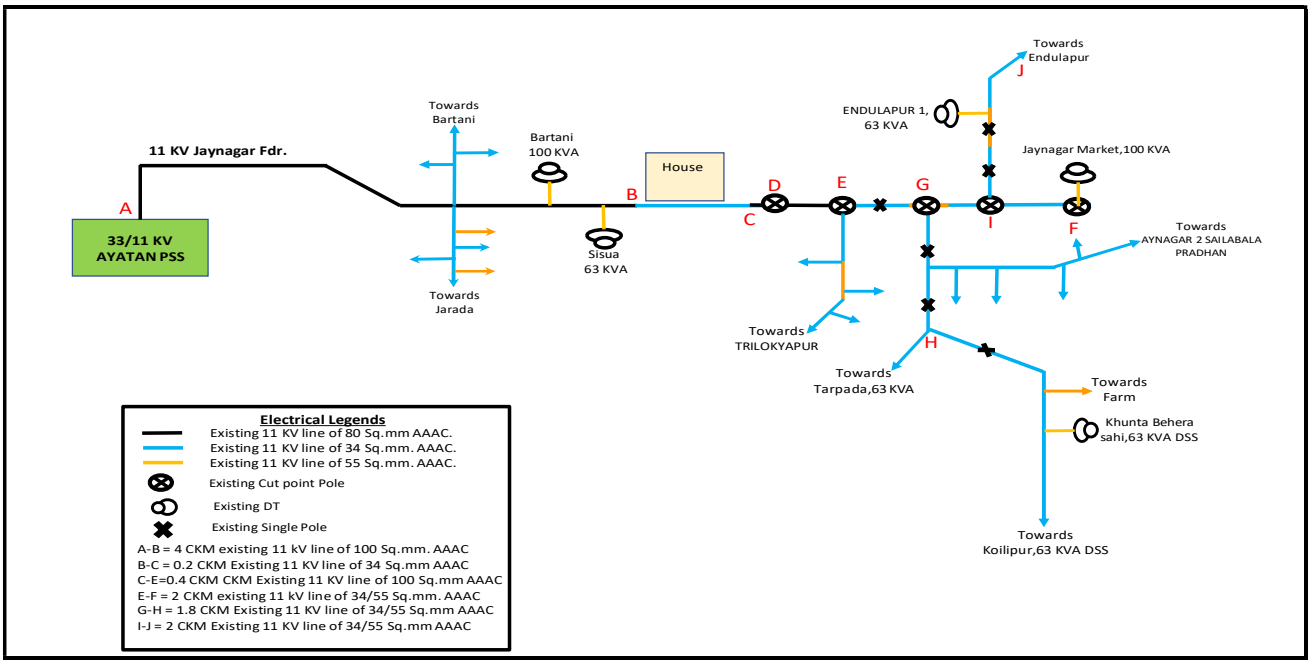
Existing Scenario:

- At present, 11kV Jaynagar feeder is emanating from 33/11kV Ayatan PSS. The total length of 11kV Jaynagar feeder is 45.7 km and peak load is 4.8 MVA.
- The trunk as well as branch conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Jaynagar feeder due to lower size and aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



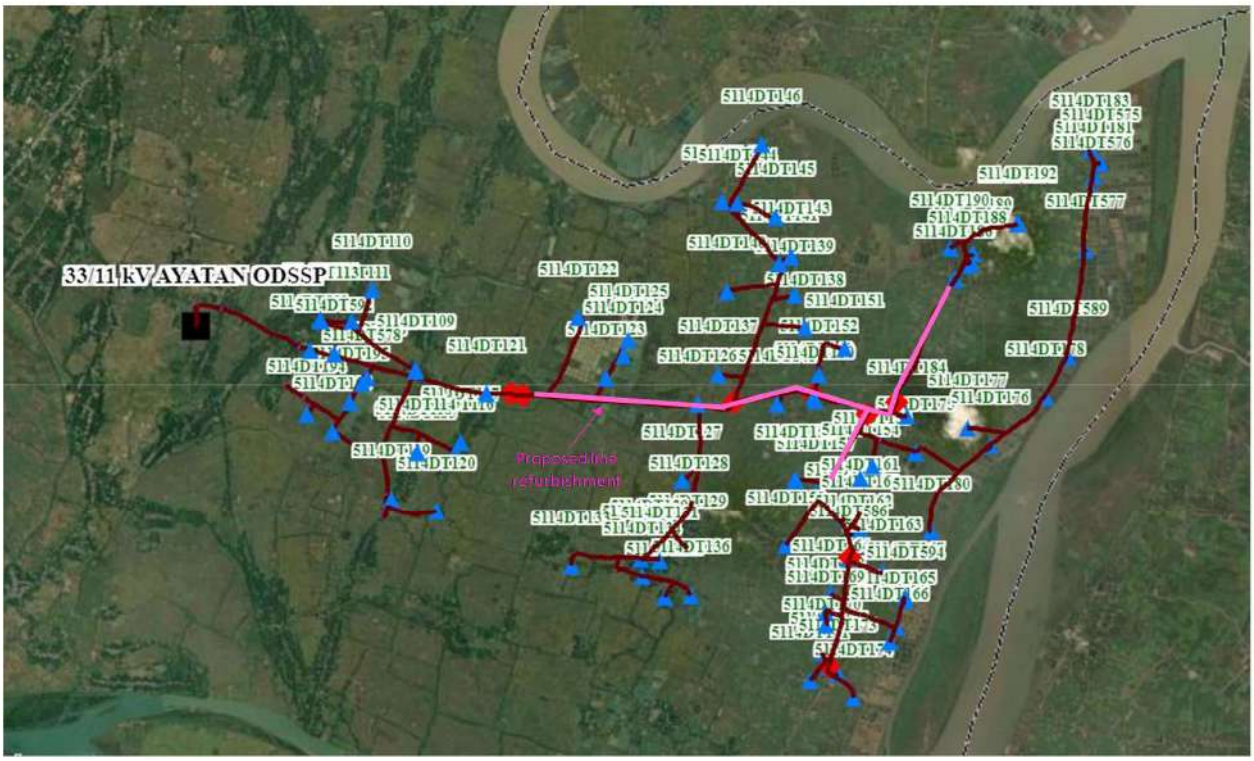
Priority and Timeline of the Project:

Priority: Since the 11kV Jaynagar feeder caters to prawn farming and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 2640 No's consumer connected to the 11KV Jaynagar feeder. No of 11KV feeder tripping in FY26 is 7 No's & 6 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

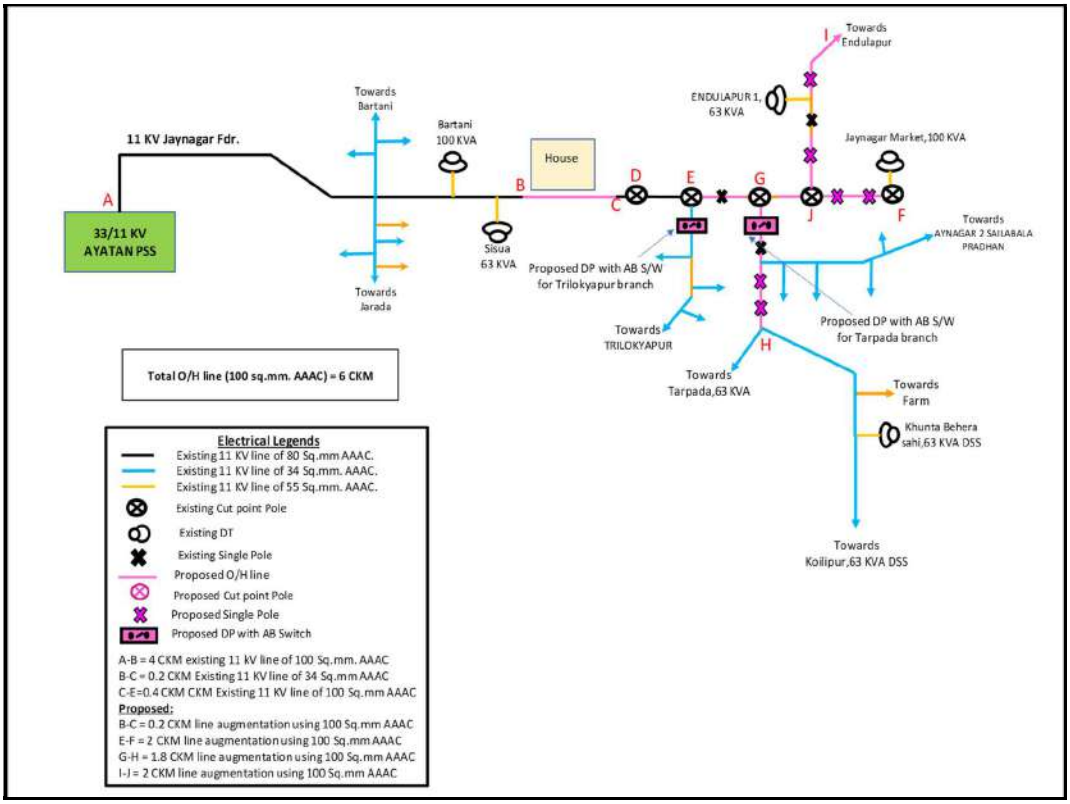
Proposed Scenario:

- Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC for strengthening of 11 kV Jaynagar feeder.
- Installation of 04 Nos 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC.
- Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.48		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Aul	
Name of the Section : -	Rajkanika	
Name of the Work :-	Proposal for refurbishment of 6 CKM O/H line of 11 kV Jaynagar Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement and overloading mitigation.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD BC, EF, GH & IJ)	8,780,295.38
2	PART B: Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	117,377.25
3	PART C: Dismantling Portion	298,675.98
4	**Total Amount**	**9,196,348.62**
	Total Amount (In Cr.)	**0.92**
Total estimated cost is Rs. 0.92 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.92 Cr. (For detailed BoQ refer Annexure-12.48)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Jaynagar feeder and overloading issue will also be mitigated.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

49.0 Proposal for Reliability improvement of 11kV Bairi Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Bairi feeder for length 7.5 CKM for improvement of reliability.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Bairi Feeder.

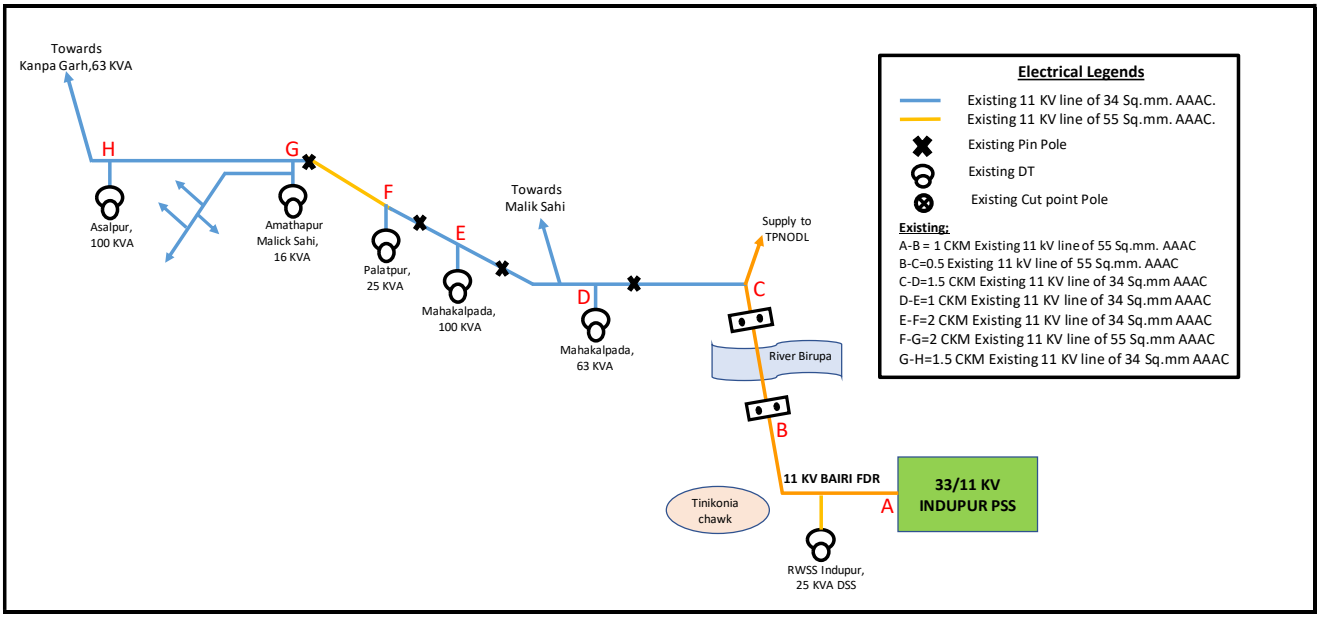
Existing Scenario:

- At present, 11kV Bairi feeder is emanating from 33/11kV Indupur PSS. The total length of 11kV Bairi feeder is 19 km and peak load is 1.82 MVA.
- The trunk as well as branch conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.
- Frequent tripping is observed in the 11KV Bairi feeder due to lower size and aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Bairi feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 1621 No's consumer connected to the 11KV Bairi feeder. No of 11KV feeder tripping in FY26 is 90 No's & 32 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

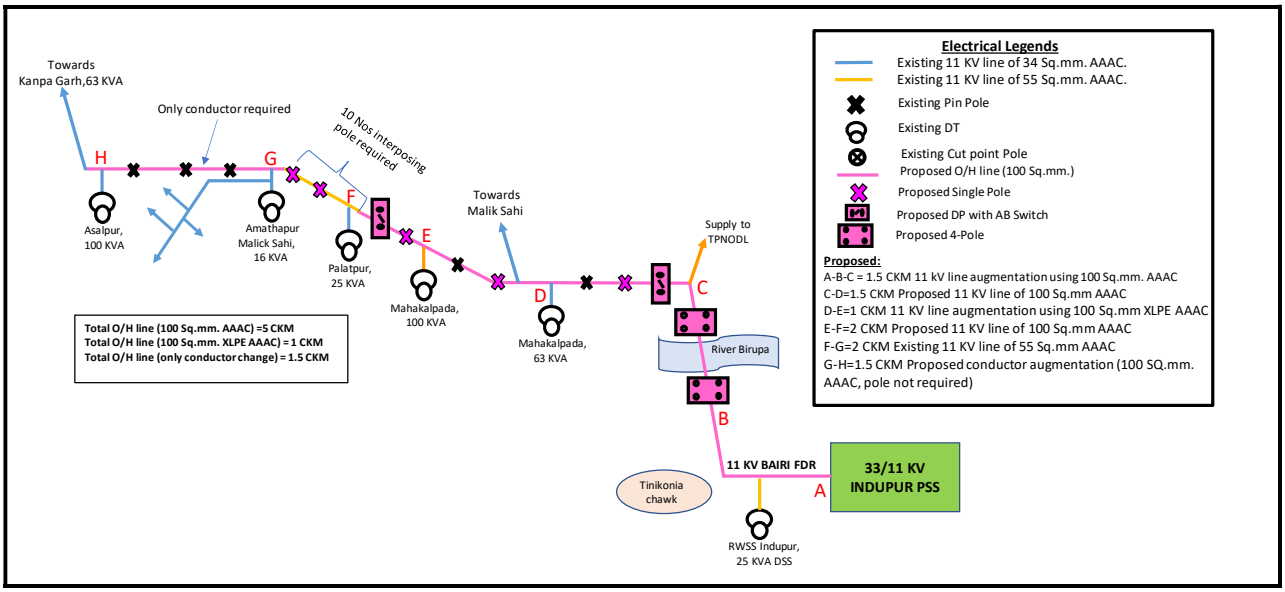
Proposed Scenario:

- Augmentation of 6.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC for strengthening of 11 kV Bairi feeder.
- Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC at dense vegetation area near mahakalpada village.
- Installation of 02 Nos of 4-Pole for Birupa river crossing.
- Installation of 05 Nos 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 3.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC.
- Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole (interposing).
- Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC(Pole is not required).
- Installation of 10 Nos interposing pole in existing line.
- Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC
- Installation of 05 Nos of 11 kV line protecting guarding having span 30 Mtr.
- Installation of 02 Nos of 4-Pole without AB Switch.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.49		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Kendrapara	
Name of the Section : -	Indupur	
Name of the Work :-	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Bairi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Construction of 3.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD CD & EF) 2. Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole (interposing) (Refer PSLD A-B-C) 3. Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC(Pole is not required) (Refer PSLD G-H) 4. Installation of 10 Nos interposing pole in existing line (refer PSLD F-G)	8,721,642.86
2	PART B: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD DE)	1,652,525.03
3	PART C: Installation of 02 Nos of 4-Pole without AB Switch (Refer PSLD)	775,938.53
4	PART D: Installation of 05 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	146,721.57
5	PART E: Dismantling Portion	312,251.60
6	**Total Amount**	**11,609,079.59**
	Total Amount (In Cr.)	**1.16**
Total estimated cost is Rs. 1.16 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 1.16 Cr. (For detailed BoQ refer Annexure-12.49)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Bairi feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

50.0 Proposal for Reliability improvement along with overloading mitigation of 11kV Asian Plaza Feeder:

Proposal:

Proposal for Load Diversion of existing 11 Asian Plaza Feeder load emanating from 33/11kV Dumduma PSS by linking with nearby Feeder.

Requirement/ Need of the proposal:

Objective: Reliability improvement along with overloading mitigation of 11kV Asian Plaza Feeder.

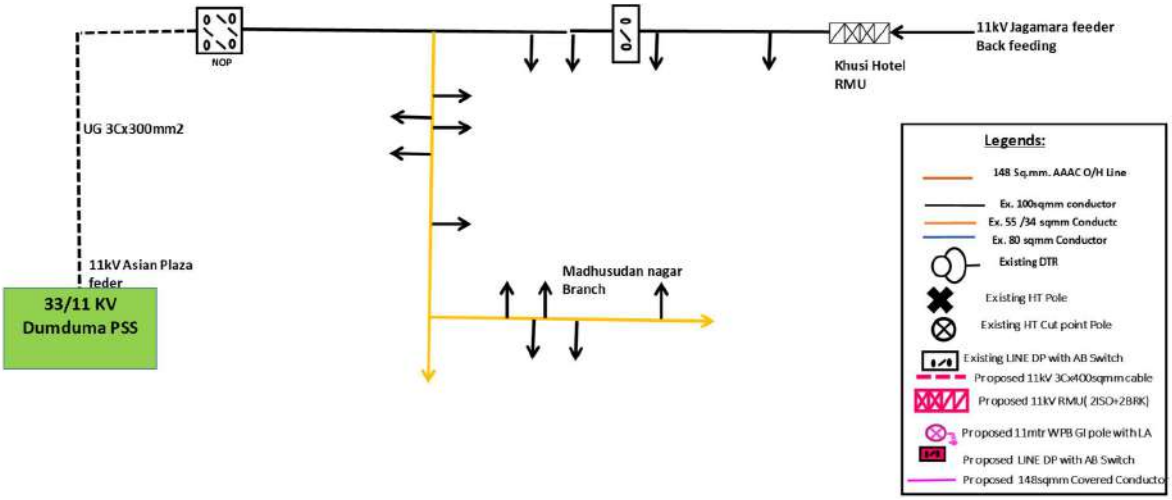
Existing Scenario:

- At present, 11kV AsianPlaza feeder is emanating from 33/11kV Ranasingh Pur PSS. The total feeder length of 11kV Aiginia Feeder is 6.22 km and peak load is 1.6 MVA.
- The trunk conductor size of feeder is 55 sqmm and it passes through vegetation which is cause tripping due to tree touching.
- Frequent tripping is observed in the 11KV Asian Plaza feeder.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Asian Plaza feeder caters to an urban consumer and is experiencing frequent interruptions due to feeder tripping's, ageing network and repeated shutdown for restoration and maintenance activities. The no. of tripping's during the last year was 308 nos. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

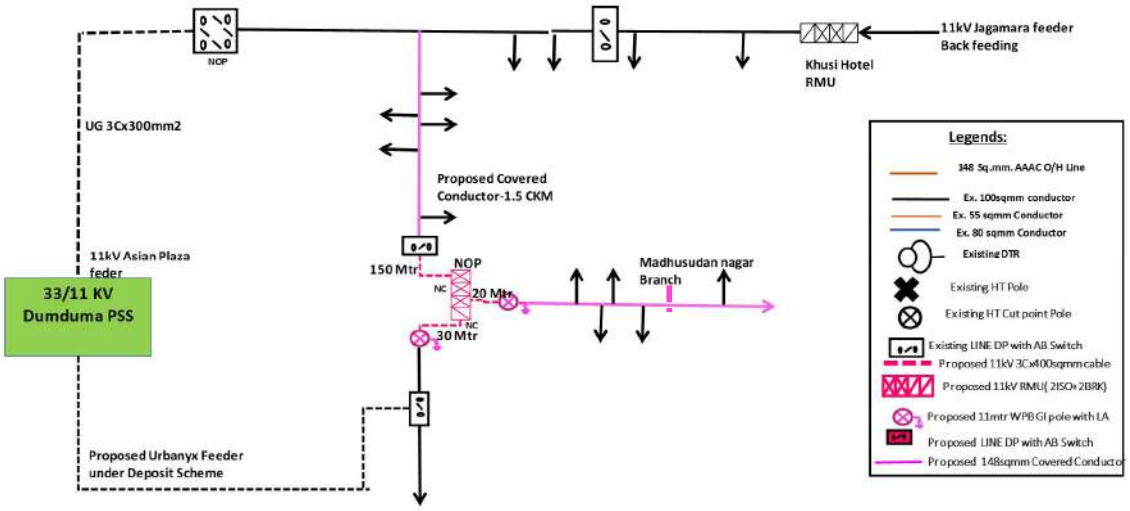
Proposed Scenario:

- Installation of 1 No. of RMU in MS Nagar T-Off in Asian Plaza Feeder for Linking with 11kV Urbanyx Feeder.
- Augmentation of 11kV Asian Plaza feeder of length 1.5CKM.

GIS Map Proposed: -



Proposed SLD:



Scope of Work:

- Installation of 1 No. of RMU in MS Nagar T-Off in Asian Plaza Feeder for Linking with 11kV Urbanyx Feeder.
- Augmentation of 11kV Asian Plaza feeder of length 1.5CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.50	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division: -	BCDD-II
Name of the Sub-Division: -	Khandagiri
Name of the Section: -	Khandagiri

Name of the Feeder: -	11kV Asian Plaza
Name of the Work: -	Proposal for Bifurcation of existing 11kV Asian Plaza feeder for mitigation of overloading.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)

Abstract of Estimate

Sl. No.	Description	Gross
1	Part-A: - 2. Installation of 1 No. of RMU in MS Nagar T-Off in Asian Plaza Feeder for Linking with 11kV Urbanyx Feeder.	44,72,530.56
2	Part-B: -Augmentation of 11kV Asian Plaza feeder of length 1.5CKM.	27,36,985.77
3	Part-C Dismantling.	72,634.25
4	**Total Gross**	**72,82,150.58**

Total estimated cost is Rs. 0.73Crore. (On TPCODL CAPEX Scheme)

Cost Estimate: ₹ 0.73 Cr. (For detailed BoQ referAnnexure-12.50)

I. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

II. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Improved Reliability there by overloading mitigation.
- Feeder restoration will be quick.
- By linking 11KV Asian Plaza feeder and 11KV Urbanyx feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential urban consumers.

51.0 Proposal for Reliability improvement of 11kV Thakurpatna Feeder:

Proposal:

Proposal for construction of interlinking line between 11 kV Thakurpatna & Chhata feeder for length- 1.1 KM for reliability purpose.

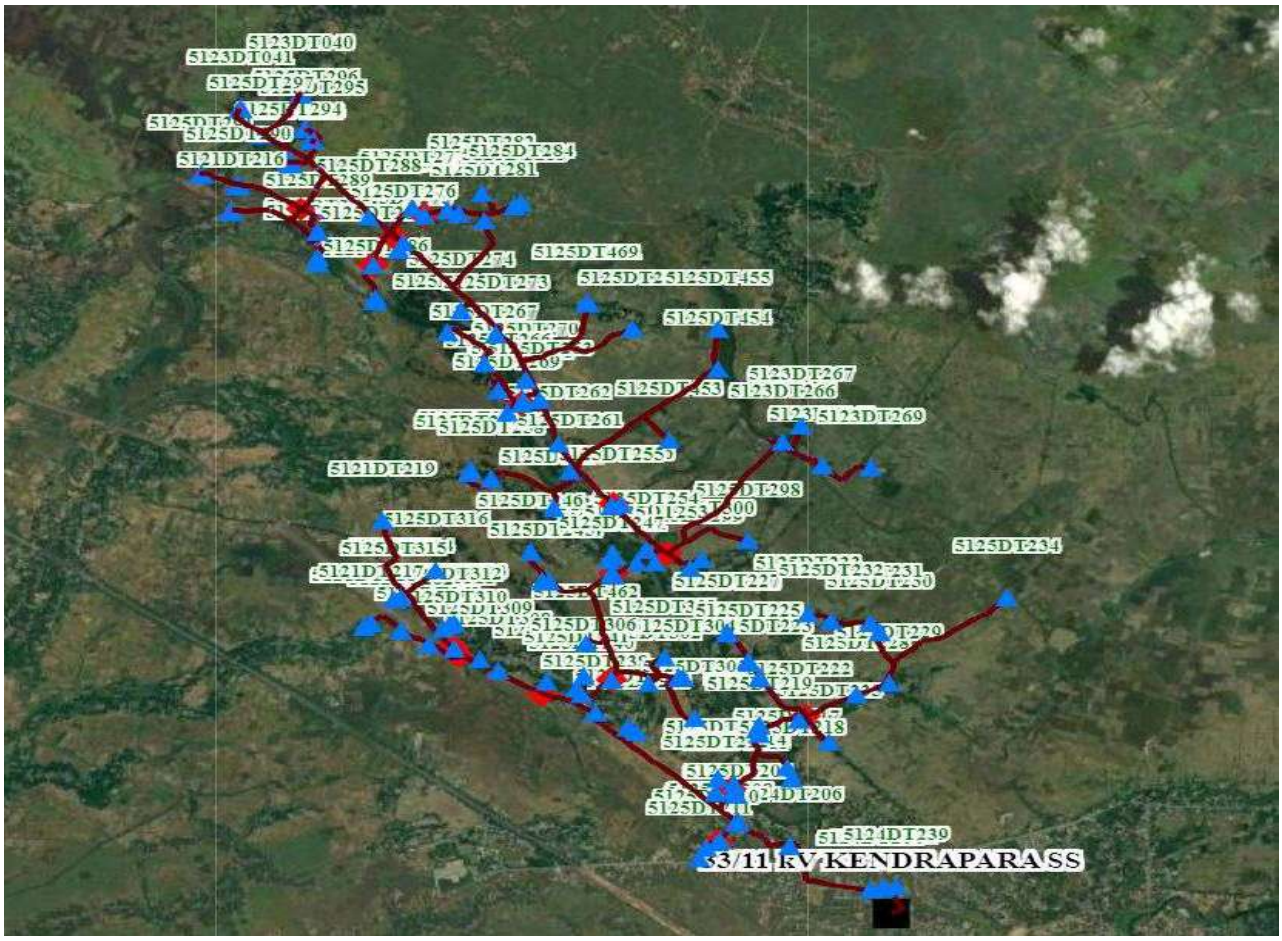
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Thakurpatna Feeder.

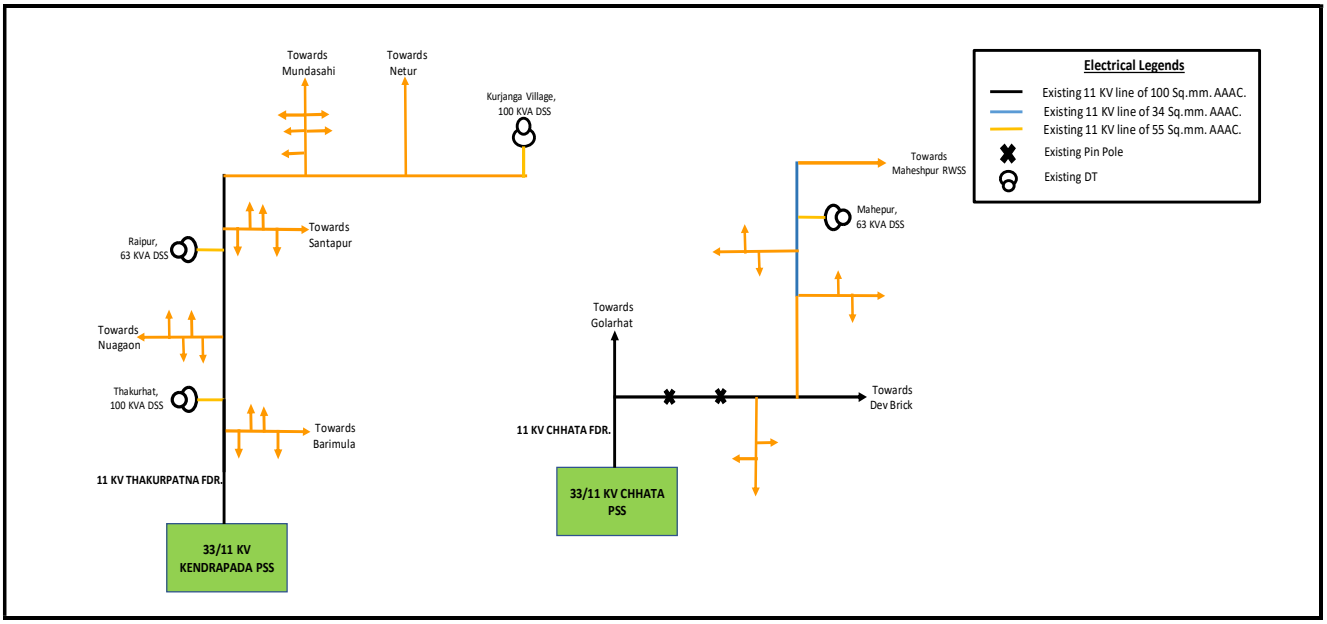
Existing Scenario:

- At present, 11kV Thakurpatna feeder is emanating from 33/11kV Kendrapara PSS. The total length of 11kV Thakurpatna feeder is 44.4 km and peak load is 4.1 MVA.
- 11 kV Chhata feeder is nearby to 11 kV Thakurpatna feeder emanating from 33/11 kV Chhata PSS.
- Frequent tripping is observed in the 11KV Thakurpatna feeder which hampers the power supply reliability.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Thakurpatna feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 5126 No's consumer connected to the 11KV Thakurpatna feeder. No of 11KV feeder tripping in FY26 is 387 No's & 101 No's till July 26.In case of any fault occurs whole feeder remain in dark as there is no N-1 connectivity for Thakurpatna feeder. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

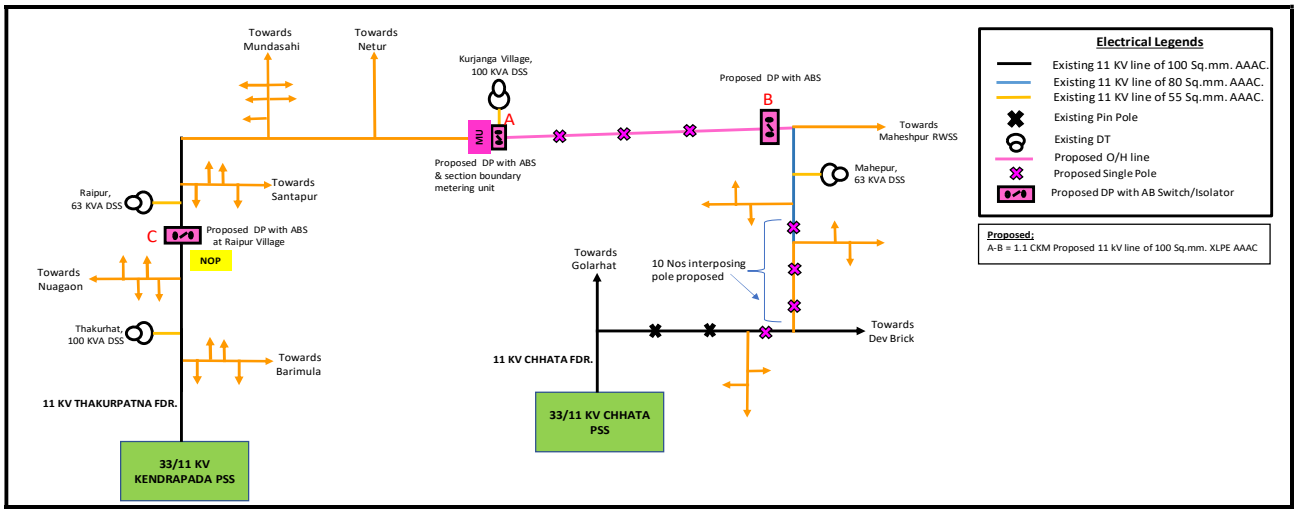
Proposed Scenario:

- Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC for N-1 connectivity between 11 kV Thakurpatna & Chhata feeder.
- Installation of 01 No. HT Meter at the section boundary for energy auditing purpose.
- Installation of 10 Nos 11 Mtr. WPB Pole (interposing) in Chhata Fdr. for strengthening of existing line.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD AB)
- Installation of 10 Nos of 11 Mtr. WPB Pole (interposing) in 11 kV Chhata Fdr.
- Installation of 01 No. section boundary meter.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.51		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Kendrapara	
Name of the Section : -	Chhata	
Name of the Work :-	Proposal for construction of 1.1 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Thakurpatna & Chhata Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD AB) 2. Installation of 10 Nos of 11 Mtr. WPB Pole (interposing) in 11 kV Chhata Fdr.	4,142,866.07
2	PART B: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
3	**Total Amount**	**4,235,781.67**
	Total Amount (In Cr.)	**0.42**
Total estimated cost is Rs. 0.42 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.42 Cr. (For detailed BoQ refer Annexure-12.51)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Thakurpatna as well as Chhata feeder by establishing N-1 connectivity.
- Feeder restoration will be quick.
- By linking 11KV Thakurpatna feeder and 11KV Chhata feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

52.0 Proposal for Length Reduction of 11kV Rajnagar Feeder:

Proposal:

Proposal for reduction in length for 11KV Rajnagar feeder and reliability improvement.

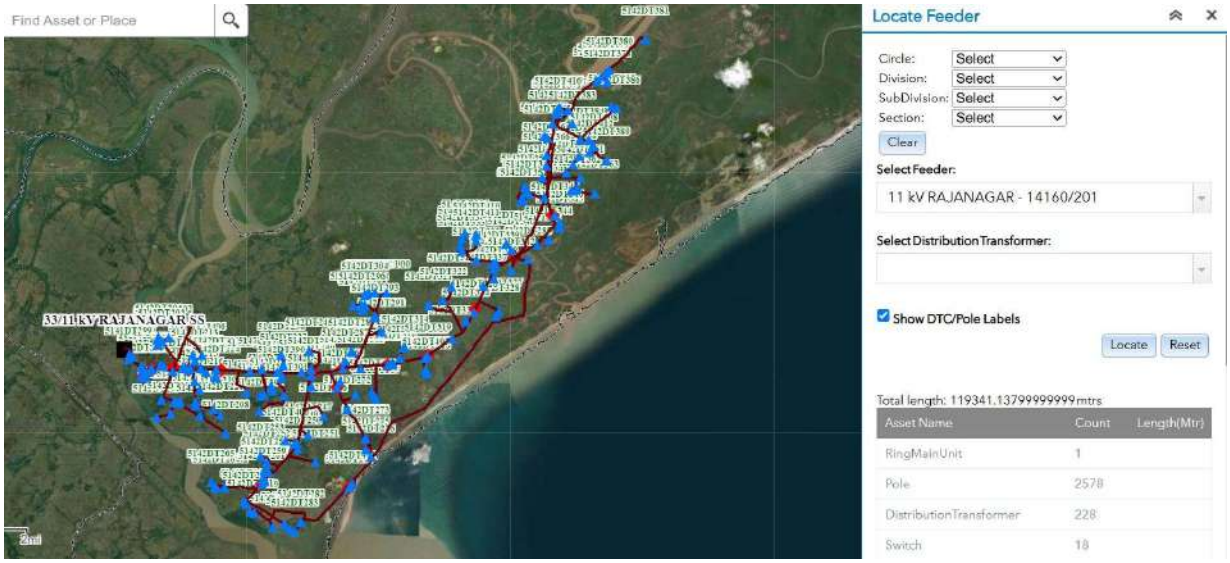
Requirement/ Need of the proposal:

Objective: Length reduction and reliability improvement of 11kV Rajnagar Feeder.

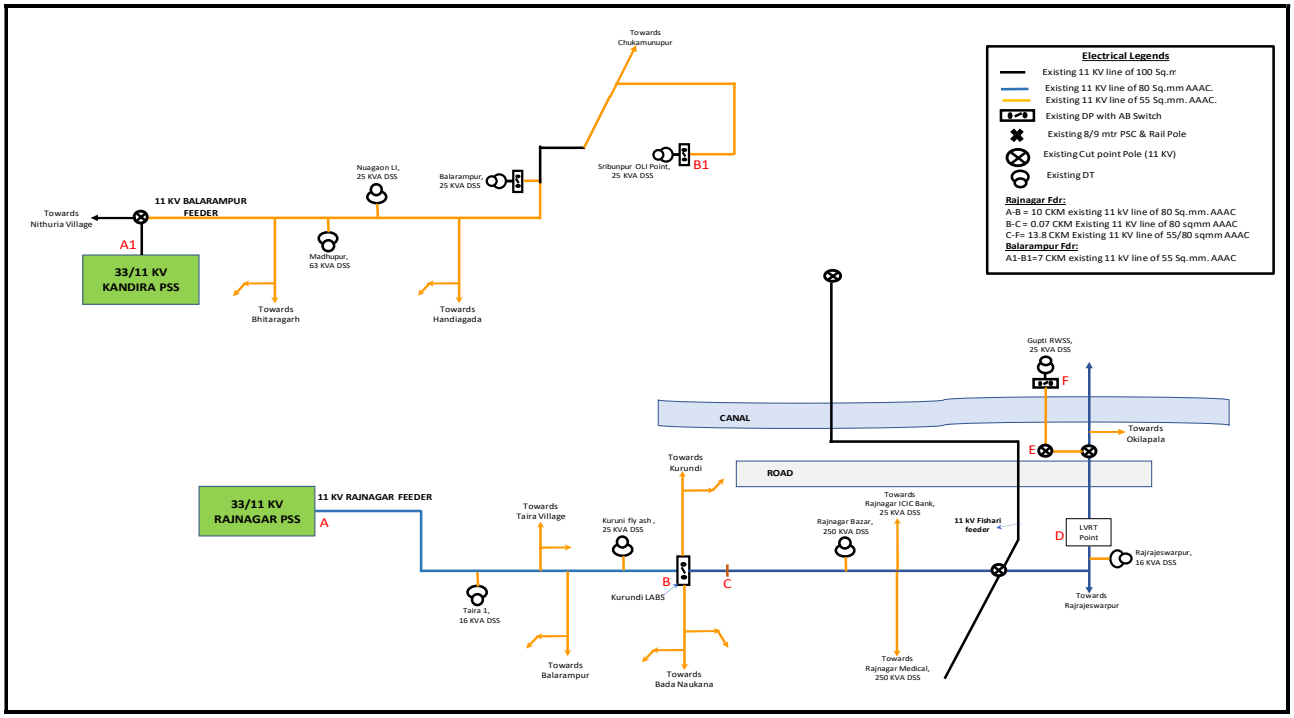
Existing Scenario:

- At present, 11kV Rajnagar feeder is emanating from 33/11kV Rajnagar PSS having a feeder length of 119.3 Ckt. KM and peak load is 4.4 MVA.
- Entire 11kV Rajnagar Fdr is of 55/80 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

GIS SLD:



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Rajnagar feeder is experiencing frequent interruptions due to feeder tripping, ageing network and repeated shutdown for restoration and maintenance activities. Total 10079 No's consumer connected to the 11KV Rajnagar feeder. No of 11KV feeder tripping in FY26 is 303 No's & 78 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

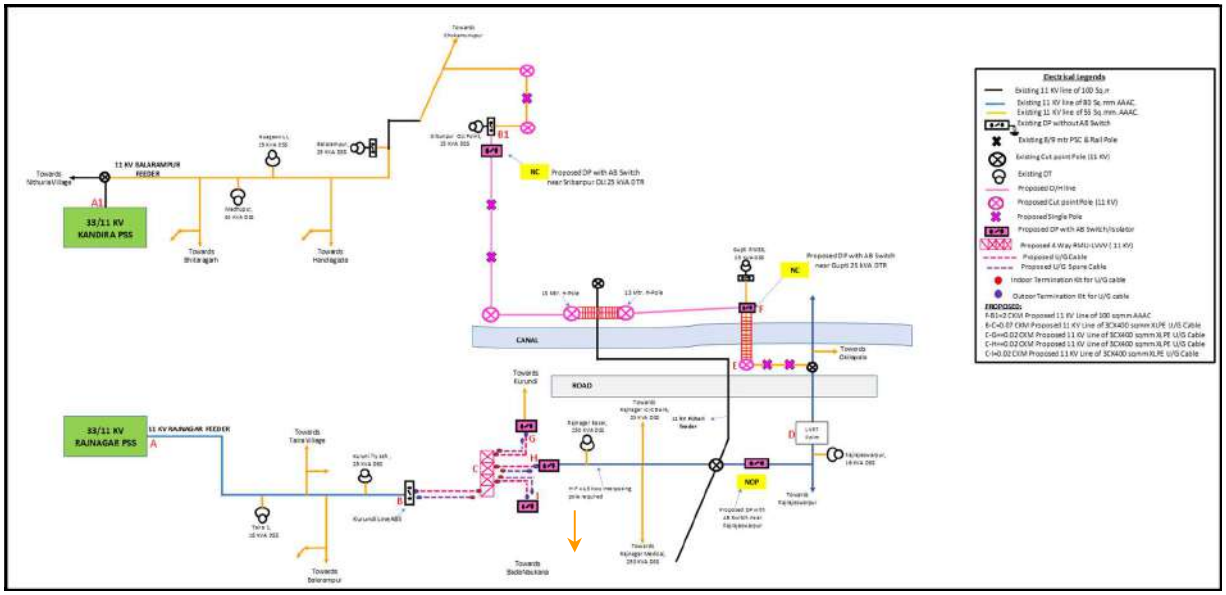
Proposed Scenario:

- It is proposed for interlinking of existing 11KV Rajnagar feeder with nearby 11KV Balarampur feeder emanating from Kandira PSS for existing Rajangar feeder length reduction by construction of 2 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC.
- Installation of 01 No. 11 kV 4-way RMU (LVVV) along with required accessories at Market area for improving reliability of Market area.
- In case of any fault in OH line feeding rural area will be isolated on RMU breaker which will help to improve the reliability of Rajnagar market area. RMU Breaker & FPI will also help in quick fault identification & restoration.
- Installation of 02 Nos of 11 kV line protecting guarding having span 40 Mtr. for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 2 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC.
- Supply & laying of 0.13 kM 11 kV 3CX400 Sq.mm. XLPE U/G cable with one run spare in Open Trench method.
- Installation of 01 No. 11 kV 4-way RMU (LVVV).
- Installation of 02 Nos of 11 kV line protecting guarding having span 40 Mtr.
- Installation of interposing poles 15No's to improve Vertical clearances in the line.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.52		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Rajnagar	
Name of the Section : -	Rajnagar-II	
Name of the Work :-	Proposal for construction of 2 CKM 11 kV new line for N-1 connectivity between 11 kV Rajnagar & Balarampur Fdr. along with installation of 01 No. of 11 kV 4-way RMU (LVVV) at Kurundi for improvement of reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Construction of 2 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD) 2. Installation of 15 Nos 11 Mtr. WPB Pole (interposing) (Refer PSLD)	6,624,115.63
2	PART B: 1. Supply & laying of 0.13 kM 11 kV 3CX400 Sq.mm. XLPE U/G cable with one run spare in Open Trench method (refer PSLD) 2. Installation of 01 No. 11 kV 4-way RMU (LVVV) (Refer PSLD)	3,543,545.14
3	PART C: Installation of 02 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)	60,874.38
	Total Amount	**10,228,535.15**
	Total Amount (In Cr.)	**1.02**
Total estimated cost is Rs. 1.02 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 1.02 Cr. (For detailed BoQ refer Annexure-12.52)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Compliance with the guidelines of voltage regulation in the distribution network.

c) Reduction of electrocution risk and public safety hazards.

d) Safe operation and isolation of the feeder.

e) Protection of electrical assets against lightening and surge related failure.

f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Rajnagar feeder length reduction from 119.3 CKM to 81.88 CKM.
- Feeder restoration will be quick.
- Ring connectivity is established between 11KV Rajnagar feeder and 11 kV Balarampur feeder which will be helpful for power supply restorations during breakdown and maintenance works.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

53.0 Proposal for Reliability improvement of 11kV Sandhakuda Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Sandhakuda feeder for length 5.1 CKM for improvement of reliability.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Sandhakuda Feeder.

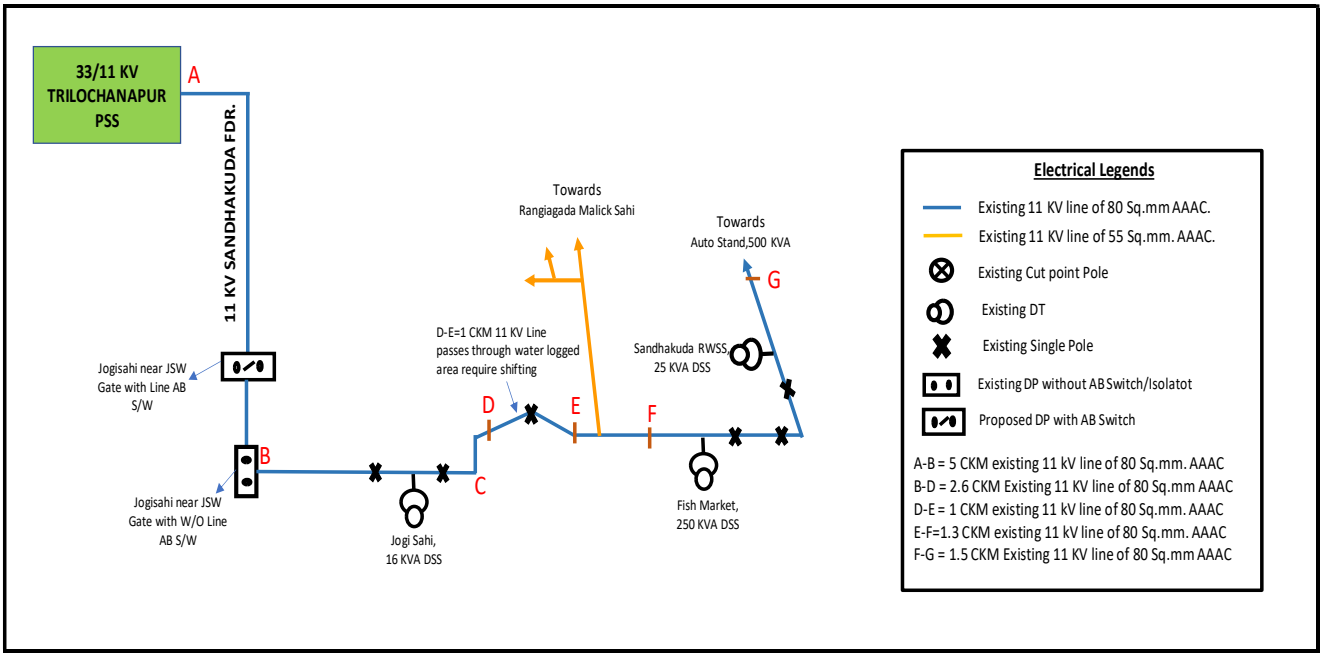
Existing Scenario:

- At present, 11kV Sandhakuda feeder is emanating from 33/11kV Trilochanpur PSS. The total length of 11kV Sandhakuda feeder is 20.7 km and peak load is 1.4 MVA.
- Frequent tripping is observed in the 11KV Sandhakuda feeder due to lower size and aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Sandhakuda feeder caters to rural area and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 2368 No's consumer connected to the 11KV Sandhakuda feeder. No of 11KV feeder tripping in FY26 is 63 No's & 17 No's till July 26. In addition, salinity effect along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

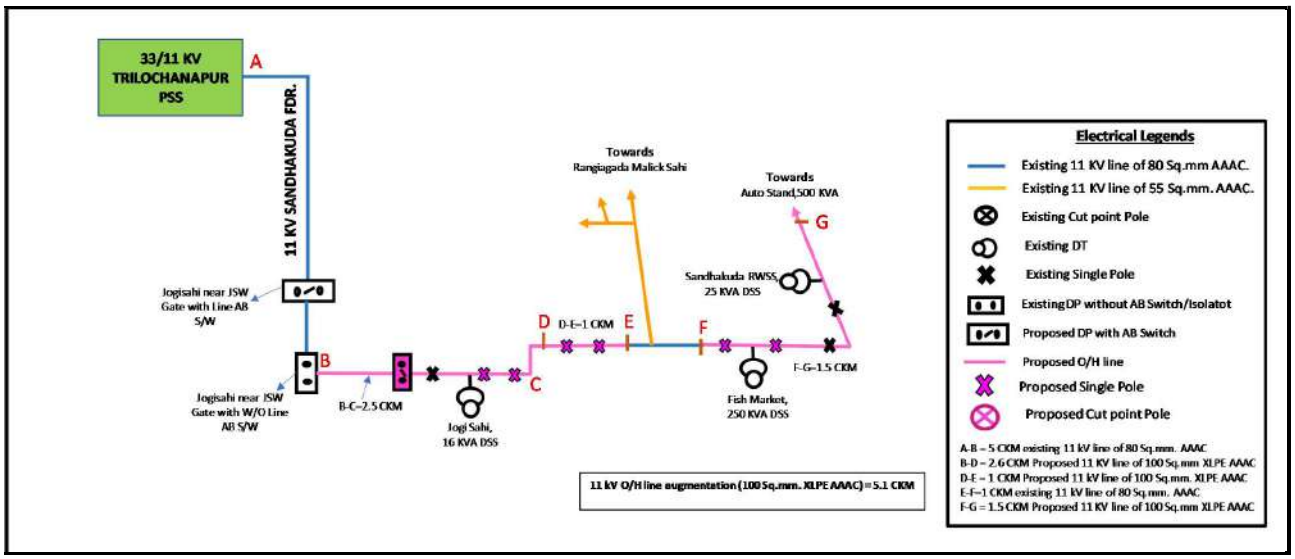
Proposed Scenario:

- Augmentation of 4.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC for strengthening of 11 kV Sandhakuda feeder.
- Construction of 1 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC for shifting of line from water logging area.
- Installation of 01 Nos 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 4.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor.
- Construction of 1 CKM 11 kV O/H line using 11 Mtr. H- Pole & 100 Sq.mm. XLPE AAA Conductor.
- Installation of 02 Nos of 11 kV line protecting guarding having span 30 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.53		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	Kujanga	
Name of the Section : -	Chatua	
Name of the Work :-	Proposal for Augmentation of 4.1 CKM O/H line of 11 kV Sandhakuda Fdr. from 80 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC along with shifting of 1 CKM 11 kV line from water logging area.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 4.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD B-D,F-G)	6,722,502.79
2	PART B: Construction of 1 CKM 11 kV O/H line using 11 Mtr. H- Pole & 100 Sq.mm. XLPE AAA Conductor (Refer D-E PSLD)	2,891,791.19
3	PART-C: Installation of 11 KV line protecting guarding of 2 Nos having span 30 Mtr. Each (Refer PSLD)	58,688.63
4	PART D: Dismantling Portion	274,471.38
	Total Amount	**9,947,453.99**
	Total Amount (In Cr.)	**0.99**
Total estimated cost is Rs. 0.99 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.99 Cr. (For detailed BoQ refer Annexure-12.53)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Sandhakuda feeder.
- Feeder restoration will be quick.

- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

54.0 Proposal for Reliability improvement of 11kV Santara Feeder:

Proposal:

Proposal for conversion of 11 kV O/H network to U/G in dense habitation area having length 0.57 kM in safety ground.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Santara Feeder.

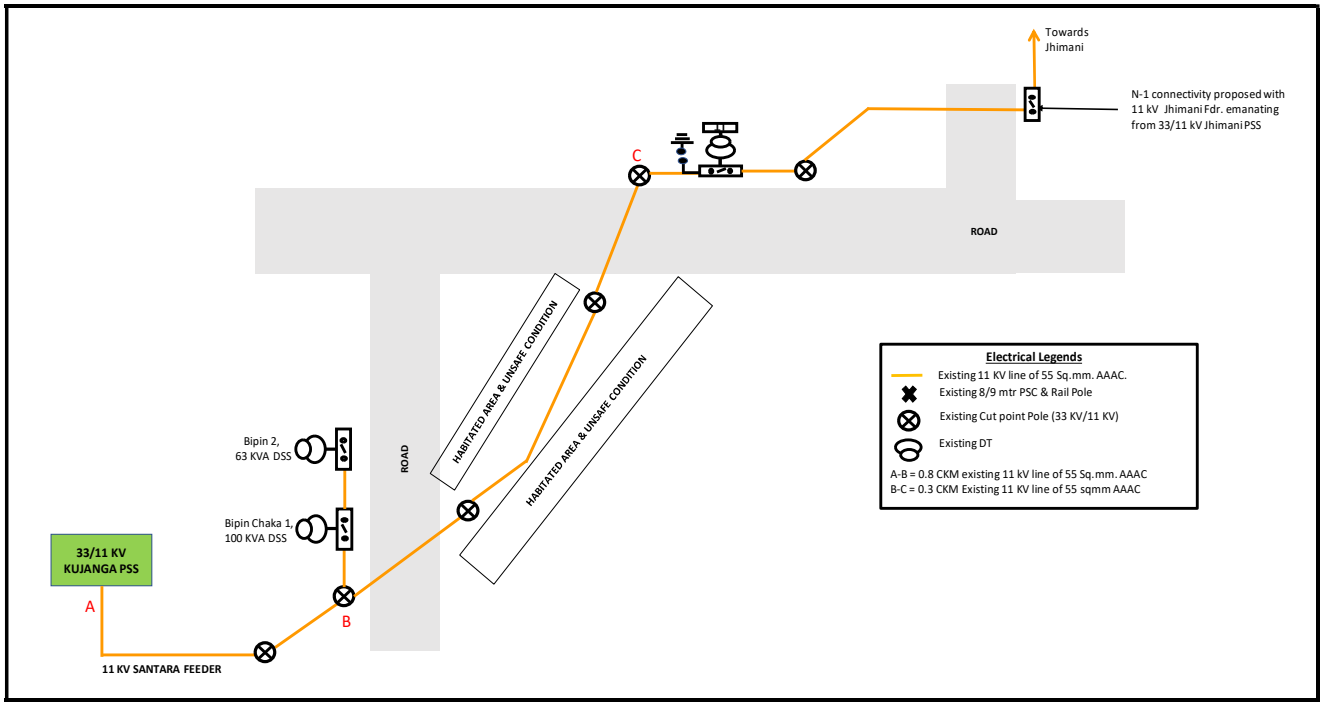
Existing Scenario:

- At present, 11kV Santara feeder is emanating from 33/11kV Kujanga PSS. The total length of 11kV Santara is 32.7 km and peak load is 4.5 MVA.
- Some part of 11 kV Santara feeder is passing through dense habitation area which is very unsafe and accident prone.
- It also create difficulties during maintenance.

GIS MAP



Existing SLD:



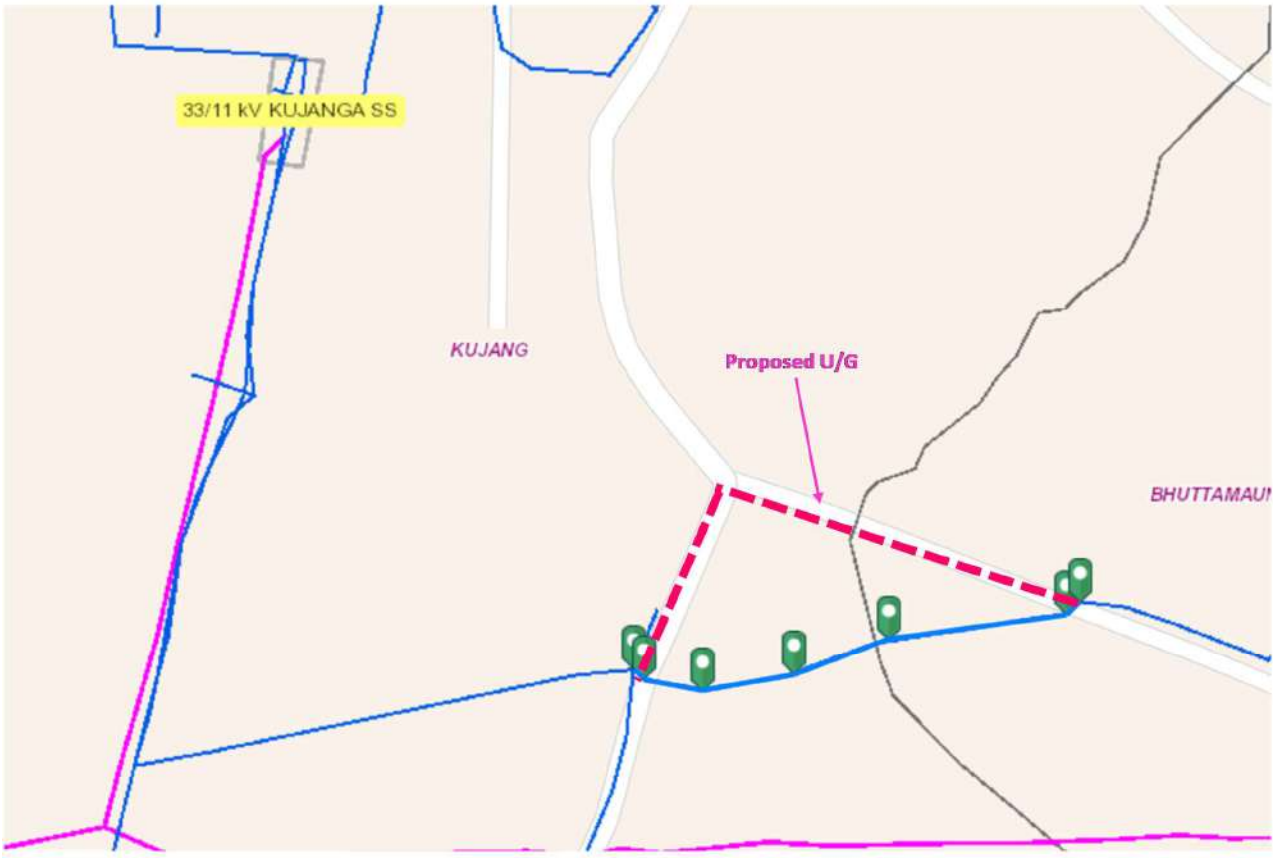
Priority and Timeline of the Project:

Priority: Since the 11kV Santara feeder caters to sub urban and rural area and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 5026 No's consumer connected to the 11KV Santara feeder. No of 11KV feeder tripping in FY26 is 39 No's & 17 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

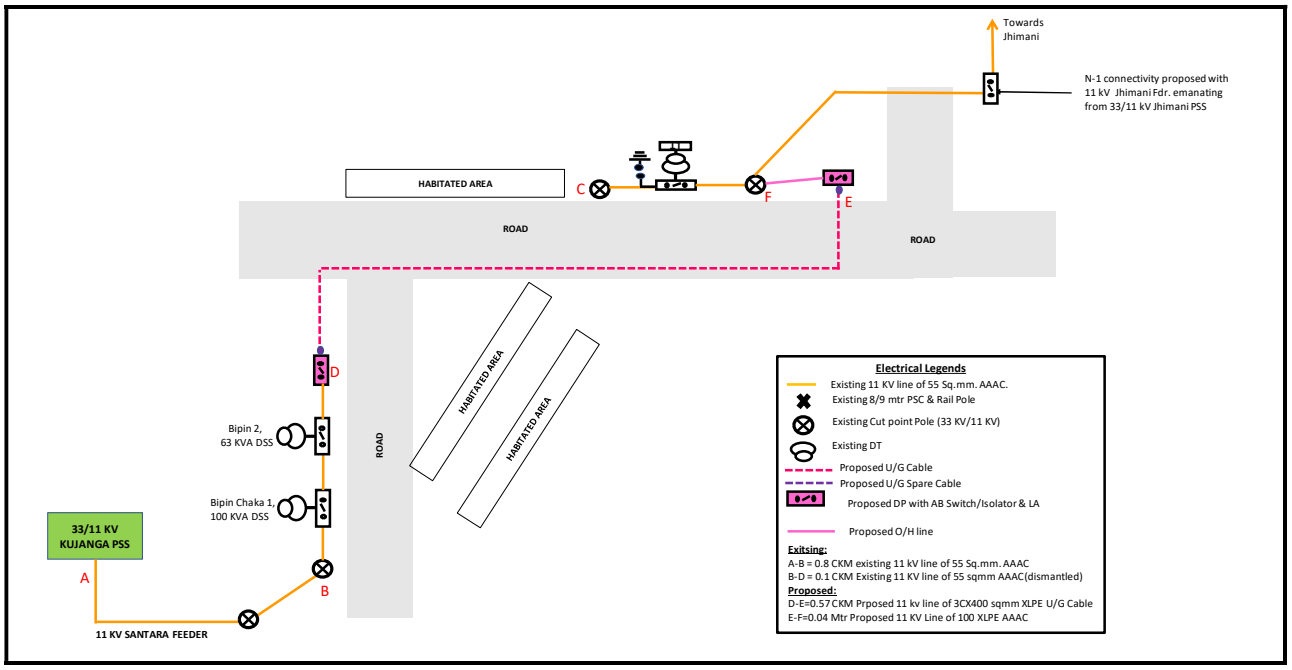
Proposed Scenario:

- Supply & laying of 0.57 kM 11 kV U/G line using 3CX400 XLPE U/G cable for shifting of O/H line from dense vegetation area at Balarampur village which will eliminate the unsafe part of the feeder.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Supply and laying of 11 kV 3C × 400 sq. mm XLPE U/G cable for 0.57 KM without spare run in HDD Method.
- Construction of 0.04 CKM 11 kV O/H line using 11 mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.54		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division :-	KUJANGA	
Name of the Section : -	KUJANGA	
Name of the Work :-	Proposal for conversion of 11 kV O/H line to U/G line using 3CX400 Sq.mm. XLPE U/G cable for the length of 0.57 kM for unsafe to safe.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A: Supply and laying of 11 kV 3C × 400 sq. mm XLPE U/G cable for 0.57 KM without spare run in HDD Method (refer to Point D–E)	4,353,491.23
2	PART B: Construction of 0.04 CKM 11 kV O/H line using 11 mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor.(Refer PSLD - E-F)	489,074.54
3	PART C: Dismantling Portion	18,106.71
	Total Amount	**4,860,672.49**
	Total Amount (In Cr.)	**0.49**
Total estimated cost is Rs. 0.49 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.49 Cr. (For detailed BoQ refer Annexure-12.54)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Santara fedder.
- Unsafe zone will be eliminated from the feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential Industrial consumers.

55.0 Proposal for Reliability improvement of 11kV Rangiagarh Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Rangiagarh feeder for length 1 CKM for improvement of reliability.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Rangiagarh Feeder.

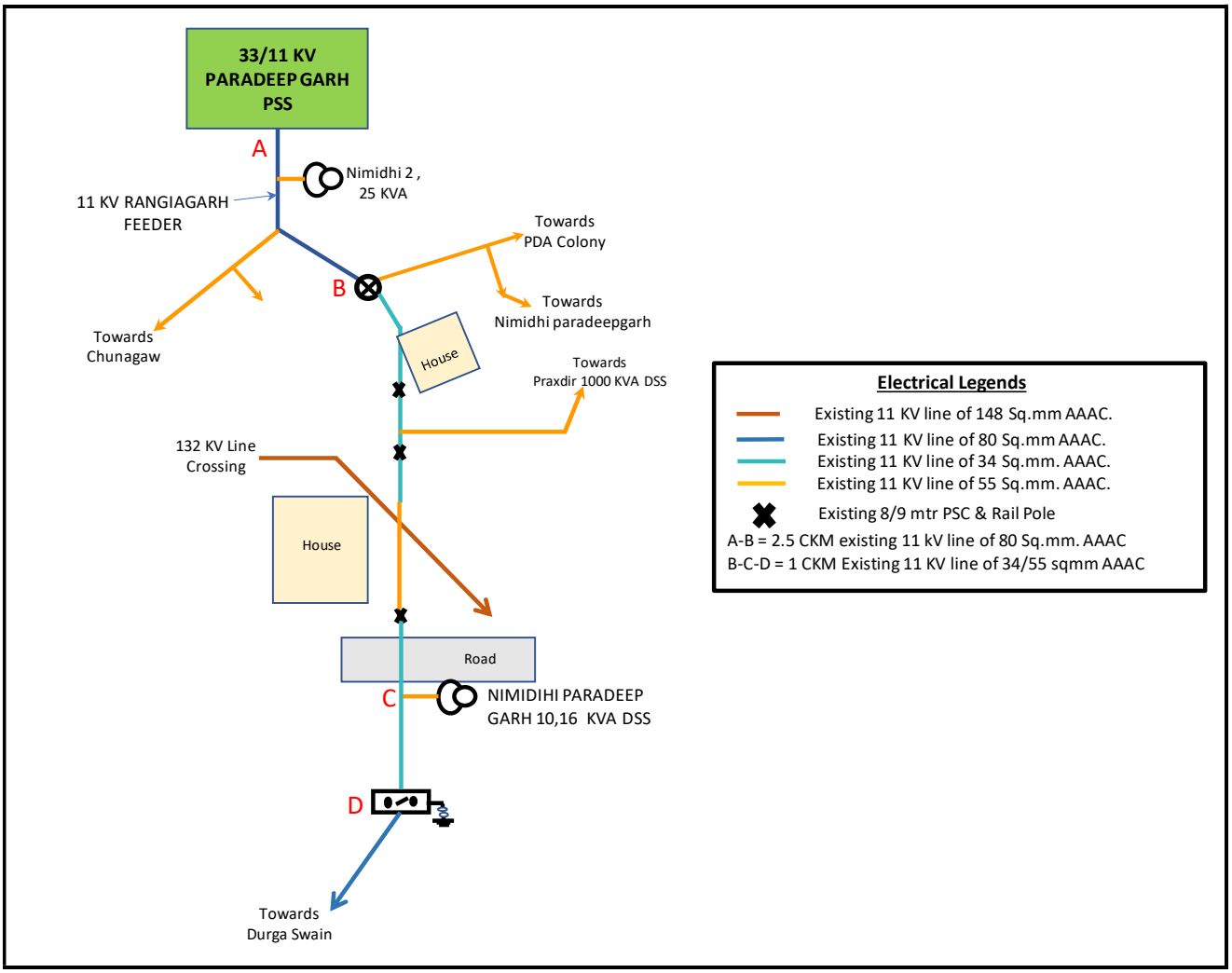
Existing Scenario:

- At present, 11kV Rangiagarh feeder is emanating from 33/11kV Paradeepgarh PSS. The total length of 11kV Jaynagar feeder is 13.7 km and peak load is 2.6 MVA.
- Frequent tripping is observed in the 11KV Rangiagarh feeder due to lower size and aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Rangiagarh feeder caters to Industrial area and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 1912 No's consumer connected to the 11KV Rangiagarh feeder. No of 11KV feeder tripping in FY26 is 139 No's & 36 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

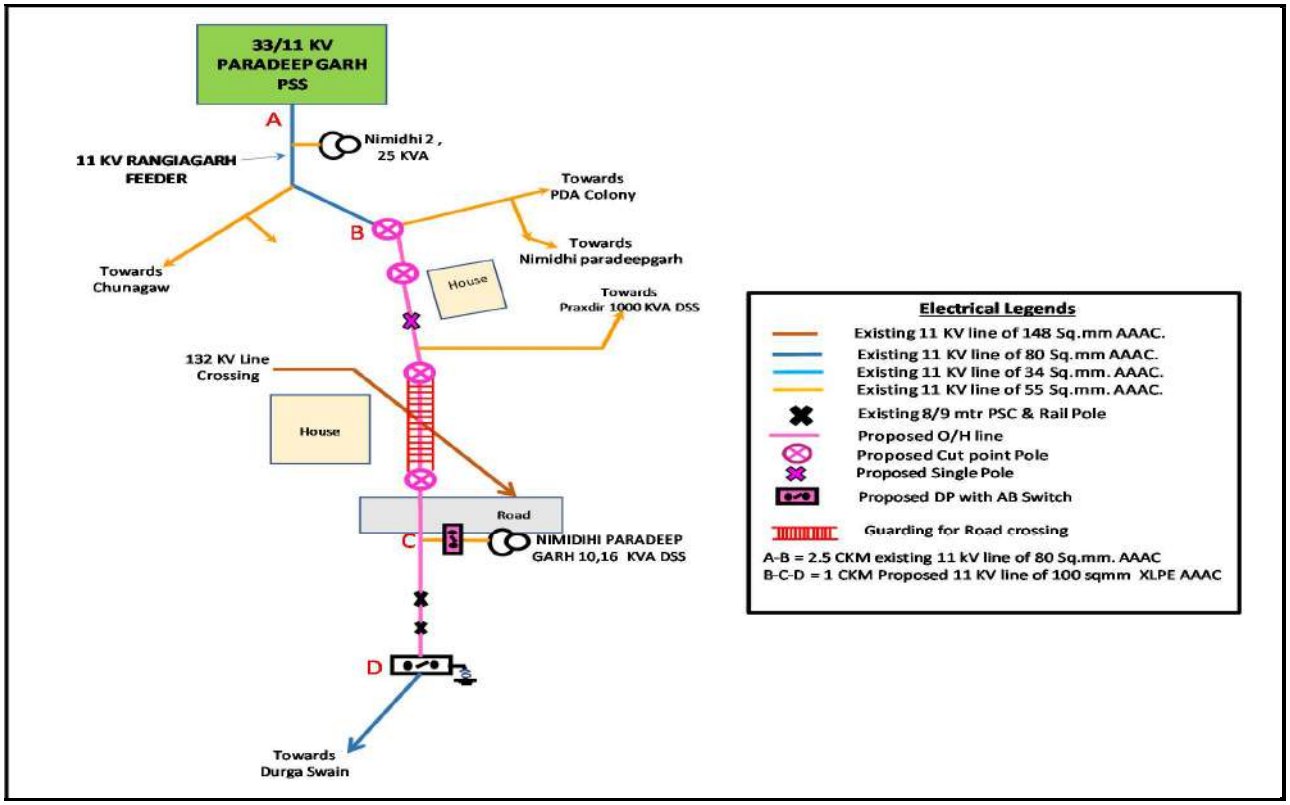
Proposed Scenario:

- Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC for strengthening of 11 kV Rangiagarh feeder.
- Installation of 01 No 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor.
- Installation of 01 No of 11 kV line protecting guarding having span 40 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.55		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	PARADEEP	
Name of the Section : -	PARADEEP	
Name of the Work :-	Proposal for Augmentation of 1 CKM line of 11 kV Rangiagarh Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD B-C-D)	1,748,319.07
2	PART-B: Installation of 11 KV line protecting guarding of 1 No span having span 40 Mtr. (Refer PSLD)	30,437.19
3	PART C: Dismantling Portion	38,614.32
	Total Amount	**1,817,370.58**
	Total Amount (In Cr.)	**0.18**
Total estimated cost is Rs. 0.18 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.18 Cr. (For detailed BoQ refer Annexure-12.55)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Rangiagarh feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

56.0 Proposal for Reliability improvement of 11kV Ersama Bazar Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Ersama Bazar feeder for length 1.2 CKM for improvement of reliability.

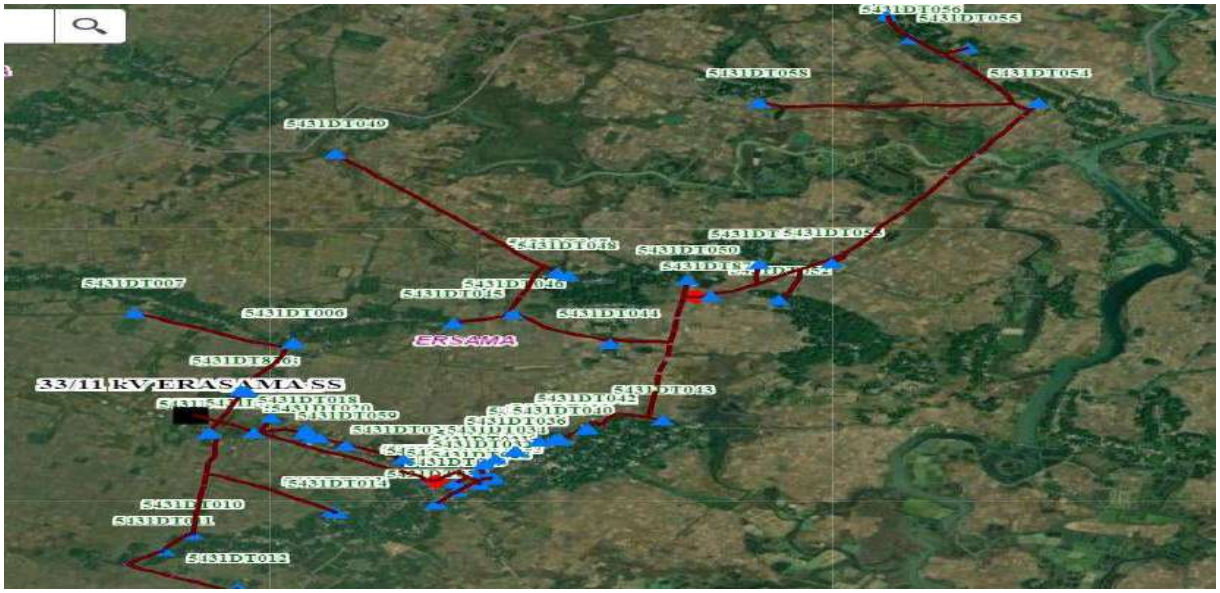
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Ersama Bazar Feeder.

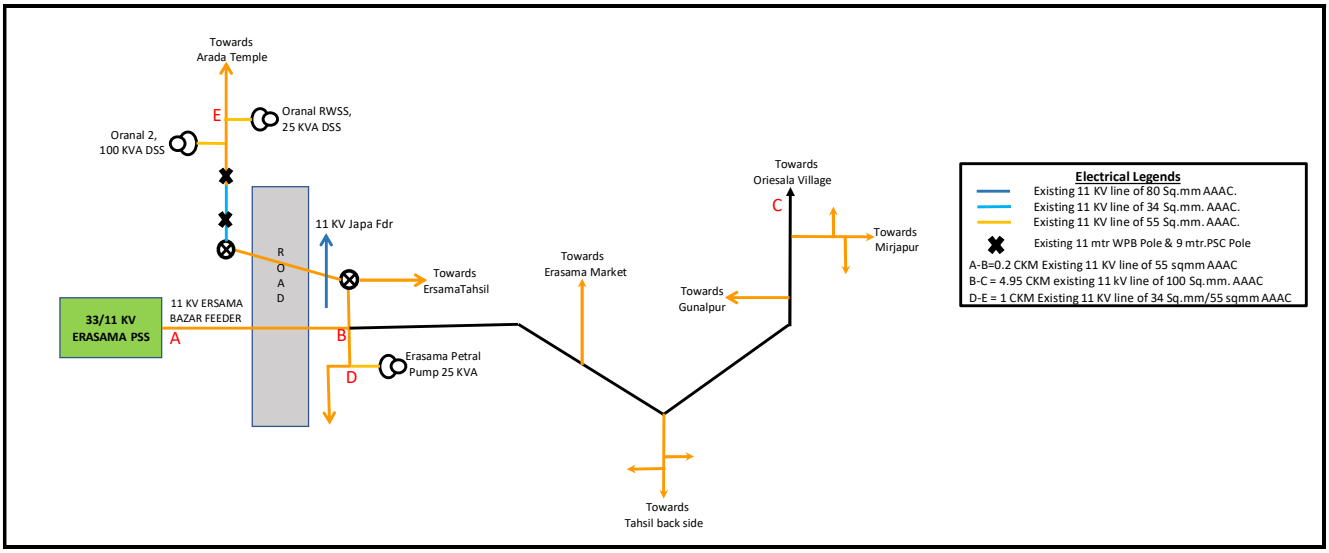
Existing Scenario:

- At present, 11kV Ersama Bazar feeder is emanating from 33/11kV Ersama PSS. The total length of 11kV Ersama Bazar feeder is 17 km and peak load is 1.71 MVA.
- Branch part of arada is very unsafe & line is of 9 Mtr. PSC pole & 34/55 Sq.mm. AAAC with very long span & frequent tripping is observed due to aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



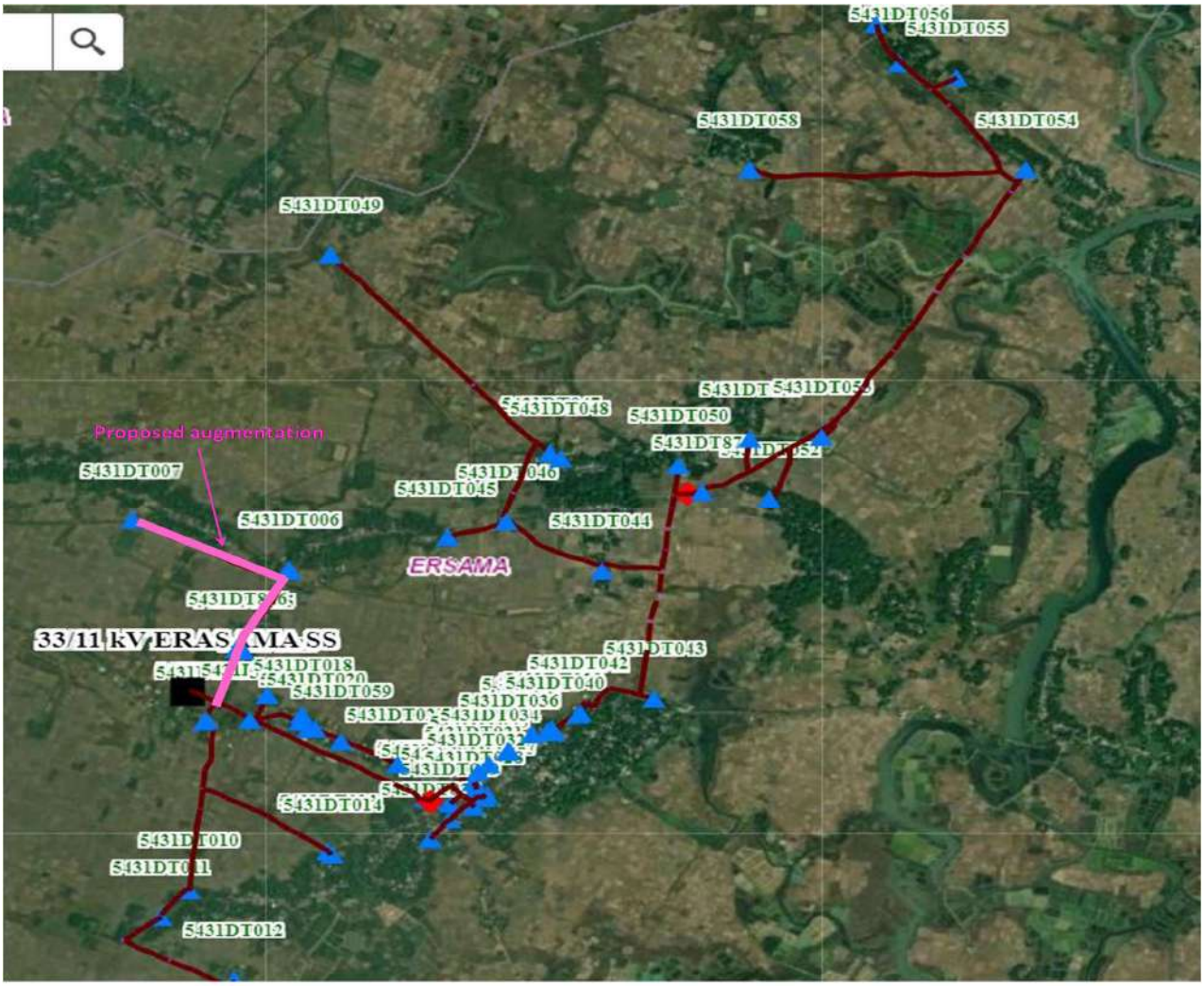
Priority and Timeline of the Project:

Priority: Since the 11kV Ersama Bazar feeder caters to rural area and is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 2121 No's consumer connected to the 11KV Ersama Bazar feeder. No of 11KV feeder tripping in FY26 is 7 No's & 1 No till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

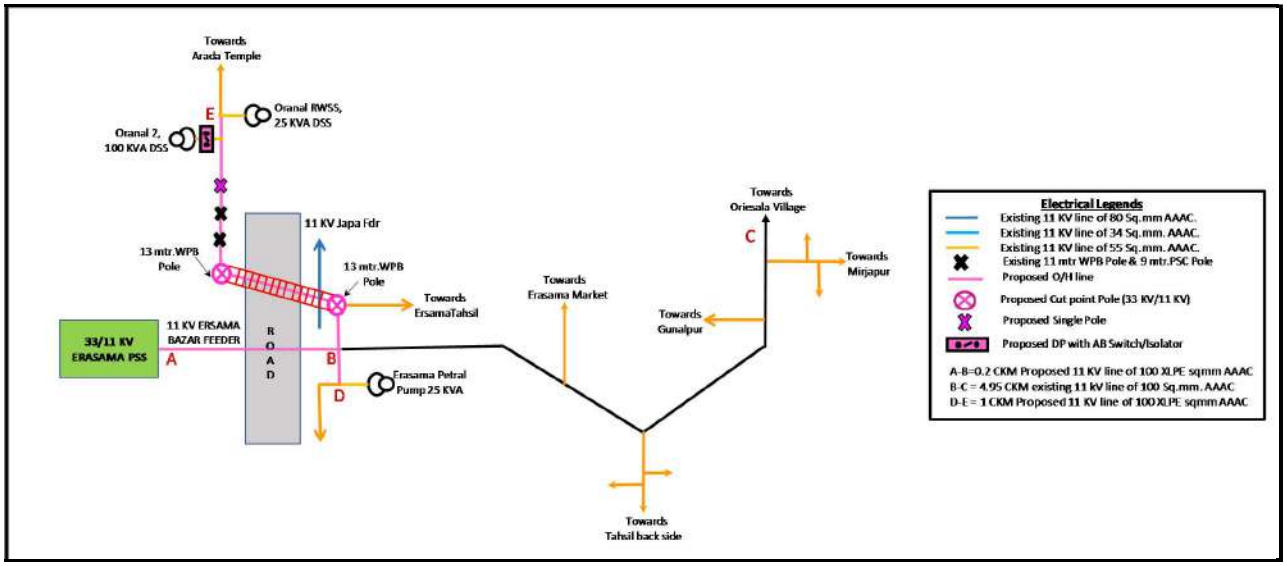
Proposed Scenario:

- Augmentation of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC for strengthening of arada branch part of 11 kV Ersama Bazar feeder.
- Installation of 01 No 11 kV line protecting guarding for road crossing.
- 02 Nos. 13 Mtr. WPB Pole proposed for 11 kV Japa feeder crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAA Conductor.
- Installation of 02 Nos. of 13 mtr. WPB pole for providing proper insulation at the 11 kV line crossing.
- Installation of 01 No of 11 kV line protecting guarding having span 40 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.56		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	TIRTOL	
Name of the Section : -	ERASAMA	
Name of the Work :-	Proposal for refurbishment of 1.2 CKM line of 11 kV Erasama Bazar Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Augmentation of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD A-B,D-E) 2. Installation of 02 Nos. of 13 mtr. WPB pole for providing proper insulation at the 11 kV line crossing.	2,380,782.05
2	PART-B: Installation of 11 KV line protecting guarding of 1 Nos span (40 Mtr. each) (Refer PSLD)	30,437.19
3	PART C: Dismantling Portion	30,284.46
	Total Amount	**2,441,503.70**

	Total Amount (In Cr.)	**0.24**
Total estimated cost is Rs. 0.24 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.24 Cr. (For detailed BoQ refer Annexure-12.56)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Ersama Bazar feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

57.0 Proposal for Reliability improvement of 11kV Dengapola Feeder:

Proposal:

Proposal for augmentation of trunk part of 11 kV Dengapola feeder along with construction of 11kV interlinking line between 11 kV Dengapola & Govindpur feeder for length-1.5 KM for reliability purpose.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Dengapola Feeder.

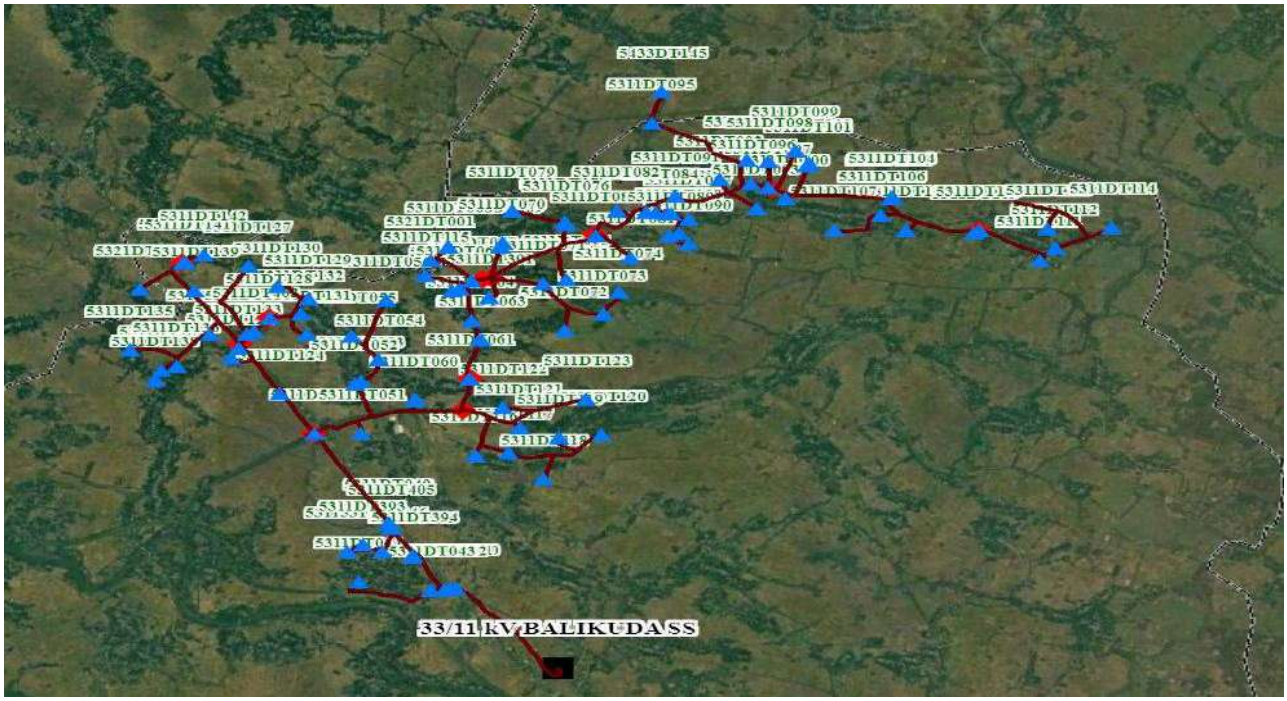
Existing Scenario:

- At present, 11kV Dengapola feeder is emanating from 33/11kV Balikuda PSS. The total length of 11kV Dengapola feeder is 43.8 km and peak load is 2.32 MVA.
- The trunk as well as branch conductor having lower size conductor and is in unsafe condition. Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors

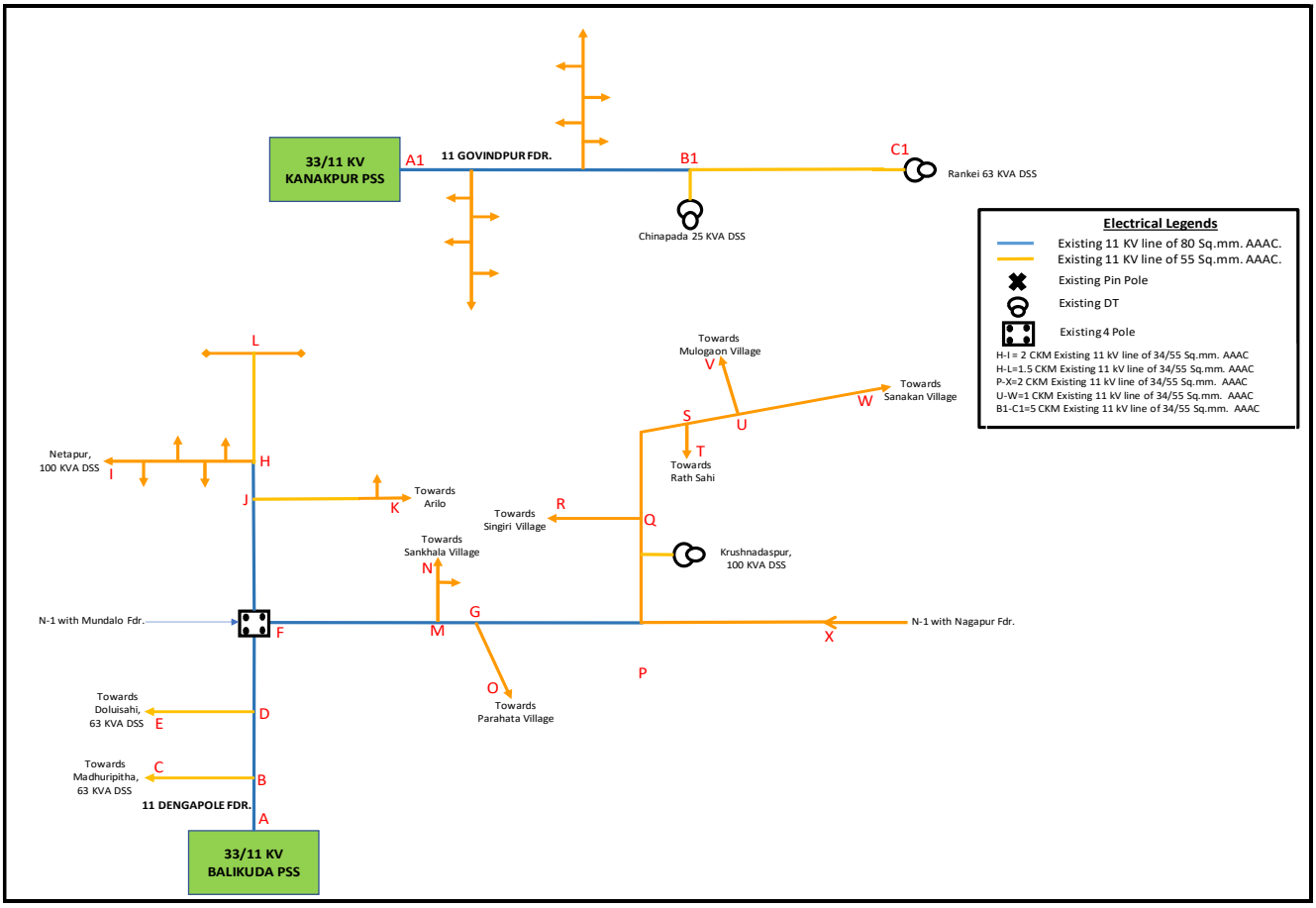
are snapping frequently. In addition, minimum ground clearance has not been maintained in several places over the feeder.

- 11 kV Govindpur feeder is nearby to 11 kV Dengapola and interlinking is possible for reliability improvement.
- Frequent tripping is observed in the 11KV Dengapola feeder which hampers the power supply reliability of Town DTR.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

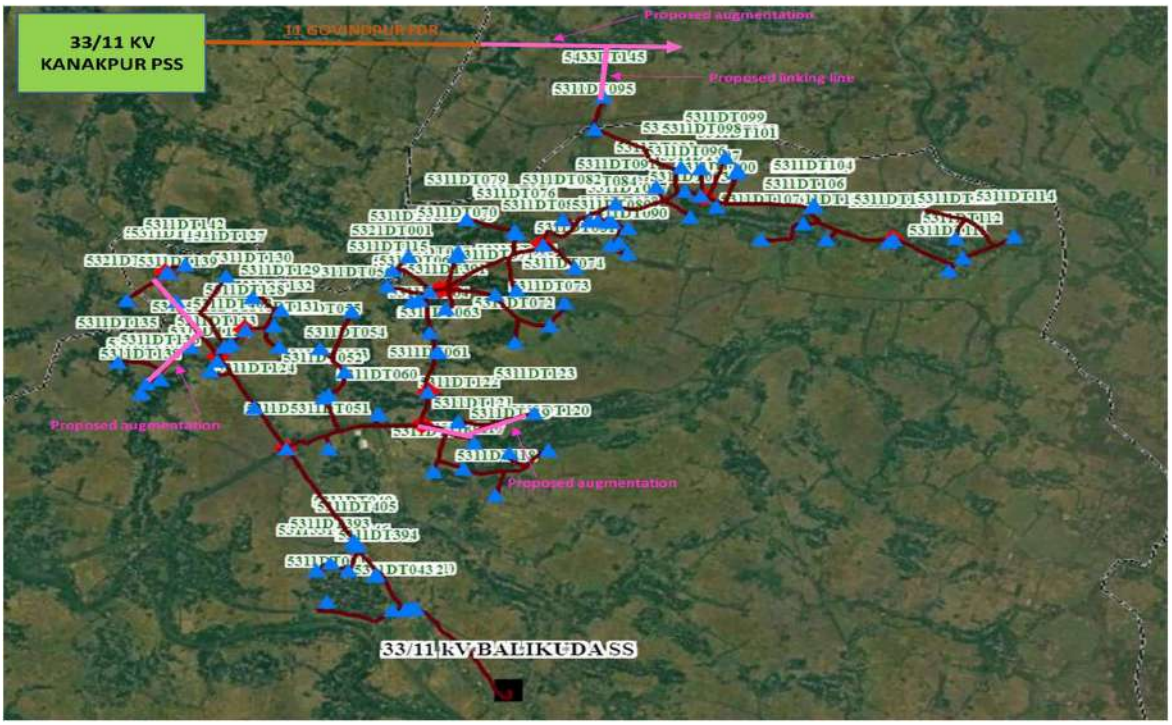
Priority: Since the 11kV Dengapola feeder is experiencing frequent interruptions due to feeder trippings, ageing network and repeated shutdown for restoration and maintenance activities. Total 4474 No's consumer connected to the 11KV Dengapola feeder. No of 11KV feeder tripping in FY26 is 343 No's & 165 No's till July 26. In addition, long span and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

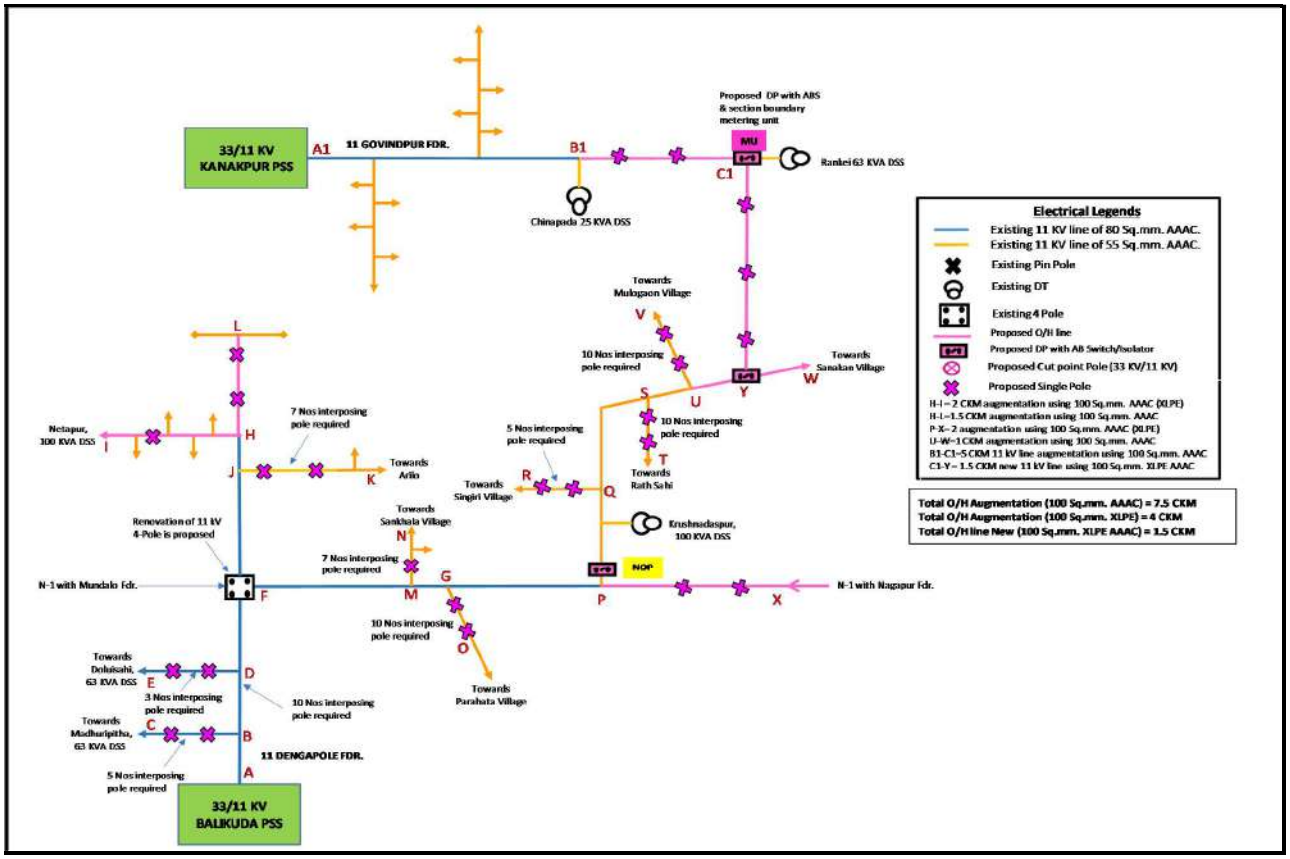
- Augmentation of 11 kV O/H line of 6.5 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC/ 100 sq.mm. XLPE AAAC for strengthening of existing line of 11 kV Dengapola feeder.
- Augmentation of 11 kV O/H line of 5 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC for strengthening of existing line of 11 kV Govindpur feeder.
- Construction of 1.5 CKM 11 kV O/ line using 11 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC for N-1 connectivity between 11 kV Dengapola & Govindpur feeder.
- Renovation of existing 4-Pole.
- Installation of 07 Nos of 11 kV line protecting guarding for road crossing.

- Installation of 01 No. HT Meter at the section boundary for energy auditing purpose.

GIS Map Proposed:



Proposed SLD:



Scope of Work:

- Construction of 1.5 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC.
- Augmentation of 7.5 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC & installation of interposing pole.
- Installation of 67 Nos interposing pole in existing line.
- Installation of 03 Nos DP with AB Switch for Doluisahi, Amanipatna & Bhagawanpur DSS.
- Augmentation of 4 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC & installation of interposing pole.
- Renovation of existing 4-Pole.
- Installation of 07 Nos of 11 kV line protecting guarding having span 30 Mtr.
- Installation of 01 No. section boundary meter.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.57		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Balikuda	
Name of the Section : -	Balikuda-I	
Name of the Work :-	Proposal for refurbishment of 11.5 CKM O/H line of 11 kV Dengapola Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 1.5 CKM 11 kV line for N-1 connectivity between 11 kV Govindpur and Dengapola Fdr. for improvement of reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 1.5 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C1-Y)	4,672,656.02
2	PART B: 1. Augmentation of 7.5 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC & installation of interposing pole (Refer PSLD) 2. Installation of 67 Nos interposing pole in existing line (refer PSLD) 3. Installation of 03 Nos DP with AB Switch for Doluisahi, Amanipatna & Bhagawanpur DSS (Refer PSLD)	13,129,989.28
3	PART C: Augmentation of 4 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC & installation of interposing pole (Refer PSLD)	4,905,337.50
4	PART D: Renovation of existing 4-Pole	169,752.57
5	PART E: Installation of 7 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	205,410.19
6	PART F: Dismantling Portion	473,058.13

7	PART G: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
8	**Total Amount**	**23,649,119.29**
	Total Amount (In Cr.)	**2.36**
Total estimated cost is Rs. 2.36 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 2.36 Cr. (For detailed BoQ refer Annexure-12.57)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Dengapola feeder by establishing N-1 connectivity.
- Feeder restoration will be quick.
- By linking 11KV Dengapola feeder and 11KV Govindpur feeder can ensure load diversion in case of requirement to maintain reliability ensuring ring connectivity.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

58.0 Proposal for Reliability improvement of 11kV Chhapada Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Chhapada feeder for length 6.1 CKM for improvement of reliability.

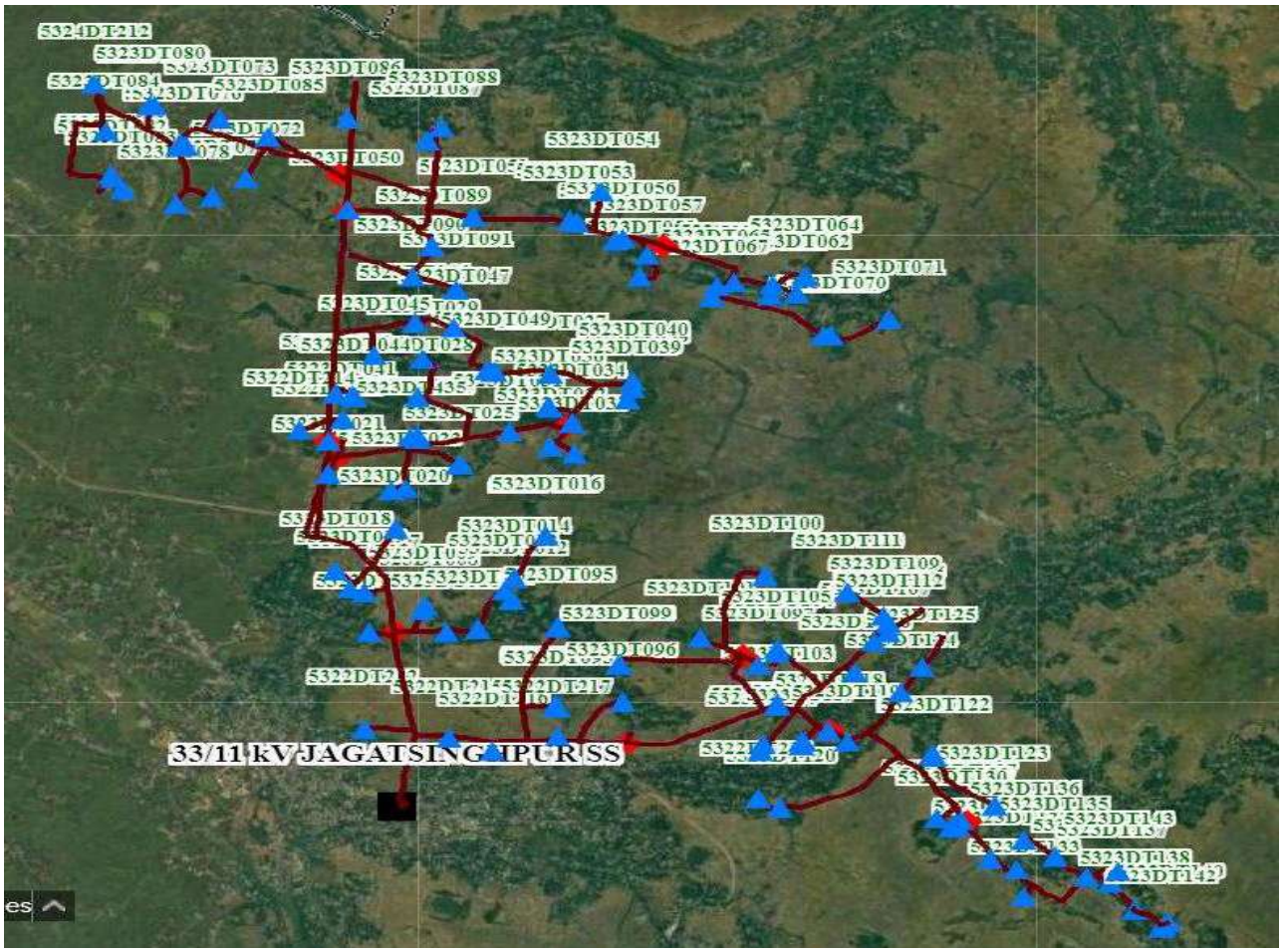
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Chhapada Feeder.

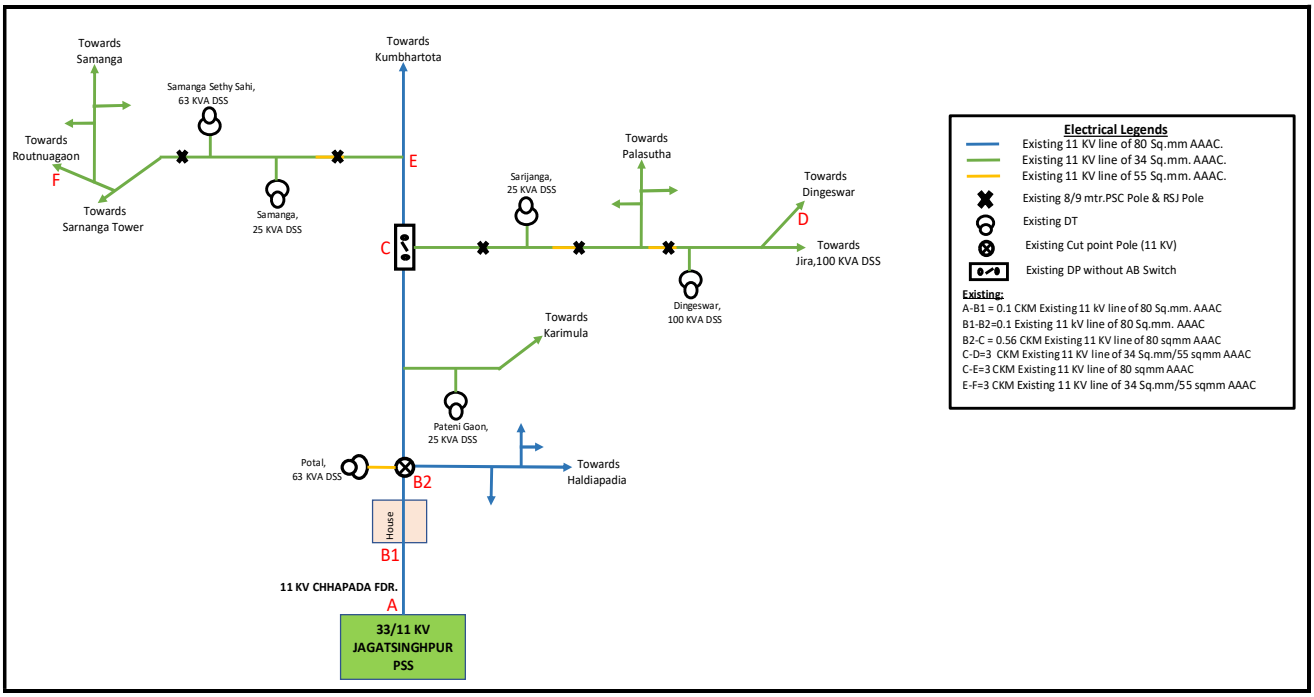
Existing Scenario:

- At present, 11kV Chhapada feeder is emanating from 33/11kV Jagatsinghpur PSS. The total length of 11kV Chhapada feeder is 49 km and peak load is 3.27 MVA.
- Frequent tripping is observed in the 11KV Chhapada feeder due to lower size and aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



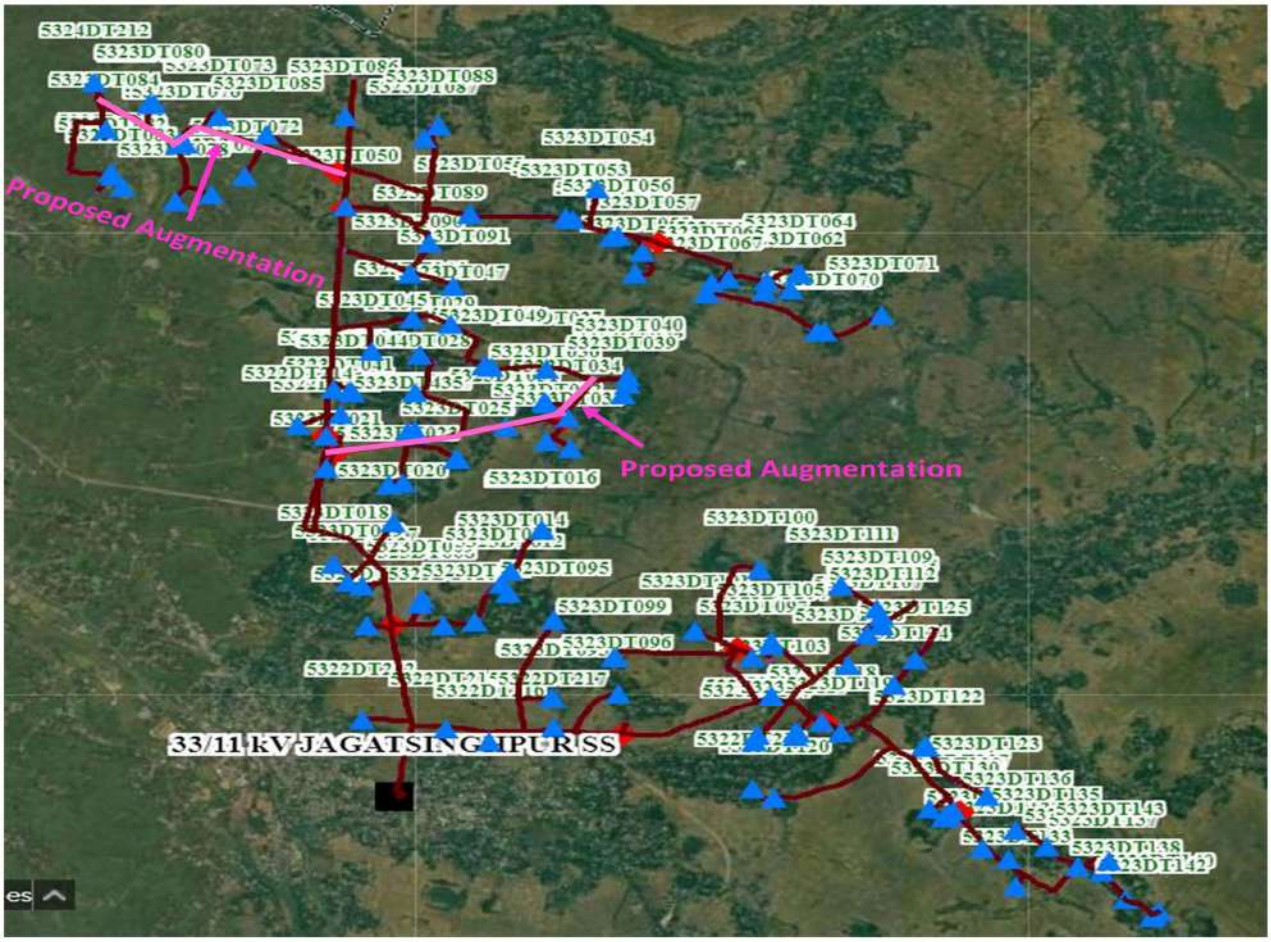
Priority and Timeline of the Project:

Priority: Since the 11kV Chhapada feeder caters to sub urban & rural area and is experiencing frequent interruptions due to feeder tripping, ageing network and repeated shutdown for restoration and maintenance activities. Total 5117 No's consumer connected to the 11KV Chhapada feeder. No of 11KV feeder tripping in FY26 is 11 No's & 6 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

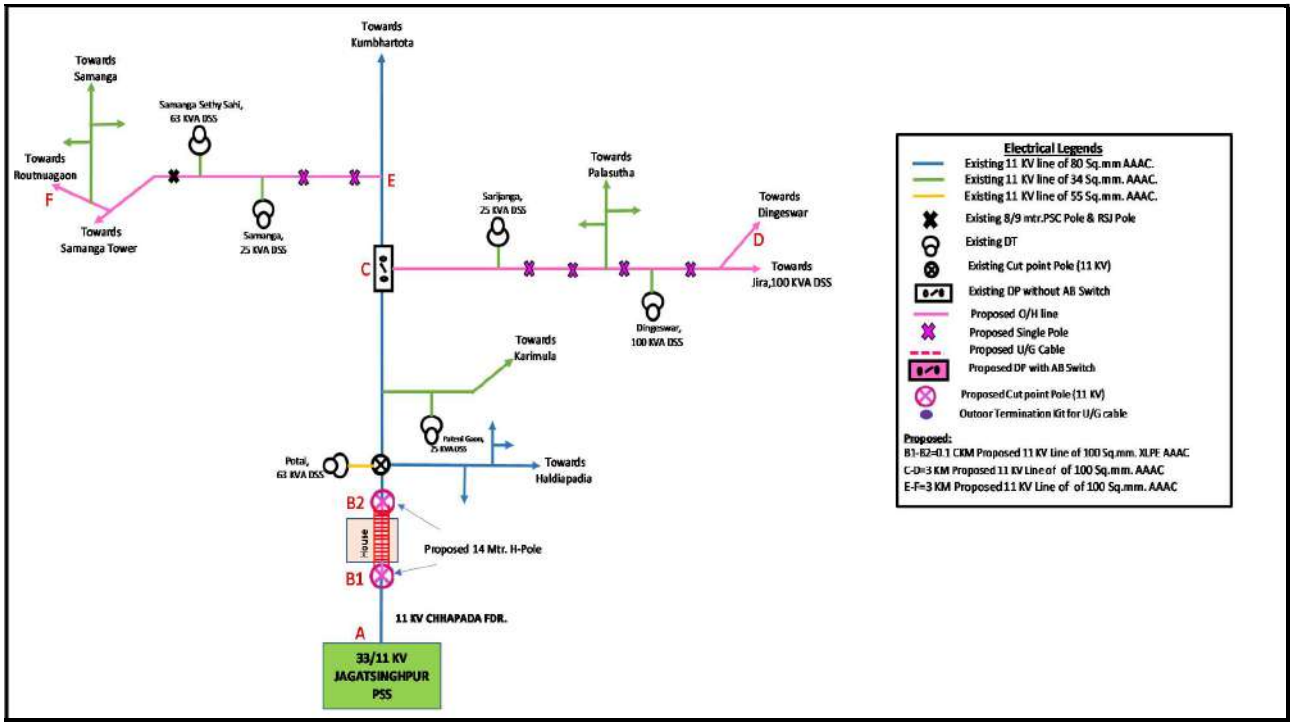
Proposed Scenario:

- Augmentation of 6.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC for strengthening of 11 kV Chhapada feeder.
- Installation of 04 Nos 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Construction of 0.1 CKM 11 kV O/H line using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC.
- Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor.
- Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.58		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	JAGATSINGHPUR	
Name of the Section : -	JAGATSINGHPUR NO-2	
Name of the Work :-	Proposal for refurbishment of 6.1 CKM line of 11 kV Chhapada Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.1 CKM 11 kV O/H line using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD)	352,020.51
2	PART B: Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD C-D,E-F)	9,000,609.53
3	PART-C: Installation of 11 KV line protecting guarding of 4 Nos having span 30 Mtr. Each (Refer PSLD)	117,377.25
4	PART D: Dismantling Portion	262,943.79
	Total Amount	**9,732,951.09**
	Total Amount (In Cr.)	**0.97**
Total estimated cost is Rs. 0.97 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.97 Cr. (For detailed BoQ refer Annexure-12.58)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Chhapada feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

59.0 Proposal for Reliability improvement of 11kV Macchegaon Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Macchegaon feeder for length 6.12 CKM for improvement of reliability.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Macchegaon Feeder.

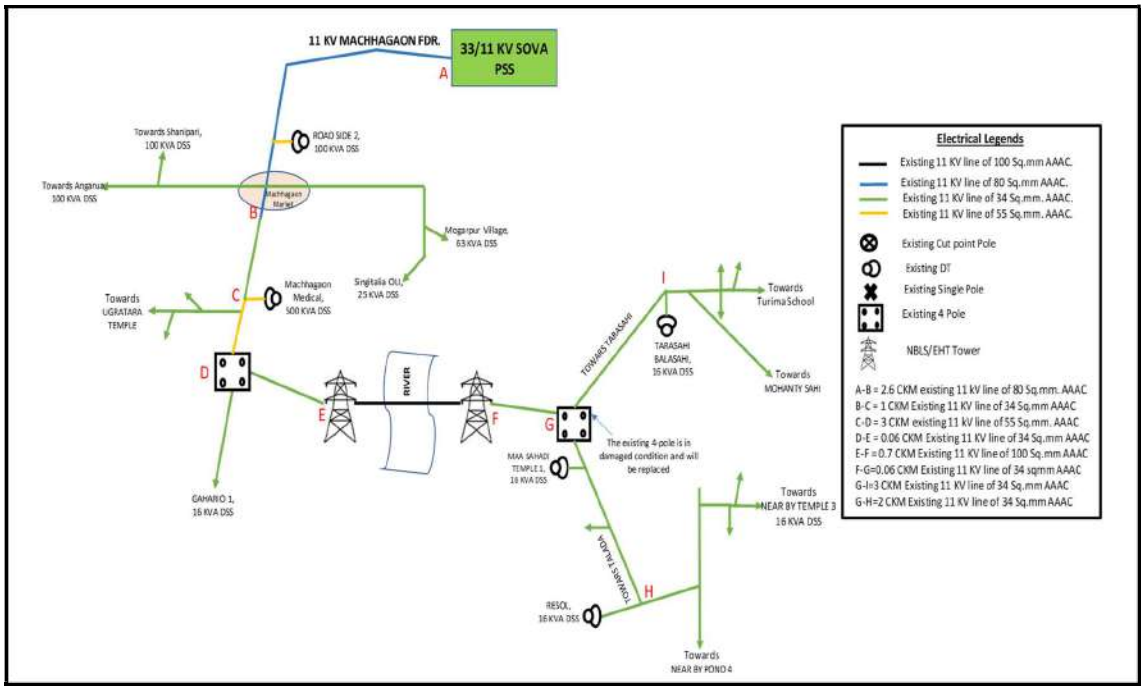
Existing Scenario:

- At present, 11kV Macchegaon feeder is emanating from 33/11kV Sova PSS. The total length of 11kV Macchegaon feeder is 41.8 km and peak load is 2.30 MVA.
- Frequent tripping is observed in the 11KV Macchegaon feeder due to lower size and aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



Priority and Timeline of the Project:

Priority: Since the 11kV Macchegaon feeder caters to rural area and is experiencing frequent interruptions due to feeder tripping, ageing network and repeated shutdown for restoration and maintenance activities. Total 4249 No's consumer connected to the 11KV Macchegaon feeder. No of 11KV feeder tripping in FY26 is 59 No's & 104 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

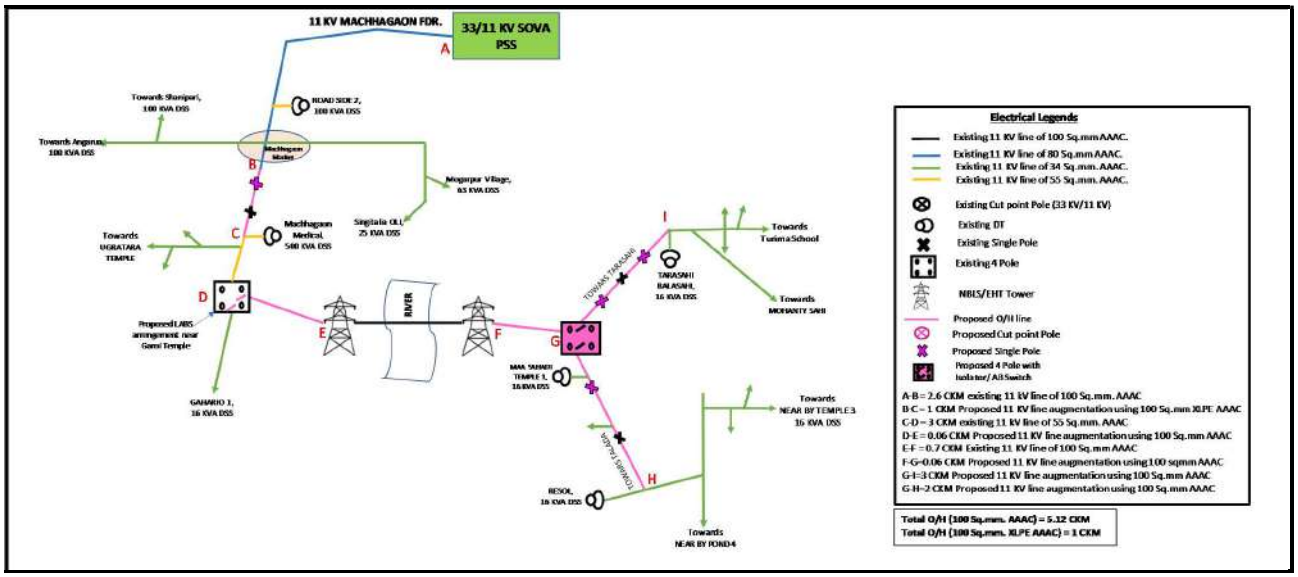
Proposed Scenario:

- Augmentation of 6.12 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC/100 Sq.mm. XLPE AAAC for strengthening of 11 kV Macchegaon feeder.
- Installation of 01 No. 4-Pole with AB Switch for dropdown of conductor from river crossing tower.
- Installation of 05 Nos 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 5.12 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC.

- Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC.
- Installation of 01 No. 4-Pole with 02 Nos AB Switch.
- Installation of 02 Nos AB Switch in existing 4-Pole.
- Installation of 05 Nos of 11 kV line protecting guarding having span 30 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.59		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Balikuda	
Name of the Section : -	Balikuda-II	
Name of the Work :-	Proposal for refurbishment of 6.12 CKM O/H line of 11 kV Machegaon Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 5.12 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD DE, FG, GI & GH)	6,817,847.19
2	PART B: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD BC)	1,632,533.99
3	PART C: 1. Installation of 01 No. 4-Pole with 02 Nos AB Switch (Refer PSLD) 2. Installation of 02 Nos AB Switch in existing 4-Pole (refer PSLD)	499,135.43
4	PART D: Installation of 5 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	146,721.57
5	PART E: Dismantling Portion	260,204.68
6	**Total Amount**	**9,356,442.85**
	Total Amount (In Cr.)	**0.94**
Total estimated cost is Rs. 0.94 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.94 Cr. (For detailed BoQ refer Annexure-12.59)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Macchegaon feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

60.0 Proposal for Length Reduction of 11kV Mandasahi Feeder:

Proposal:

Proposal for reduction in length of 11KV Mandasahi feeder and reliability improvement.

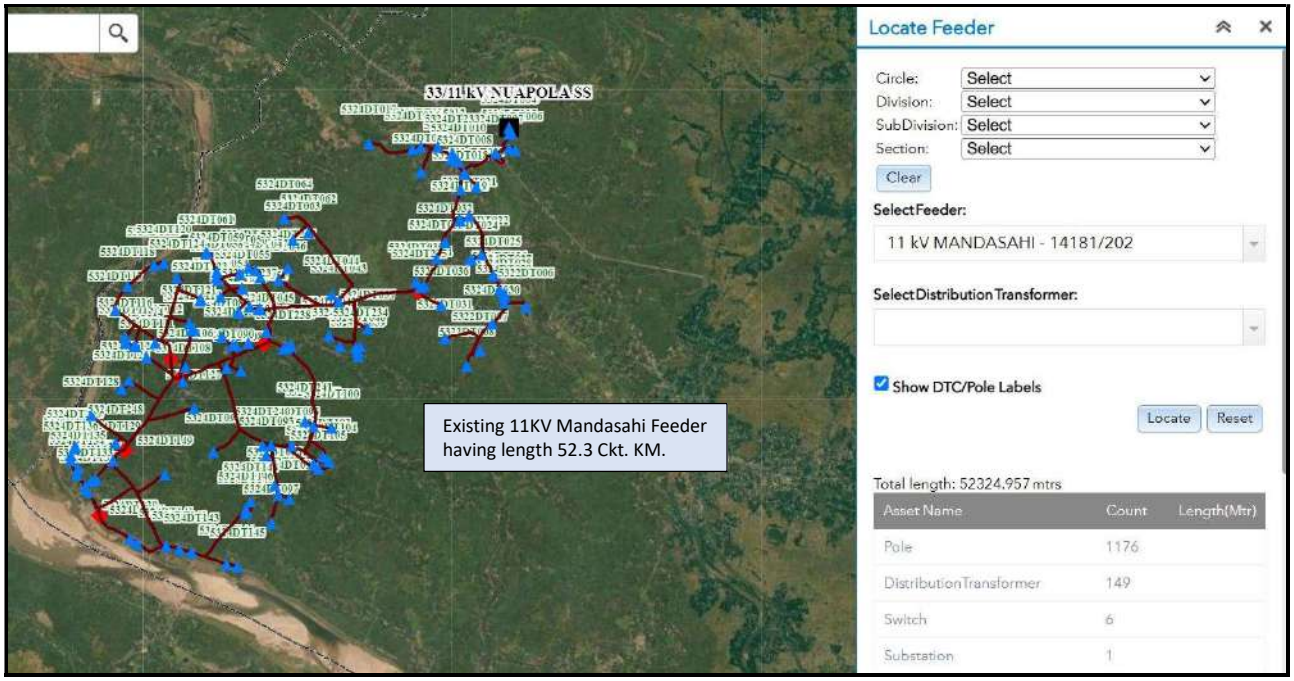
Requirement/ Need of the proposal:

Objective: Length reduction and reliability improvement of 11kV Mandasahi Feeder.

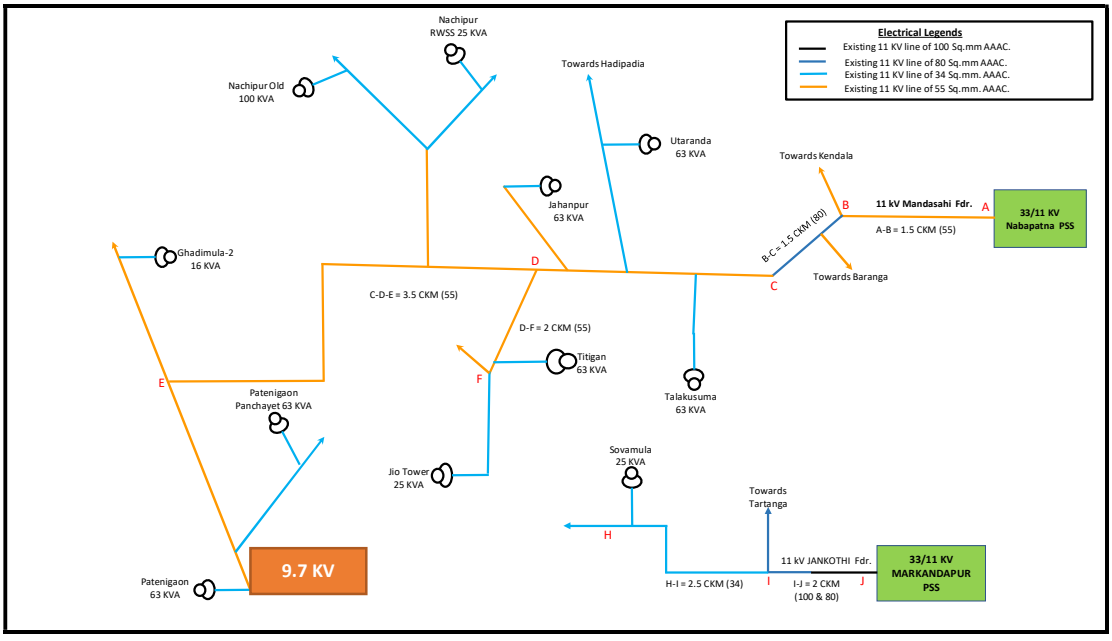
Existing Scenario:

- At present, 11kV Mandasahi feeder is emanating from 33/11kV Nabapatna PSS having a feeder length of 52.3 Ckt. KM and tail end voltage is 9.7 KV.
- Entire 11kV Mandasahi Fdr is of 55/80 Sq.mm. AAAC.
- At present, as the feeder is lengthy in nature therefore consumers are facing low voltage issues at tail end.
- Since the feeder is very lengthy, during any breakdown fault finding takes longer duration and delays the power restoration.

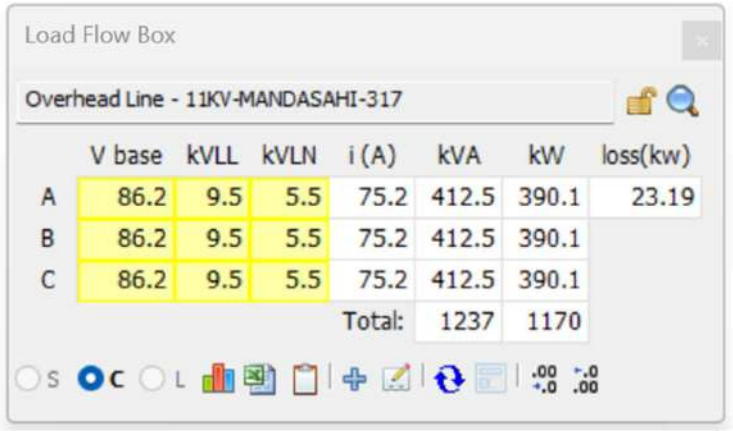
GIS SLD:



Existing SLD:



Tail end Voltage in existing scenario through load flow analysis with 2 years load growth:



Priority and Timeline of the Project:

Priority: The existing 11kV Mandasahi feeder has a length of 52.3 Ckm in the AS-IS scenario, resulting in a tail-end voltage of 9.7 kV. With the projected load growth, the tail-end voltage is expected to drop further and reach 9.5 kV by Summer-2028 2year load growth. If this issue is not addressed in a timely manner, consumers connected at the far end of the feeder are likely to experience persistent low-voltage conditions, adversely affecting the quality and reliability of power supply.

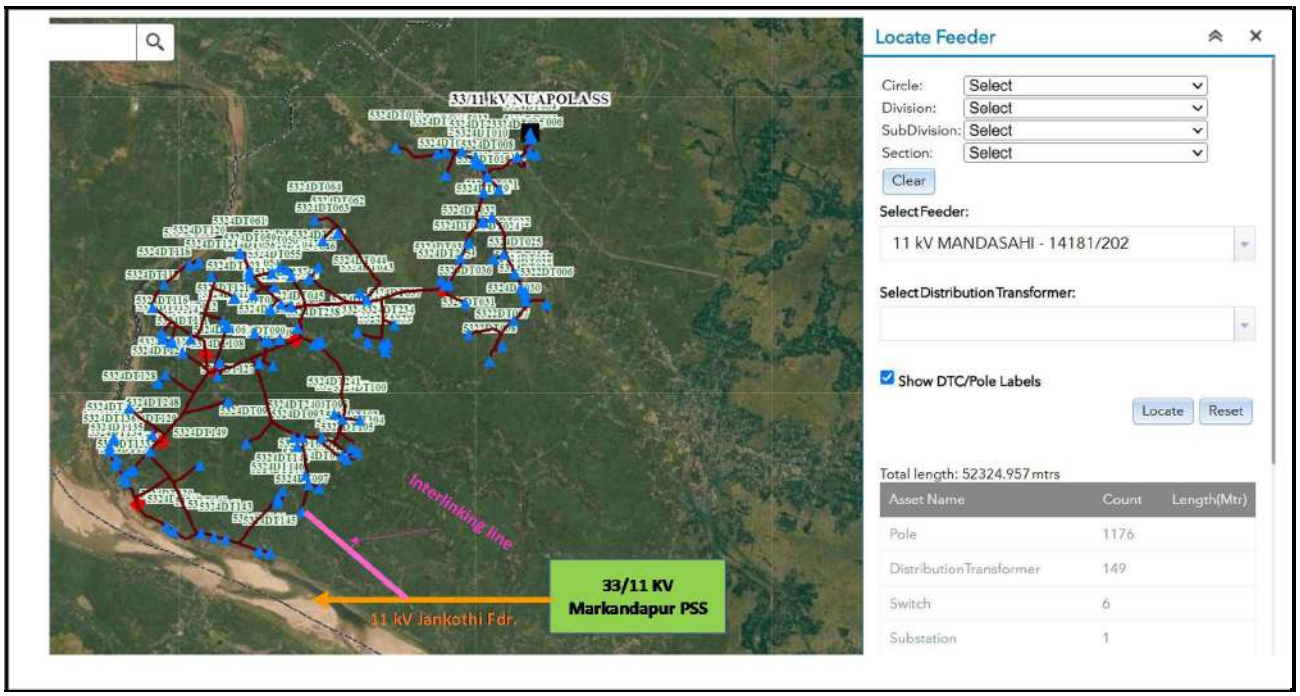
Technical Justification

- As per OERC directive, the 11kV feeder length must be below 50Ckm. In case feeder length is more than the prescribed length, the consumer connected to these feeders will face severe low voltage issues which will cause damage to the appliances or non-functioning of same.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, voltage regulation for the 11kV feeders is (-9% to +6%), i.e., 10.01kV to 11.66kV is required for augmentation / new feeder.
- In AS IS scenario, the voltage at the tail-end of the feeder is 9.7 kV. The voltage regulation of the feeder is not within permissible limits.
- The feeder is facing frequent interruption since the feeder is lengthy & passed through difficult terrains such as Paddy field area, dense vegetation & in narrow market lane area. In case of the any fault it takes longer duration for fault identification & restoration. Total 5199No's consumer connected to the 11KV Mandasahi feeder. No of 11KV feeder tripping in FY26 is 173 No's & 156 No's till July 26.

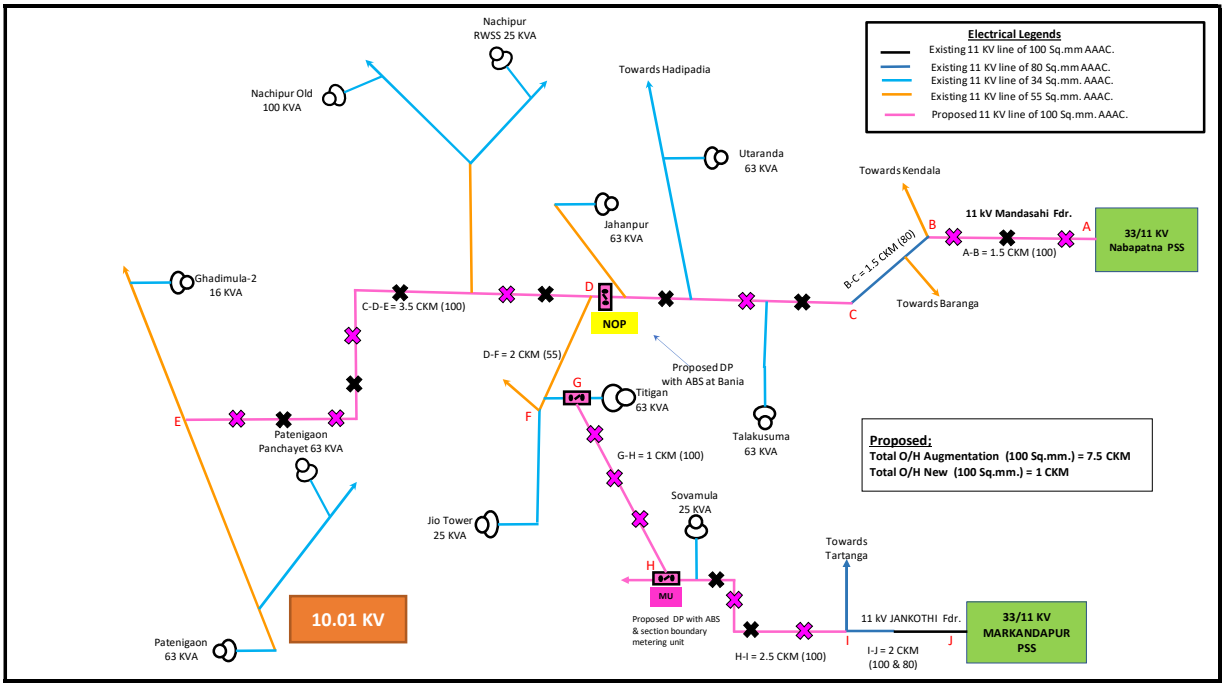
Proposed Scenario:

- It is proposed for interlinking of existing 11KV Mandasahi feeder with nearby 11KV Jankothi feeder emanating from Markandapur PSS for existing Mandasahi feeder length reduction by construction of 1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC .
- Augmentation of 7.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC for strengthening of existing line.
- Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. For road crossing.
- Installation of 01 No. HT Meter at the section boundary for energy auditing purpose.

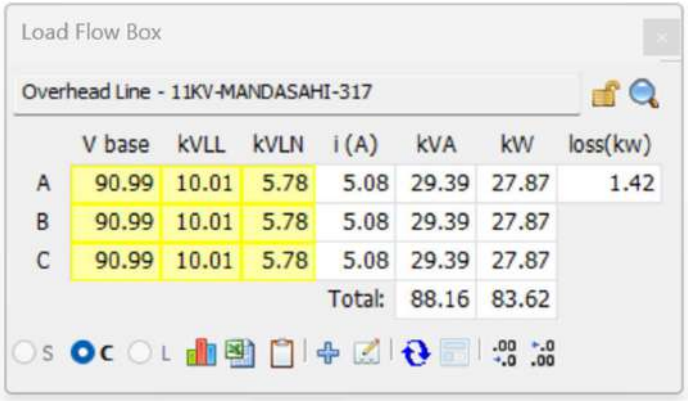
GIS SLD:



Proposed SLD:



Tail end Voltage in proposed scenario after interlinking through load flow analysis:



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	90.99	10.01	5.78	5.08	29.39	27.87	1.42
B	90.99	10.01	5.78	5.08	29.39	27.87	
C	90.99	10.01	5.78	5.08	29.39	27.87	
				Total:	88.16	83.62	

Length of Sections

	A	B	C	Total
3-phase	31336.49	31336.49	31336.49	31336.49
2-phase	0.0	0.0	0.0	0.0
1-phase	0.0	0.0	0.0	0.0
Total	31336.49	31336.49	31336.49	31336.49

11KV Mandasahi feeder's length has been reduced from 52.3 CKM to 31.3 CKM.

After execution of proposal 11kV Mandasahi feeder Voltage will Improve from 9.7 kV to 10.01 kV and feeder length reduced from 52.3 ckm to 31.3 ckm and voltage of 11kv Jankothi feeder will be 10.1 kV.

Scope of Work:

- Augmentation of 7.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC.
- Construction of 1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC.
- Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr.
- Installation of 01 No. section boundary meter.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.60		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Jagatsinghpur	
Name of the Section : -	Mandasahi	
Name of the Work :-	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Mandasahi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole along with construction of 1 CKM 11 kV line for N-1 connectivity between 11 kV Mandasahi & Jankothi Fdr. for length reduction of Mandasahi Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 7.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD AB, CDE & HI)	9,401,687.65
2	PART B: Construction of 1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD HI)	2,818,190.33
3	PART C: Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)	152,185.94
4	PART D: Dismantling Portion	462,104.48
5	PART E: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
6	**Total Amount**	**12,927,084.01**
	Total Amount (In Cr.)	**1.29**
Total estimated cost is Rs. 1.29 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 1.29 Cr. (For detailed BoQ refer Annexure-12.60)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Compliance with the guidelines of voltage regulation in the distribution network.
c) Reduction of electrocution risk and public safety hazards.
d) Safe operation and isolation of the feeder.
e) Protection of electrical assets against lightening and surge related failure.
f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- 11KV Mandasahi feeder length will be reduced from 52.3 CKM to 31.33 CKM to comply Hon'ble OERC directive to keep 11KV feeder length below 50 Ckt.KM.
- 11KV Mandasahi feeder's tail end voltage improved from 9.5 KV to 10.01 KV & will improve power quality of the all connected consumers to the 11KV feeder.
- Ring connectivity is established between 11KV Mandasahi feeder and 11 kV Jankothi feeder which will be helpful for power supply restorations during breakdown and maintenance works.

61.0 Proposal for Reliability improvement of 11kV Tarikund Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Tarikund feeder for length 4.5 CKM for improvement of reliability.

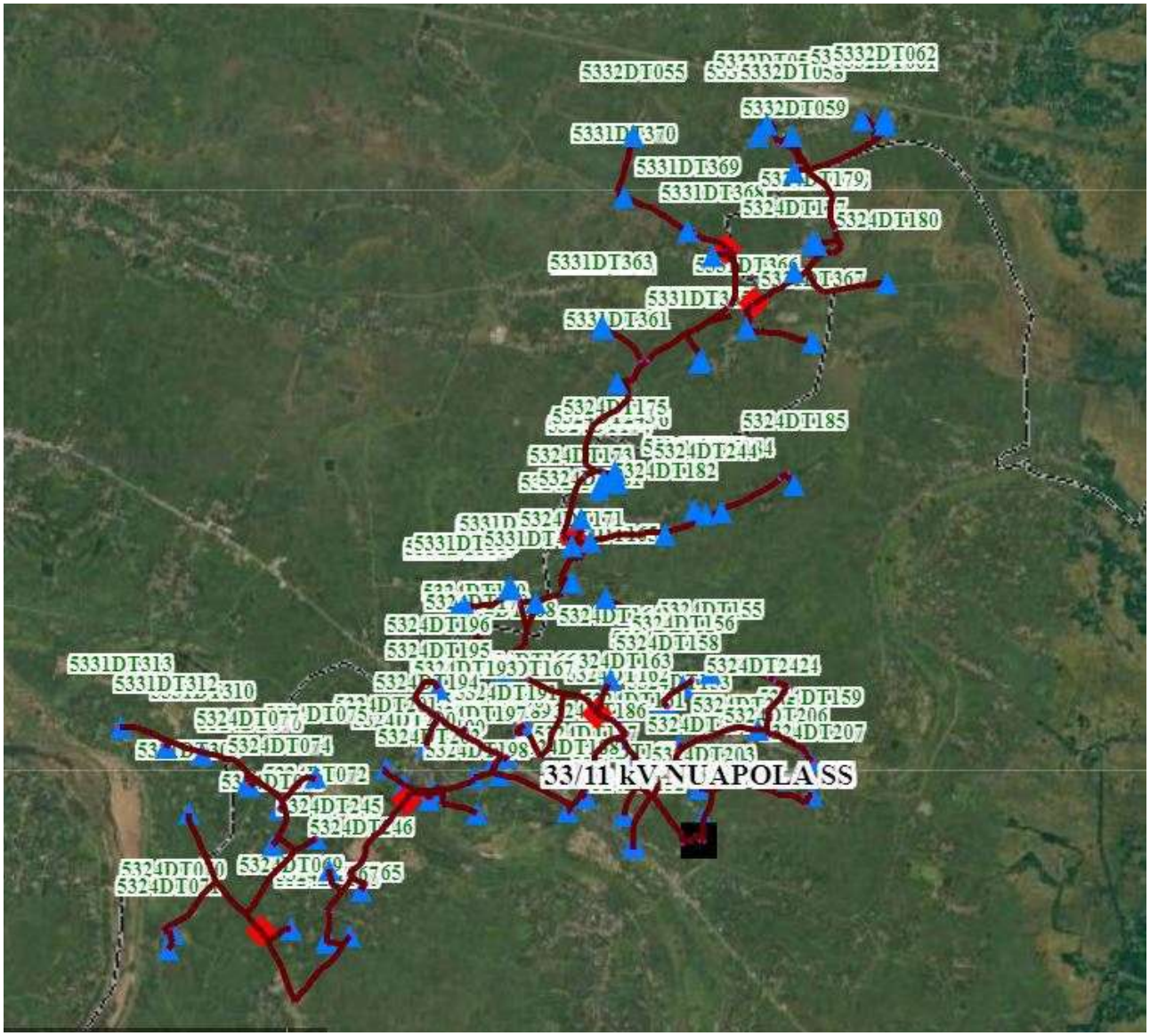
Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Tarikund Feeder.

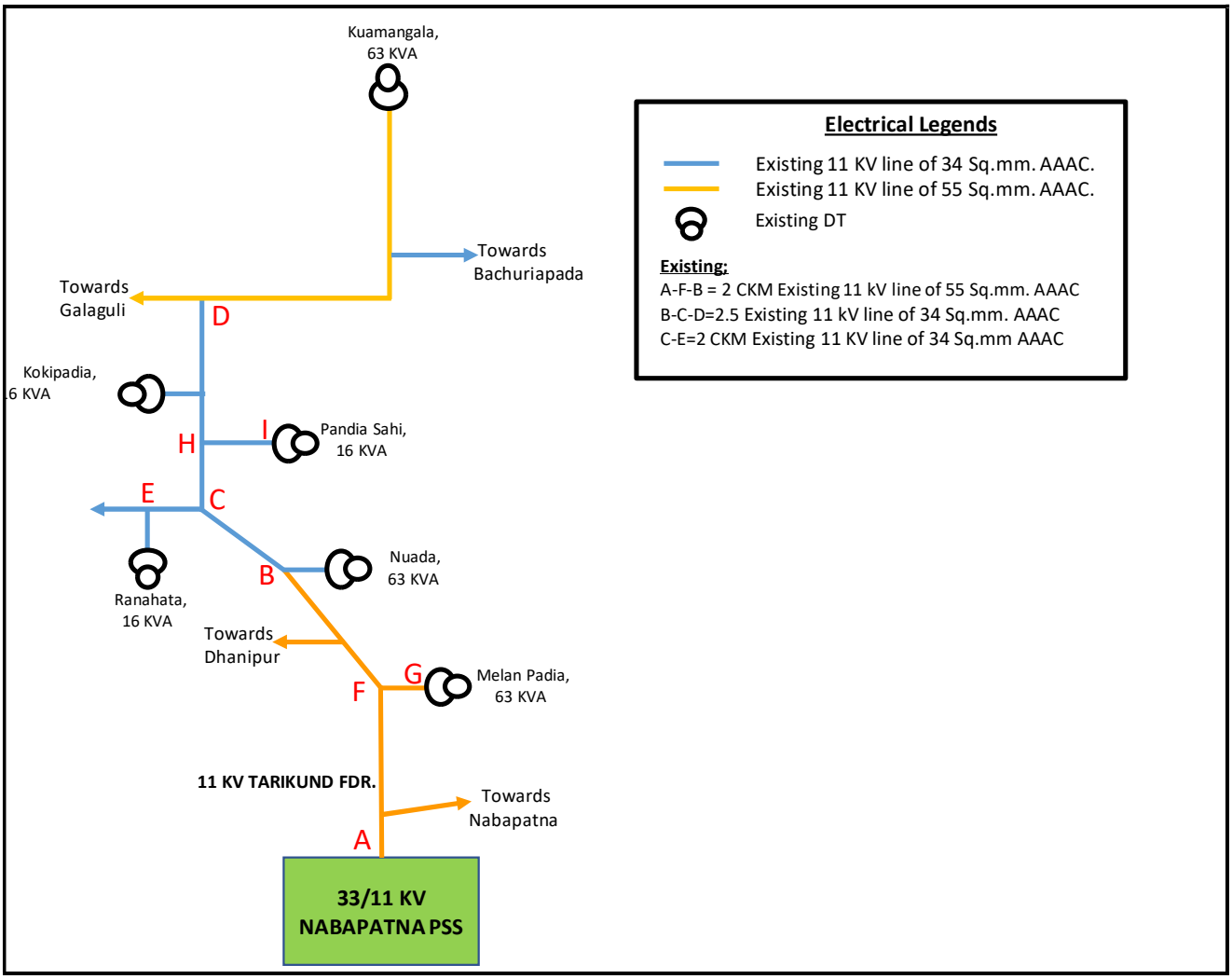
Existing Scenario:

- At present, 11kV Tarikund feeder is emanating from 33/11kV Nabapatna PSS. The total length of 11kV Tarikund feeder is 41.3 km and peak load is 2.74 MVA.
- Frequent tripping is observed in the 11KV Tarikund feeder due to lower size and aged conductor.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP


5332DT055
5332DT062
5332DT059
5331DT370
5331DT369
5331DT363
5331DT361
5324DT180
5324DT185
5324DT182
5331DT313
5331DT312
5324DT2424
5324DT074
5324DT245
5324DT246
33/11 kV NUAPOLA SS

Existing SLD:



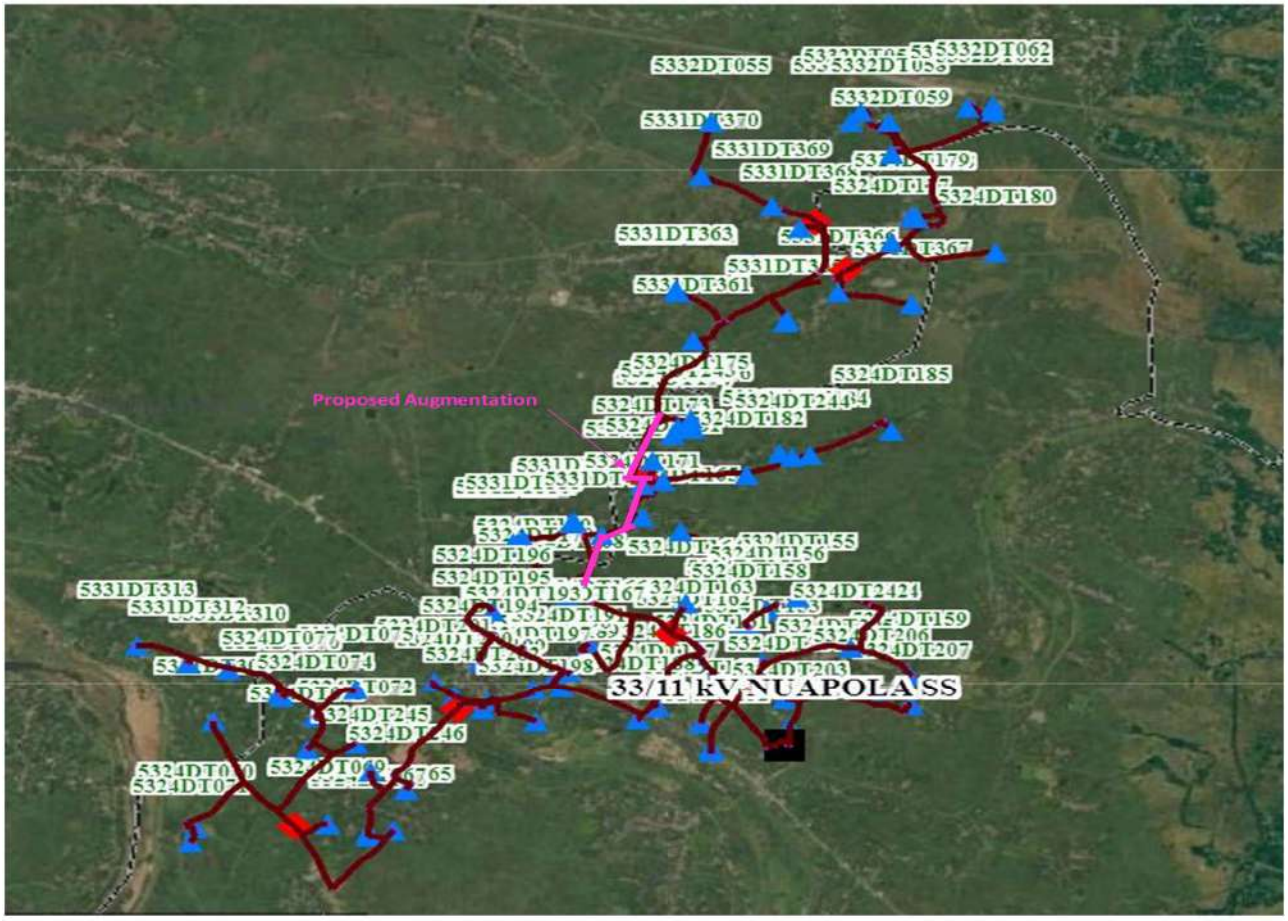
Priority and Timeline of the Project:

Priority: Since the 11kV Tarikund feeder caters to rural area and is experiencing frequent interruptions due to feeder tripping, ageing network and repeated shutdown for restoration and maintenance activities. Total 4138 No's consumer connected to the 11KV Tarikund feeder. No of 11KV feeder tripping in FY26 is 152 No's & 148 No's till July 26. In addition, substantial vegetation growth along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

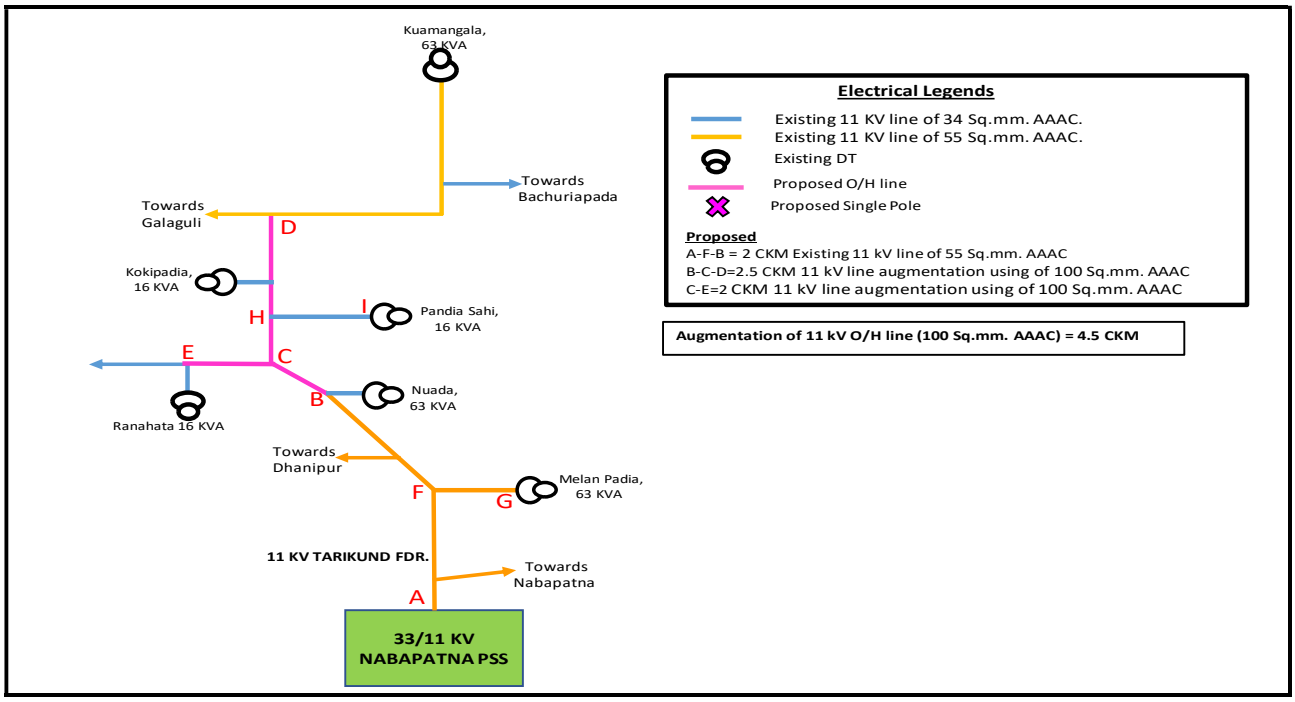
Proposed Scenario:

- Augmentation of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC for strengthening of 11 kV Tarikund feeder.
- Installation of 04 Nos 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC.
- Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE-12.61		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Jagatsinghpur	
Name of the Section : -	Mandasahi	
Name of the Work :-	Proposal for refurbishment of 4.5 CKM O/H line of 11 kV Tarikund Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD BCD & CE)	6,149,159.59
2	PART B: Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	117,377.25
3	PART C: Dismantling Portion	191,879.80
4	**Total Amount**	**6,458,416.64**
	Total Amount (In Cr.)	**0.65**
Total estimated cost is Rs. 0.65 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.65 Cr. (For detailed BoQ refer Annexure-12.61)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Tarikund feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

62.0 Proposal for Reliability improvement of 11kV Atharbanki Medical Feeder:

Proposal:

Proposal for augmentation/refurbishment of 11 kV Atharbanki Medical feeder for length 0.5 CKM for improvement of reliability.

Requirement/ Need of the proposal:

Objective: Reliability improvement of 11kV Atharbanki Medical Feeder.

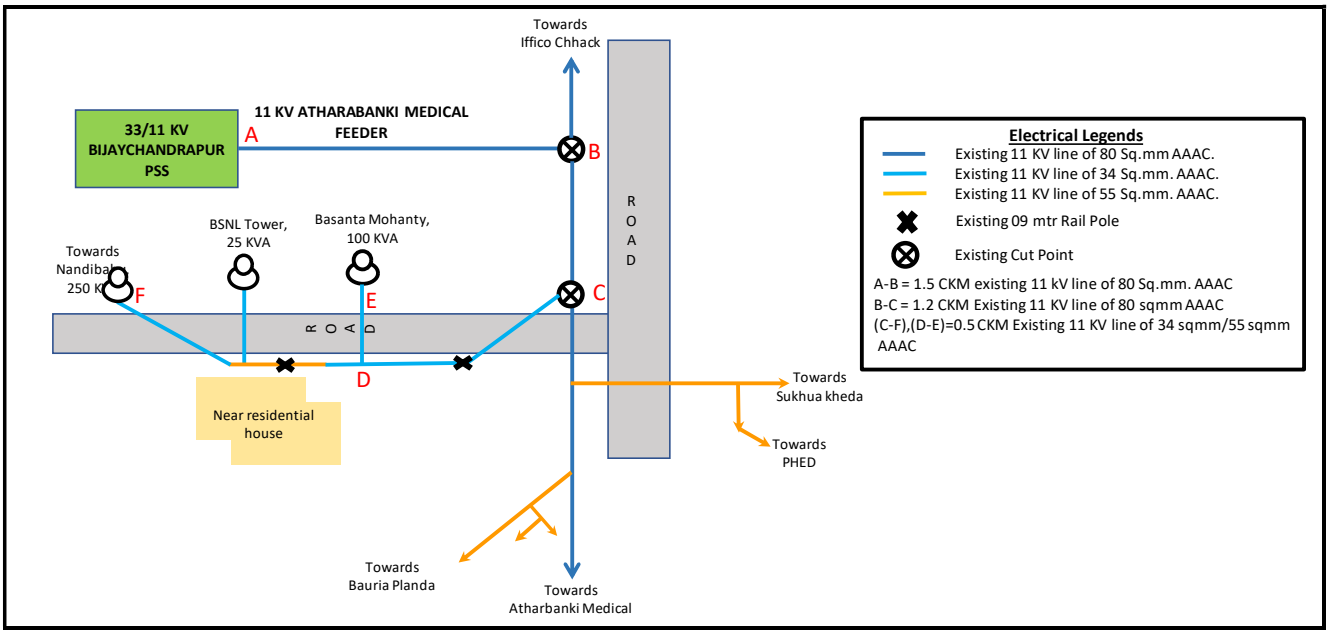
Existing Scenario:

- At present, 11kV Atharbanki Medical feeder is emanating from 33/11kV Bijaychandrapur PSS. The total length of 11kV Atharbanki Medical feeder is 12.7 km and peak load is 3.37 MVA.
- Frequent tripping is observed in the 11KV Atharbanki Medical feeder due to lower size and aged bare conductor besides residential area.
- At present frequent shutdowns are required for connecting feeder restoration.

GIS MAP



Existing SLD:



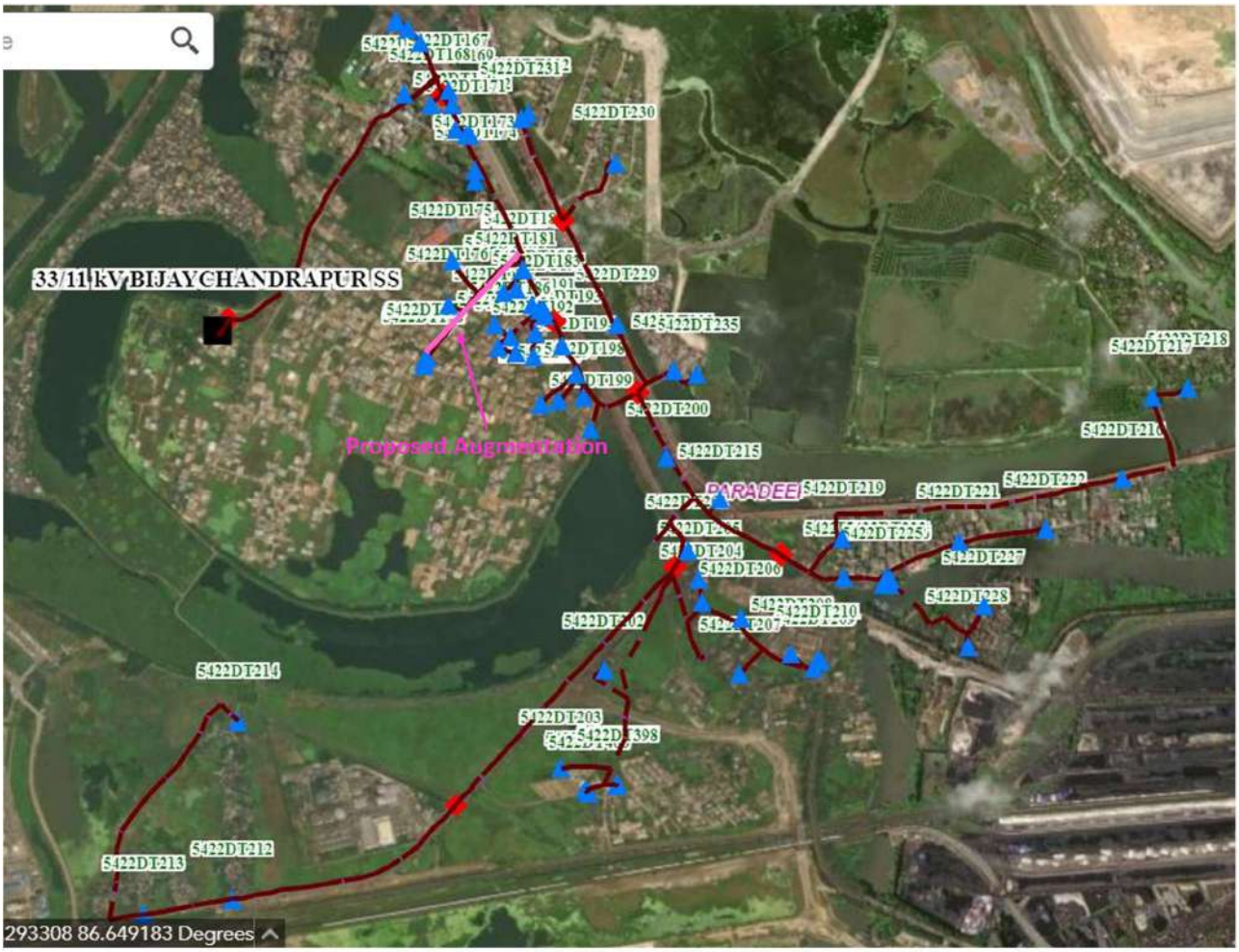
Priority and Timeline of the Project:

Priority: Since the 11kV Atharbanki Medical feeder caters to urban area and is experiencing frequent interruptions due to feeder tripping, ageing network and repeated shutdown for restoration and maintenance activities. Total 4500 No's consumer connected to the 11KV Atharbanki Medical feeder. No of 11KV feeder tripping in FY26 is 184 No's & 67 No's till July 26. In addition, unsafe condition in habitation area along the feeder corridor and ageing conductors increases the risk of faults, conductor snapping and supply interruptions, posing potential safety hazards to both the public and operating personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

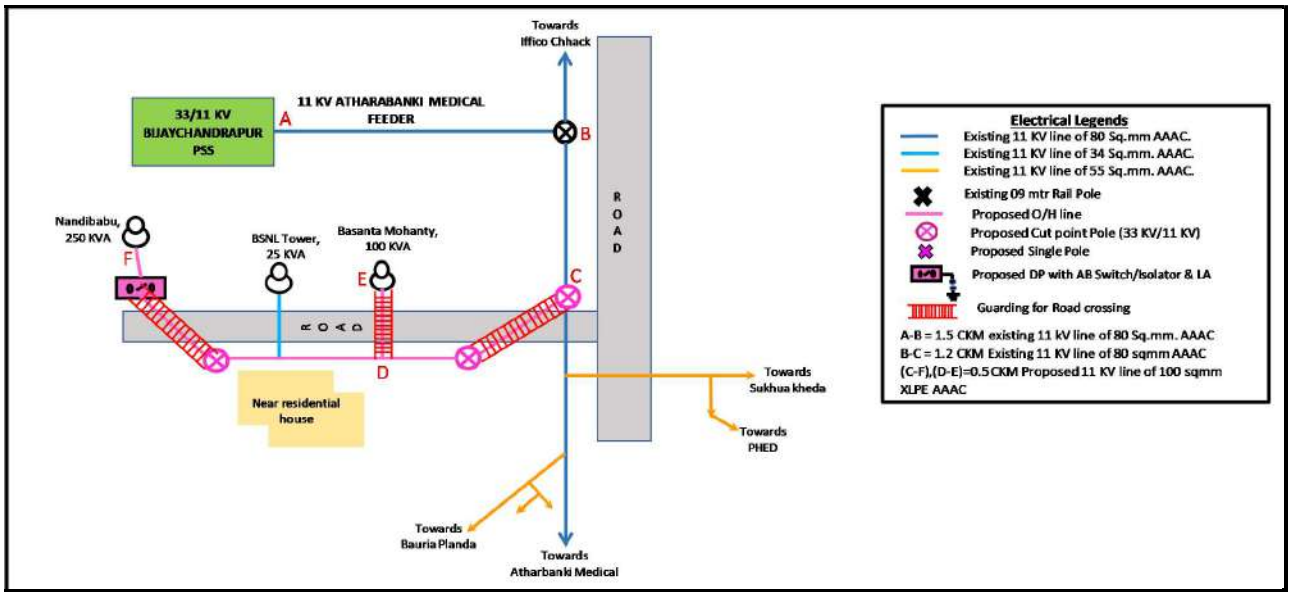
Proposed Scenario:

- Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC for strengthening of 11 kV Atharbanki Medical feeder.
- Installation of 03 Nos 11 kV line protecting guarding for road crossing.

GIS Map Proposed:-



Proposed SLD:



Scope of Work:

- Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. H -Pole & 100 Sq.mm. XLPE AAA Conductor in vertical arrangement.
- Installation of 03 Nos of 11 kV line protecting guarding having span 30 Mtr.

Proposed Cost with Estimate Break-up:

ANNEXURE- 12.62		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	PARADEEP	
Name of the Section : -	PARADEEP	
Name of the Work :-	Proposal for refurbishment of 0.5 CKM line of 11 kV Atharabanki Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for unsafe to safe.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. H -Pole & 100 Sq.mm. XLPE AAA Conductor in vertical arrangement (Refer PSLD C-F,D-E)	1,756,398.69
2	PART-B: Installation of 11 KV line protecting guarding of 3 Nos having span 30 Mtr. Each (Refer PSLD)	88,032.94
3	PART C: Dismantling Portion	31,236.06
	Total Amount	**1,875,667.70**
	Total Amount (In Cr.)	**0.19**
Total estimated cost is Rs. 0.19 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.19 Cr. (For detailed BoQ refer Annexure-12.62)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Reliability will be improved for 11 kV Atharbanki Medical feeder.
- Feeder restoration will be quick.
- Helps maintain voltage levels and reduce technical losses.
- Enables easier switching operations during faults or planned outages.
- The above arrangement will help to release power supply to upcoming potential consumers.

Sl. No.	Circle	Division	PSS Name	11kV Feeder Name	Proposals	Estimated Cost (In Cr)	Annexure
1	BBSR-I	BED	Lingipur	Gangua	Proposal for augmentation for 3kms O/H line from Gangotri Nagar Lane-3 to Airtel Tower to Improve reliability.	₹ 0.46	Annexure-12.1
2	BBSR-I	BED	Uttara	KEC,Sardeipur ,Dhauli	Proposal for construction 1.1km U/G from Uttara PSS to near Aastha Highway due to unsafe condition to improve reliability.	₹ 1.08	Annexure-12.2
3	BBSR-I	BED	Mulapadia	Mahavir Cottage	Proposal for construction of an interlinking line and installation of 2 Nos. of RMUs in the 11 kV Mahavir Cottage Feeder to improve network reliability .	₹ 0.76	Annexure-12.3
4	BBSR-I	BED	Lingipur	Kua Khai	Proposal for Augmentation of 3KM line strengthening for improving reliability of 11kV Shakti Nagar Feeder and installation of 1 no RMU for backfeeding of 11kV Sai and Sishupalagada feeder with Kuakhai Feeder	₹ 1.98	Annexure-12.4
5	BBSR-I	BED	Pradhan Sahi	Panchagaon	Proposal for augmentation and strengthening of the 11 kV Panchagaon Feeder for a length of 1.5 CKM to improve network reliability, along with the installation of 1 No. RMU for back-feeding arrangement .	₹ 0.59	Annexure-12.5
6	BBSR-I	BED	Pradhan Sahi	Kalyani Plaza	Proposal for augmentation and refurbishment of the 11 kV Kalyani Plaza Feeder for a length of 2.5 CKM using 100 sq. mm AAAC XLPE covered conductor, considering the dense vegetation along the feeder route, to improve network reliability and reduce vegetation-related interruptions.	₹ 0.25	Annexure-12.6
7	BBSR-I	BED	Pandra	Mangaraj	Proposal for augmentation and strengthening of the 11 kV Mangaraj Point Feeder for a length of 0.8 CKM to improve network reliability and ensure better supply continuity.	₹ 0.14	Annexure-12.7
8	BBSR-I	BCDD-I	Unit-2	Ashok Nagar	Proposal for bifurcation of the 11 kV Ashok Nagar Feeder by construction of a new 11 kV feeder from Kharvel Nagar to mitigate the existing feeder overloading issue, reduce feeder loading, and improve network reliability.	₹ 2.53	Annexure-12.8
9	BBSR-II	PED	Kacheri PSS	Swargadwar-1	Proposal for construction of a new 11 kV feeder of 0.82 CKM length, to bifurcate the load of the 11 kV Swargadwar-1 Feeder to enhance the reliability as well as to mitigate the overloading issue.	₹ 2.14	Annexure-12.9
10	BBSR-I	BCDD-I	Board Colony	JP RMU-37	Proposal for bifurcation of the 11 kV JPRMU-37 Feeder by construction of a new 11 kV feeder from Shanti Pali to mitigate the existing feeder overloading issue, reduce feeder loading, and improve network reliability.	₹ 1.56	Annexure-12.10
11	BBSR-I	BCDD-I	Unit-6	Unit-6	Proposal for augmentation of the 11 kV Medical OH Feeder using 100 sq. mm XLPE covered conductor and interlinking it with the 11 kV Unit-6 Feeder to improve the reliability and supply continuity of the Unit-6 Feeder.	₹ 0.84	Annexure-12.11
12	BBSR-I	BCDD-II	Ranasingh Pur	Aigenia	Proposal for bifurcation of 11 kV Aigenia Feeder by laying of new UG Line from Ranasingh Pur PSS to Ranasingh Pur Village 250 KVA DTR.	₹ 2.58	Annexure-12.12
13	BBSR-I	BCDD-II	Bharat Pur	Bharatpur	Proposal for bifurcation of 11 kV Bharat Pur Feeder by laying of new UG Line from Bharat Pur PSS to Lokayukta Bhawan Near GA Colony.	₹ 4.00	Annexure-12.13
14	BBSR-I	BCDD-II	Khandagiri	Kolthia	Proposal for bifurcation of 11 kV Kolathia Feeder by laying of new UG Line from Bharat Pur PSS to Manipal Hospital.	₹ 4.00	Annexure-12.14
15	BBSR-I	BCDD-II	Bharat Pur	PHD	Proposal for augmentation of existing 11kV PHD feeder using 100mm2 XLPE covered conductor.	₹ 3.58	Annexure-12.15
16	BBSR-I	BCDD-II	CS Pur-2	HB-3	Proposal for augmentation of 11 kV HB-3 Feeder using 100mm2 XLPE covered conductor & installation of RMU in T-off for reliability improvement.	₹ 1.24	Annexure-12.16

Sl. No.	Circle	Division	PSS Name	11kV Feeder Name	Proposals	Estimated Cost (In Cr)	Annexure
17	BBSR-I	NED	Kaktpur	Kaktpur-2	Construction of new 11kV Feeder from Astaranga PSS to bifurcate Kaktpur-2 Feeder	₹ 3.02	Annexure-12.17
18	BBSR-I	NED	Nimapada	Patapur	Proposal for line augmentation of 1 CKM line	₹ 1.15	Annexure-12.18
19	BBSR-II	PED	Sunamuhin	Brahmagiri	Proposal for refurbishment and augmentation of 11kV Brahmagiri feeder 3 CKM in Dadra kund and Gada rodanga by using 100 SQ.MM. AAA to enhance reliability.	₹ 1.06	Annexure-12.19
20	BBSR-II	PED	Sakhigopal	Sakhigopal Bajar	Proposal for augmentation of the 11 kV Sakhigopal Bajar Feeder to enhance reliability including to mitigate the overloading issue.	₹ 0.92	Annexure-12.20
21	BBSR-II	BAED	Balugaon	Singheswar	Proposal for refurbishment and augmentation of existing 11 KV Singheswar Feeder from Lambodarpur to khandewallkot to enhance reliability.	₹ 0.51	Annexure-12.21
22	BBSR-II	KHD	Tirimal	Taraboi	Proposal for refurbishment and augmentation of the existing 11 kV Taraboi Feeder for a length of 3.4 CKM near Anlajodi and Samantaraypur villages to improve feeder reliability.	₹ 0.50	Annexure-12.22
23	BBSR-II	KHD	Sunadeimundia	Rajiba	Proposal for refurbishment and augmentation of 11kV Rajiba Feeder 3.5 CKM by using 100 SQ.MM. AAA from Khandiabandha line AB switch to Kurum chain Line AB switch to improve reliability .	₹ 0.50	Annexure-12.23
24	BBSR-II	NYED	Gania	Koska	Proposal for construction of a new 11 KV Feeder from 33/11 KV Gania PSS and interlink with existing 11kV Kuska Feeder to bifurcate the length of the 11 KV Kuska Feeder.	₹ 0.60	Annexure-12.24
25	BBSR-II	NYED	Similisahi	Similisahi	Proposal for construction of a 0.04 CKM interlinking line between the 11 kV Similisahi Feeder and the 11 kV Old Town Feeder for reliability improvement and length reduction.	₹ 0.04	Annexure-12.25
26	Cuttack	CDD-1	Jobra PSS	College square UG	Proposal for refurbishment of 1 CKM O/H line of 11 kV collage square Fd	₹ 0.12	Annexure-12.26
27	Cuttack	CDD-1	DRDA PSS	GANESH GHAT	Proposal for refurbishment of1 .4 CKM O/H line of 11 kV ganeshghat Fdr	₹ 0.19	Annexure-12.27
28	Cuttack	CDD-2	Kandarpur PSS	AIR	Proposal for refurbishment of 1.8 CKM O/H line of 11 kV AIR Fdr. along with construction of 2.26 CKM new line for reliability improvement & safety issue mitigation	₹ 0.76	Annexure-12.28
29	Cuttack	AED	Badamba PSS	BADAMBA TOWN	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV Badamba town Fdr. along with construction of 0.08 CKM U/G line for N-1 connectivity between 11 kV Badamba town & Badabarsingha FDR	₹ 0.15	Annexure-12.29
30	Cuttack	AED	Tigiria PSS	PANCHAGAON	Proposal for refurbishment of 3 CKM O/H line of 11 kV panchgaon Fdr from 55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC	₹ 0.41	Annexure-12.30
31	Cuttack	SED	Erkana PSS	LAXMINARAYANPUR	Proposal for bifurcation of 11 kV Laxminarayanpur Fdr by construction of 01 No. of new 11 kV Indoor Bay at 33/11 kV Erkana PSS	₹ 0.34	Annexure-12.31
32	Cuttack	SED	Bahubram-1 PSS	BAHUGRAM GOPINATHPUR	Proposal for refurbishment of 1.5 CKM O/H line of 11 kV Bahugram Gopinathpur Fdr. Along with construction of 1.4 CKM new line for reliability improvement.	₹ 0.54	Annexure-12.32
33	Cuttack	SED	Orikanta PSS	GOPINATHPUR	Proposal for refurbishment of 4 CKM O/H line of 11 KV Orikanta Gopinathpur Fdr. using 100 Sq.mm AAA Conductor along with construction of 1 CKM 11 kV new line to improve reliability	₹ 0.62	Annexure-12.33
34	Cuttack	CED	Balikuda PSS	BARANGA	Proposal for refurbishment of 1.2 CKM O/H line of 11 kV Barang fdr . along with construction of 1.74 CKM new line for reliability improvement	₹ 1.12	Annexure-12.34

Sl. No.	Circle	Division	PSS Name	11kV Feeder Name	Proposals	Estimated Cost (In Cr)	Annexure
35	Cuttack	CED	Choudwar PSS	LOCAL	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV choudwar local Fdr. along with construction of 0.68 CKM U/G line for reliability improvement & safety issue mitigation.	₹ 0.67	Annexure-12.35
36	Cuttack	SED	Orikanta PSS	Bilahata	Proposal for augmentation of of 5 CKM O/H line of 11 kV Bilahata Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole (interposing)	₹ 0.68	Annexure-12.36
37	Cuttack	AED	MARDMUKHA PSS	KAMALADIHA OLD	Proposal for interlinking line of 1.2 CKM between 11 kV Kamaladiha and Kamaladiha Old feeder for length reduction of length of 11 kV Kamaladiha Old Fdr.	₹ 0.28	Annexure-12.37
38	Dhenkanal	DED	Nuabag	Naukhiyari	Construction of 1.4 CKM interlinking line between the 11 kV Naukiari Feeder and 11 kV Kalanga Feeder, connecting Alusingha to Sani Mandap and Kadalipal to CSC Centre, to improve network reliability and reduce the feeder length.	₹ 0.43	Annexure-12.38
39	Dhenkanal	ANED	Boinda	Handapa	Proposal for augmentation of the 11 kV Nakchi Feeder for a length of 4 CKM and construction of a 1.77 CKM interlinking line between the 11 kV Nakchi Feeder and 11 kV Handapa Feeder, to improve network reliability and reduce the feeder length.	₹ 1.05	Annexure-12.39
40	Dhenkanal	ANED	Daurapalli	Raniakata	Construction of a 2 CKM interlinking line between the 11 kV Raniakata Feeder and 11 kV Kadalimunda Feeder from Sanahula to Mundabeda, to improve network reliability and reduce the feeder length.	₹ 0.58	Annexure-12.40
41	Dhenkanal	DED	Bhapur	Bhapur	Proposal for refurbishment and augmentation of the 11 kV Bhapur Feeder for a length of 1 CKM from Sarakapatna Primary School to Chandrasekhar Prasad, to improve network reliability.	₹ 0.15	Annexure-12.41
42	Dhenkanal	TED	Khama	Sankhmur	Proposal for construction of a new 1.5 CKM interlinking line between the 11 kV Sankhmur Feeder and 11 kV Odaus Feeder from Hotel Kalia to Eknatala, to reduce feeder length and improve network reliability.	₹ 0.49	Annexure-12.42
43	Dhenkanal	TED	Banarpal	Banarpal Hindol	Proposal for construction of a new 2.5 CKM interlinking line between the 11 kV Banrapal-hindol Feeder and 11 kV Phulapada Feeder from Kusuna to Santapur, to reduce feeder length and improve network reliability.	₹ 0.55	Annexure-12.43
44	Paradeep	PDP	Garadpur	Garadpur-I	2.6 CKM interlinking line required between 11 kV Postal Fdr. and Garadpur-1 Fdr. for bifurcation of load of Garadpur-1 feeder.(At present Garadpur-1 Fdr. of KED-2 division feeding part load of PDP which made difficulties during maintenance)	₹ 0.69	Annexure-12.44
45	Paradeep	KED-II	Thauri PSS	Ortaghat	Proposal for diversion of existing O/H line of 11 kV Ortaghat Fdr. from Waterlogging area/dense forest area and construction of 2.3 CKM new 11 kV line to improve reliability.	₹ 0.63	Annexure-12.45
46	Paradeep	KED-II	Marsaghai PSS	Angulai & Kurtunga	Proposal for Augmentation of 3 CKM line of 11 Kv Angulai Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 2.5 CKM linking line for N-1 reliability with 11 kV Kurtanga Fdr.	₹ 0.78	Annexure-12.46
47	Paradeep	KED-II	Badhi/Babar PSS	Jamboo	Proposal for construction of 0.9 CKM 11 KV line using 100 Sq.mm AAA Conductor for N-1 connectivity between 11 kV Jamboo & Marine Fdr. and reduction of length of 11 kV Jamboo Fdr.	₹ 0.34	Annexure-12.47
48	Paradeep	KED-I	Ayatan PSS	Jaynagar	Proposal for refurbishment of 6 CKM O/H line of 11 kV Jaynagar Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole. (Aged conductor)	₹ 0.92	Annexure-12.48

Sl. No.	*Circle*	*Division*	*PSS Name*	*11kV Feeder Name*	*Proposals*	*Estimated Cost (In Cr)*	*Annexure*
49	Paradeep	KED-I	Indupur PSS	Bairi	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Bairi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement. (Aged conductor)	₹ 1.16	Annexure-12.49
50	BBSR-I	BCDD-II	Dumduma	Asian Plaza	Proposal for augmentation of existing 11kV Asian Plaza feeder using 100mm2 XLPE covered conductor & Linking with nearby Feeder for Load Diversion.	₹ 0.73	Annexure-12.50
51	Paradeep	KED-I	Kendrapada PSS	Thakurpatna & Chhata	Proposal for construction of 1.1 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Thakurpatna & Chhata Fdr	₹ 0.42	Annexure-12.51
52	Paradeep	KED-I	Rajnagar PSS	Rajnagar	Proposal for construction of 2 CKM 11 kV new line for N-1 reliability between 11 kV Rajnagar & Balarampur Fdr. along with installation of 01 No. of 11 kV 4-way RMU (LVVV) at Kurundi for improvement of reliability.	₹ 1.02	Annexure-12.52
53	Paradeep	PDP	Trilochanpur PSS	Sandhakuda	Proposal for Augmentation of 4.1 CKM O/H line of 11 kV Sandhakuda Fdr. from 80 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC along with shifting of 1 CKM 11 kV line from water logging area.	₹ 0.99	Annexure-12.53
54	Paradeep	PDP	Kujang PSS	Santara	Proposal for conversion of 11 kV O/H line to U/G line using 3CX400 Sq.mm. XLPE U/G cable for the length of 0.57 kM for unsafe to safe.	₹ 0.49	Annexure-12.54
55	Paradeep	PDP	Paradeepgarh PSS	Rangiagarh	Proposal for Augmentation of 1 CKM line of 11 kV Rangiagarh Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC. (short height pole & aged conductor)	₹ 0.18	Annexure-12.55
56	Paradeep	PDP	Erasma PSS	Ersama Bazar	Proposal for refurbishment of 1.2 CKM line of 11 kV Erasama Bazar Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.(short height pole & aged conductor)	₹ 0.24	Annexure-12.56
57	Paradeep	JED	Balikuda PSS	Dengapola	Proposal for refurbishment of 11.5 CKM O/H line of 11 kV Dengapola Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 1.5 CKM 11 kV line for N-1 connectivity between 11 kV Govindpur and Dengapola Fdr. for improvement of reliability.	₹ 2.36	Annexure-12.57
58	Paradeep	JED	Jagatsinghpur PSS	Chhapada	Proposal for refurbishment of 6.1 CKM line of 11 kV Chhapada Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC. (Rusted conductor due to aging effect)	₹ 0.97	Annexure-12.58
59	Paradeep	JED	Sova PSS	Macchegaon	Proposal for refurbishment of 6.12 CKM O/H line of 11 kV Machegaon Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC. (Rusted conducter due to aging effect)	₹ 0.94	Annexure-12.59
60	Paradeep	JED	Nabapatna PSS	Mansadahi	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Mandasahi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole along with construction of 1 CKM 11 kV line for N-1 connectivity between 11 kV Mandasahi & Jankothi Fdr. for length reduction of Mandasahi Fdr.	₹ 1.29	Annexure-12.60
61	Paradeep	JED	Nabapatna PSS	Tarikund	Proposal for refurbishment of 4.5 CKM O/H line of 11 kV Tarikund Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	₹ 0.65	Annexure-12.61
62	Paradeep	PDP	Bijaychandrapur PSS	Atharbanki Medical	Proposal for refurbishment of 0.5 CKM line of 11 kV Atharabanki Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for unsafe to safe.	₹ 0.19	Annexure-12.62
Total						**60**	

Annexure- 12.1

TPCODL	
Name of the Division :-	BED
Name of the Sub-Division : -	TEMPLE
Name of the Section : -	OT-1
Name of the Feeder: -	11kV Gangua Feeder
Name of the Work :-	Proposal for augmentation for 3kms O/H line from Gangotri Nagar Lane-3 to Airtel Tower
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A:- 1. Installation of 2 no. of Line DP with AB Switch 2. Augmentation of 3Kms O/H line due to dense vegetation area and damaaged conductor.	45,34,974.47
2	PART-C:- Dismantling	1,02,850.61
3	**Total Gross**	**46,37,825.08**
Total estimated cost is Rs. 0.46Cr.		

PART-A:-

1. Installation of 2 no. of Line DP with AB Switch

2. Augmentation of 3Kms O/H line due to dense vegetation area and damaaged conductor.

	No. of DP required With AB Switch			2	
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				
	MATERIALS OF DP With AB Switch				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,72,925.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,126.54**
A				**Total landed Cost (A=A1 + A2)**	**3,22,051.77**
B				Stock, Storage & Insurance i.e 3% of A	9,661.55
C				**Sub Total (A+B)**	**3,31,713.32**
D				Contigency @ 3% of C	9,951.40
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,936.92
F				Transportation @ 7.5% of C	24,878.50
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,666.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,95,155.52**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,55,708.86**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,55,708.86**
O				CESS 1% of N	4,557.09
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,60,265.95**
	No. of Cut Point with 180 Degree Angle			3	
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)				
	MATERIALS FOR 11 KV Cut Point with 180 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,67,460.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,142.82**
A				**Total landed Cost (A=A1 + A2)**	**1,97,602.94**
B				Stock, Storage & Insurance i.e 3% of A	5,928.09
C				**Sub Total (A+B)**	**2,03,531.03**
D				Contigency @ 3% of C	6,105.93
E				Tools & Plants @ 2% of C	3,856.52
F				Transportation @ 7.5% of C	15,264.83
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,768.76
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,42,783.97**
	Civil & Services				

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,68,133.36**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,68,133.36**
O				CESS 1% of N	2,681.33
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**2,70,814.69**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	12

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	12	3,46,020.00
2	GI Channel, angle & flat of different size	KG	78.00	808.128	63,033.98
3	Danger Plate	EA	180.00	12	2,160.00
4	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
5	11 KV pin insulator polymer	EA	140.00	48	6,720.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	48	5,280.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	72	39,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
9	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
10	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	72	1,80,000.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	72	10,800.00
12	Earthing of Support (Coil Type)	EA	164.00	12	1,968.00
13	H.T. Stay clamp	EA	260.00	24	6,240.00
14	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
15	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
16	7/10 SWG Stay Wire	KG	77.00	360	27,720.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	119.952	8,876.45
A1				**Total Cost of materials**	**7,49,346.43**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,34,882.36**
A				**Total landed Cost (A=A1 + A2)**	**8,84,228.79**
B				Stock, Storage & Insurance i.e 3% of A	26,526.86
C				**Sub Total (A+B)**	**9,10,755.65**
D				Contigency @ 3% of C	27,322.67
E				Tools & Plants @ 2% of C (Except HT Stay Set)	16,502.27
F				Transportation @ 7.5% of C	68,306.67
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				21,027.64
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				40,456.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**10,84,371.01**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.4	35,903.79
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	12.00	10,032.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12.00	3,400.08
K1				**Total Civil & Services**	**1,13,548.42**
K2				**Applicable Taxes to make it Landed Cost @18%**	**20,438.72**
K				**Total landed Cost (K=K1+ K2)**	**1,33,987.13**
L				**Total (J+K)**	**12,18,358.14**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**12,18,358.14**
O				CESS 1% of N	12,183.58
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**12,30,541.72**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2.8

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	16	4,61,360.00
2	11 KV V cross Arm(GI)	EA	851.00	16	13,616.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	16	1,296.00
4	Danger Plate	EA	180.00	16	2,880.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	24.64	1,921.92
6	GI barbed wire anticlimbing device	KG	74.00	48.00	3,552.00
7	11 KV pin insulator polymer	EA	140.00	48	6,720.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	48	5,280.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	32	7,040.00
10	Earthing of Support (Coil Type)	EA	164.00	16	2,624.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	21.95	1,624.45
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	8652.00	11,33,412.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**16,44,026.37**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,95,924.75**
A				**Total landed Cost (A=A1 + A2)**	**19,39,951.11**
B				Stock, Storage & Insurance i.e 3% of A	58,198.53
C				**Sub Total (A+B)**	**19,98,149.65**
D				Contigency @ 3% of C	59,944.49
E				Tools & Plants @ 2% of C	39,962.99
F				Transportation @ 7.5% of C	1,49,861.22
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				28,036.85

H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,43,741.27
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**24,19,696.47**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.20	47,871.72
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	16	13,376.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	16	4,533.44
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.8	29,316.00
K1	**Total Civil & Services**				**1,07,065.09**
K2	**Applicable Taxes to make it Landed Cost @18%**				**19,271.72**
K	**Total landed Cost (K=K1+ K2)**				**1,26,336.81**
L	**Total Material+Services (J+K)**				25,46,033.28
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**25,46,033.28**
O	CESS 1% of N				25,460.33
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**25,71,493.61**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,60,265.95
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,70,814.69
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				12,30,541.72
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				25,71,493.61
Q	**Gross Total Material +Services**				**45,33,115.97**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				450.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,575.00**
V	GST @ 18% on Total Inspection Fees (U)				283.50
W	Total Inspection Fees including GST (U+V)				1,858.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**45,34,974.47**

PART-C:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
2	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	15	1,380.92	20,713.73
3	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	2	950.00	1,900.00
15	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	8400	7.00	58,800.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**81,413.73**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,654.47**
A				**Total landed Cost (A=A1+ A2)**	**96,068.20**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	5,764.09
C				**Gross Total Estimated Cost i.e. (A+B)**	1,01,832.29
D				**CESS @ 1% of C**	1,018.32
E				**Grand Total (C+D)**	1,02,850.61

Annexure- 12.2		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		Uttara
Name of the Feeder: -		11kV Dhauli Feeder
Name of the Work :-		Proposal for construction 1.1km U/G from Uttara PSS to near Aastha Highway due to unsafe condition
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:- Installation of 1no of DP with Isolator with Earth Switch at Uttara PSS.	10,30,036.56
2	PART-B:- Proposed 1.1km U/G cable for 11kV KEC,Sardeipur and Dhauli feeder due to unsafe condition	94,00,713.31
3	PART-C:- Installation of 1 no 11 KV DP With AB Switch for U/G Cable Raising	2,51,873.57
4	PART-D:- Installation of 1no cable rising pole	1,19,198.11
5	PART-E:- Dismantling	47,052.42
6	**Total Gross**	**1,08,48,873.97**
Total estimated cost is Rs. 1.08Cr.		

PART-A:-

Installation of 1no of DP with Isolator with Earth Switch at Uttara PSS.

No. of 11 KV DP required With AB Switch for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8045)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	1043.841	81,419.60
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	3	2,01,291.00
14	11 KV pin insulator polymer	EA	140.00	3	420.00
15	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
16	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	36	4,716.00
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	36	29,232.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.404	2,767.90
A1				**Total Cost of materials**	**5,78,194.49**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,04,075.01**
A				**Total landed Cost (A=A1 + A2)**	**6,82,269.50**
B				Stock, Storage & Insurance i.e 3% of A	20,468.09
C				**Sub Total (A+B)**	**7,02,737.59**
D				Contigency @ 3% of C	21,082.13
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	12,298.16
F				Transportation @ 7.5% of C	52,705.32
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,513.82
H	Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				40,463.16
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**8,39,800.17**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	2,100.00	36.00	75,600.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**1,52,574.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**27,463.43**
K				**Total landed Cost (K=K1+ K2)**	**1,80,038.01**
L				**Total (J+K)**	**10,19,838.18**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**10,19,838.18**
O				CESS 1% of N	10,198.38
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**10,30,036.56**

PART-B:-
Proposed 1.1km U/G cable for 11kV KEC,Sardeipur and Dhauli feeder due to unsafe condition

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1100***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1100	2,375.00	26,12,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	1	15,950.00	15,950.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	9	2,900.00	26,100.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1100.00	812.00	8,93,200.00
	Sub Total (Supply Portion) (in Rs.)				**35,47,750.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1100	110.00	1,21,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	10	2,000.00	20,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1100.00	195.00	2,14,500.00
	Sub Total (Erection Portion) (in Rs.)				**3,55,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	500		
1.1.a	Earth work excavation of **soil**	M3	420	716.03	3,00,732.60
1.1.b	Earth work excavation of **hard rock**	M3	180	1,759.39	3,16,690.20
1.2	Back filling with excavated soil outside and above the trench	M3	600	220.00	1,32,000.00
1.3	Road Repair and restoration charges	KM	0.2	92,94,727.82	18,58,945.56
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**50**	16,703.11	8,35,155.74
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	37	1,035.17	38,301.29
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.1	10,470.00	11,517.00
	Sub Total (Civil Portion) (in Rs.)				**34,93,342.39**

A1	**Sub Total (Supply Portion)**	**35,47,750.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**6,38,595.00**
A	**Total Landed Cost (A=A1 + A2)**	**41,86,345.00**
B	Stock, Storage & Insurance @ 3 % of A	1,25,590.35
C	**Sub Total (A+B)**	**43,11,935.35**
D	Contingency @ 3 % of C	1,29,358.06
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	3,23,395.15
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**47,64,688.56**

I1	Sub Total (Erection Portion + Civil Portion)	38,48,842.39
I2	**Applicable Taxes to make it Landed Cost @18%**	**6,92,791.63**
I	**Total landed Cost (I=I1+ I2)**	**45,41,634.02**
J	**Total Cost (H+I)**	**93,06,322.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**93,06,322.58**
M	CESS 1% of L	93,063.23
N	**Grand Total (L+M)**	**93,99,385.81**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)	202.50
U	Total Inspection Fees including GST (S+T)	1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**94,00,713.31**

PART-C:-

Installation of 1 no 11 KV DP With AB Switch for U/G Cable Raising

No. of 11 KV DP required With AB Switch for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8045)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	347.947	27,139.87
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole)	SET	10,972.00	1	10,972.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	3	1,236.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	3	450.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
18	100 sq.mm AAA conductor	M	78.41	12	940.92
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	12	9,744.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.468	922.63
A1				**Total Cost of materials**	**1,31,902.42**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,742.44**
A				**Total landed Cost (A=A1 + A2)**	**1,55,644.85**
B				Stock, Storage & Insurance i.e 3% of A	4,669.35
C				**Sub Total (A+B)**	**1,60,314.20**
D				Contigency @ 3% of C	4,809.43
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,620.75
F				Transportation @ 7.5% of C	12,023.56
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,094.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,89,367.10**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	2,100.00	12.00	25,200.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**50,858.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,154.48**
K				**Total landed Cost (K=K1+ K2)**	**60,012.67**
L				**Total (J+K)**	**2,49,379.77**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**2,49,379.77**
O				CESS 1% of N	2,493.80
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,51,873.57**

PART-D:-
Installation of 1no cable rising pole

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**73,225.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**13,180.60**
A				**Total landed Cost (A=A1 + A2)**	**86,406.13**
B				Stock, Storage & Insurance i.e 3% of A	2,592.18
C				**Sub Total (A+B)**	**88,998.32**
D				Contigency @ 3% of C	2,669.95
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,637.23
F				Transportation @ 7.5% of C	6,674.87
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,681.54
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,06,414.22**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**1,17,579.81**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**1,17,579.81**
O				CESS 1% of N	1,175.80
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**1,18,755.61**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	1,18,755.61
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	-
Q	**Gross Total Material +Services**	**1,18,755.61**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,19,198.11**

PART-E:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	7	1,300.00	9,100.00
2	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	3300	9.21	30,380.13
A1				**Sub Total (Civil Portion) (in Rs.)**	**39,480.13**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,106.42**
A				**Total landed Cost (A=A1+ A2)**	**46,586.55**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	46,586.55
D				**CESS @ 1% of C**	465.87
E				**Grand Total (C+D)**	47,052.42

Annexure- 12.3

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	TEMPLE
Name of the Section : -	OT-3
Name of the Feeder: -	11kV Mahavir Cottage Feeder
Name of the Work :-	Proposal for installation of 2nos of RMU for reliability
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A:- Installation of 11kV 4way RMU- 2 Nos near Reliancemart and Mahatab road for linking of Mahavir Cottage feeder with Mulapadia and Kapileshwar feeder for backfeeding purpose	65,58,367.70
2	PART-B:- Installation of 2nos of DP with AB switch near Mahavir Cottage and Premlata Apartment	10,19,118.20
3	Part-C:- Dismantling	3,291.55
4	**Total Gross**	**75,80,777.45**

Total estimated cost is Rs. 0.76Cr.

PART-A:-

Installation of 11kV 4way RMU- 2 Nos near Reliancemart and Mahatab road for linking of Mahavir Cottage feeder with Mulapadia and Kapileshwar feeder for backfeeding purpose

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***600***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	600	2,375.00	14,25,000.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	8,260.00	49,560.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	2,900.00	17,400.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	100.00	812.00	81,200.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**41,05,713.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	600	110.00	66,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	12	2,000.00	24,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,39,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	100		
1.1.a	Earth work excavation of **soil**	M3	84	716.03	60,146.52
1.1.b	Earth work excavation of **hard rock**	M3	36	1,759.39	63,338.04
1.2	Back filling with excavated soil outside and above the trench	M3	120	220.00	26,400.00
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	20	1,035.17	20,703.40
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.6	10,470.00	6,282.00
	Sub Total (Civil Portion) (in Rs.)				**6,86,153.48**

A1	**Sub Total (Supply Portion)**	**41,05,713.20**
A2	**Applicable Taxes to make it Landed Cost @18%**	**7,39,028.38**
A	**Total Landed Cost (A=A1 + A2)**	**48,44,741.58**
B	Stock, Storage & Insurance @ 3 % of A	1,45,342.25

C	**Sub Total (A+B)**	**49,90,083.82**
D	Contingency @ 3 % of C	1,49,702.51
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	50.06
F	Transportation @ 7.5% of C	3,74,256.29
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	250.28
H	**Total (C+D+E+F+G)**	**55,14,342.95**
I1	Sub Total (Erection Portion + Civil Portion)	8,25,653.48
I2	**Applicable Taxes to make it Landed Cost @18%**	**1,48,617.63**
I	**Total landed Cost (I=I1+ I2)**	**9,74,271.11**
J	**Total Cost (H+I)**	**64,88,614.06**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**64,88,614.06**
M	CESS 1% of L	64,886.14
N	**Grand Total (L+M)**	**65,53,500.20**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	3,000.00
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**4,125.00**
T	GST @ 18% on Total Inspection Fees (S)	742.50
U	Total Inspection Fees including GST (S+T)	4,867.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**65,58,367.70**

PART-B:-

Installation of 2nos of DP with AB switch near Mahavir Cottage and Premlata Apartment

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,72,925.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,126.54**
A				**Total landed Cost (A=A1 + A2)**	**3,22,051.77**
B				Stock, Storage & Insurance i.e 3% of A	9,661.55
C				**Sub Total (A+B)**	**3,31,713.32**
D				Contigency @ 3% of C	9,951.40
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,936.92
F				Transportation @ 7.5% of C	24,878.50
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,666.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,95,155.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,55,708.86**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**4,55,708.86**
O				CESS 1% of N	4,557.09
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,60,265.95**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	18	35,280.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,42,607.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**61,669.38**
A				**Total landed Cost (A=A1 + A2)**	**4,04,277.06**
B				Stock, Storage & Insurance i.e 3% of A	12,128.31
C				**Sub Total (A+B)**	**4,16,405.37**
D				Contigency @ 3% of C	12,492.16
E				Tools & Plants @ 2% of C (Except HT Stay Set)	7,614.42
F				Transportation @ 7.5% of C	31,230.40
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				20,549.09
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,97,052.97**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,52,880.94**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,52,880.94**
O				CESS 1% of N	5,528.81
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**5,58,409.75**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,60,265.95
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,58,409.75
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				-
Q				**Gross Total Material +Services**	**10,18,675.70**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)				67.50
W	Total Inspection Fees including GST (U+V)				442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**10,19,118.20**

Part-C:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	2	1,380.92	2,761.83
A1				**Sub Total (Civil Portion) (in Rs.)**	**2,761.83**
A2				**Applicable Taxes to make it Landed Cost @18%**	**497.13**
A				**Total landed Cost (A=A1+ A2)**	**3,258.96**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	3,258.96
D				**CESS @ 1% of C**	32.59
E				**Grand Total (C+D)**	3,291.55

ANNEXURE- 12.4

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	BED
Name of the Sub-Division : -	TEMPLE
Name of the Section : -	OT-1
Name of the Feeder: -	11kV Kua Khai Feeder
Name of the Work :-	Proposal for Augmentation of 3KM line strengthening for improving reliability of 11kV Shakti Nagar Feeder and installation of 1 no RMU for backfeeding of 11kV Sai and Sishupalagada feeder with Kuakhai Feeder
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A:- Installation of 1 no 11kV 4way RMU near Kantilal DSS to divert Basudev Nagar Load under 11kV Kuakhai Feeder to Sishupalgada Feeder and linking with 11kV Sai feeder for backfeeding	1,44,06,502.21
2	PART-B:- 1. Installation of 4 nos. of Line DP with AB Switch 2. Augmentation of 3Kms O/H line due to dense vegetation area and damagaed conductor	53,11,388.88
3	PART-C:- Dismantling	1,07,619.54
4	**Total Gross**	**1,98,25,510.63**

Total estimated cost is Rs. 1.98Cr.(On TPCODL CAPEX Scheme)

PART-A:-

Installation of 1 no 11kV 4way RMU near Kantilal DSS to divert Basudev Nagar Load under 11kV Kuakhai Feeder to Sishupalgada Feeder and linking with 11kV Sai feeder for backfeeding

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1200***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1500	2,375.00	35,62,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	15,950.00	31,900.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	8,260.00	24,780.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	2,900.00	8,700.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1200.00	812.00	9,74,400.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**58,68,556.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1500	110.00	1,65,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	300	2,970.00	8,91,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1200.00	195.00	2,34,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**13,21,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	650		
1.1.a	Earth work excavation of **soil**	M3	546	716.03	3,90,952.38
1.1.b	Earth work excavation of **hard rock**	M3	234	1,759.39	4,11,697.26
1.2	Back filling with excavated soil outside and above the trench	M3	780	220.00	1,71,600.00
1.3	Road Repair and restoration charges	KM	0.3	92,94,727.82	27,88,418.35
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		

4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	50	1,035.17	51,758.50
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.5	10,470.00	15,705.00
	Sub Total (Civil Portion) (in Rs.)				**40,84,773.25**
A1	**Sub Total (Supply Portion)**				**58,68,556.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**10,56,340.19**
A	**Total Landed Cost (A=A1 + A2)**				**69,24,896.79**
B	Stock, Storage & Insurance @ 3 % of A				2,07,746.90
C	**Sub Total (A+B)**				**71,32,643.69**
D	Contingency @ 3 % of C				2,13,979.31
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				5,34,948.28
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**78,81,721.44**
I1	Sub Total (Erection Portion + Civil Portion)				54,05,773.25
I2	**Applicable Taxes to make it Landed Cost @18%**				**9,73,039.18**
I	**Total landed Cost (I=I1+ I2)**				**63,78,812.43**
J	**Total Cost (H+I)**				**1,42,60,533.87**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,42,60,533.87**
M	CESS 1% of L				1,42,605.34
N	**Grand Total (L+M)**				**1,44,03,139.21**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,850.00**
T	GST @ 18% on Total Inspection Fees (S)				513.00
U	Total Inspection Fees including GST (S+T)				3,363.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,44,06,502.21**

PART-B:-

1. Installation of 4 nos. of Line DP with AB Switch

2. Augmentation of 3Kms O/H line due to dense vegetation area and damagaed conductor

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**5,45,850.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**98,253.08**
A				**Total landed Cost (A=A1 + A2)**	**6,44,103.54**
B				Stock, Storage & Insurance i.e 3% of A	19,323.11
C				**Sub Total (A+B)**	**6,63,426.64**
D				Contigency @ 3% of C	19,902.80
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,873.84
F				Transportation @ 7.5% of C	49,757.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,332.34
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,90,311.04**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**9,11,417.73**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**9,11,417.73**
O				CESS 1% of N	9,114.18
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**9,20,531.90**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**2,79,100.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**50,238.04**
A				**Total landed Cost (A=A1 + A2)**	**3,29,338.24**
B				Stock, Storage & Insurance i.e 3% of A	9,880.15
C				**Sub Total (A+B)**	**3,39,218.38**
D				Contigency @ 3% of C	10,176.55
E				Tools & Plants @ 2% of C	6,427.53
F				Transportation @ 7.5% of C	25,441.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,614.60
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,04,639.96**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**35,804.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,444.76**
K				**Total landed Cost (K=K1+ K2)**	**42,248.97**
L				**Total (J+K)**	**4,46,888.93**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**4,46,888.93**
O				CESS 1% of N	4,468.89
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**4,51,357.82**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	10

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	673.44	52,528.32
3	Danger Plate	EA	180.00	10	1,800.00
4	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
5	11 KV pin insulator polymer	EA	140.00	40	5,600.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	40	4,400.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	60	33,000.00
8	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	60	9,000.00
11	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
12	H.T. Stay clamp	EA	260.00	20	5,200.00
13	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
14	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
15	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	99.96	7,397.04
A1				**Total Cost of materials**	**6,38,175.36**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,14,871.56**
A				**Total landed Cost (A=A1 + A2)**	**7,53,046.92**
B				Stock, Storage & Insurance i.e 3% of A	22,591.41
C				**Sub Total (A+B)**	**7,75,638.33**
D				Contigency @ 3% of C	23,269.15
E				Tools & Plants @ 2% of C (Except HT Stay Set)	14,085.40
F				Transportation @ 7.5% of C	58,172.87
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				17,523.03
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				35,380.95
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**9,24,069.73**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,479.96
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	10.00	8,360.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1				**Total Civil & Services**	**94,623.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**17,032.26**
K				**Total landed Cost (K=K1+ K2)**	**1,11,655.94**
L				**Total (J+K)**	**10,35,725.68**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**10,35,725.68**
O				CESS 1% of N	10,357.26
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**10,46,082.93**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	3

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	20	5,76,700.00
2	11 KV V cross Arm(GI)	EA	851.00	20	17,020.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	20	1,620.00
4	Danger Plate	EA	180.00	20	3,600.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	30.80	2,402.40
6	GI barbed wire anticlimbing device	KG	74.00	60.00	4,440.00
7	11 KV pin insulator polymer	EA	140.00	60	8,400.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	60	6,600.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
10	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	27.44	2,030.56
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	9270.00	12,14,370.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	9	4,050.00
A1				**Total Cost of materials**	**18,44,512.96**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,32,012.33**
A				**Total landed Cost (A=A1 + A2)**	**21,76,525.29**
B				Stock, Storage & Insurance i.e 3% of A	65,295.76
C				**Sub Total (A+B)**	**22,41,821.05**
D				Contigency @ 3% of C	67,254.63
E				Tools & Plants @ 2% of C	44,836.42
F				Transportation @ 7.5% of C	1,68,136.58
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				35,046.06
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,54,089.99

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**27,11,184.73**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.00	59,839.65
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**1,28,596.36**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,147.35**
K				**Total landed Cost (K=K1+ K2)**	**1,51,743.71**
L				**Total Material+Services (J+K)**	28,62,928.44
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**28,62,928.44**
O				CESS 1% of N	28,629.28
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**28,91,557.72**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				9,20,531.90
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				4,51,357.82
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				10,46,082.93
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				28,91,557.72
Q				**Gross Total Material +Services**	**53,09,530.38**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				450.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,575.00**
V	GST @ 18% on Total Inspection Fees (U)				283.50
W	Total Inspection Fees including GST (U+V)				1,858.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**53,11,388.88**

PART-C:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	10	1,300.00	13,000.00
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	4	950.00	3,800.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	10500	7.00	73,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**90,300.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,254.00**
A				**Total landed Cost (A=A1+ A2)**	**1,06,554.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,06,554.00
D				**CESS @ 1% of C**	1,065.54
E				**Grand Total (C+D)**	1,07,619.54

Annexure- 12.5

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	TEMPLE
Name of the Section : -	DHAULI
Name of the Feeder: -	11kV Panchagaon Feeder
Name of the Work :-	Proposal for Augmentation of 1.5KM line strengthening for improving reliability and installation of 1 no RMU for backfeeding
Names of Schemes: -	**CAPEX 26-27**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A:- Installation of 11kV 4way RMU- 1Nos near Sumitra Realcon for linking of Panchagaon feeder with Pradhan Sahi feeder for backfeeding purpose	28,71,326.59
2	PART-B:- 1. Installation of 2 nos. of Line DP with AB Switch 2. Augmentation of 1.5Kms O/H line due to dense vegetation area and damagaed conductor	29,93,388.37
3	PART-C:- Dismantling	60,781.80
4	**Total Gross**	**59,25,496.76**

Total estimated cost is Rs. 0.59Cr.

PART-A:-
Installation of 11kV 4way RMU- 1Nos near Sumitra Realcon for linking of Panchagaon feeder with Pradhan Sahi feeder for backfeeding purpose

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***150***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	150	2,375.00	3,56,250.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	0	15,950.00	-
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	8,260.00	24,780.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	2,900.00	8,700.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	100.00	812.00	81,200.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**17,37,206.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	150	110.00	16,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.4	Laying of 200mm dia PE 80-PN8, **HDPE pipe** inside open trench.	M	100.00	195.00	19,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**63,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	70		
1.1.a	Earth work excavation of **soil**	M3	58.8	716.03	42,102.56
1.1.b	Earth work excavation of **hard rock**	M3	25.2	1,759.39	44,336.63
1.2	Back filling with excavated soil outside and above the trench	M3	84	220.00	18,480.00
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30

5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	5	1,035.17	5,175.85
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.15	10,470.00	1,570.50
	Sub Total (Civil Portion) (in Rs.)				**3,66,307.30**
A1	**Sub Total (Supply Portion)**				**17,37,206.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,12,697.19**
A	**Total Landed Cost (A=A1 + A2)**				**20,49,903.79**
B	Stock, Storage & Insurance @ 3 % of A				61,497.11
C	**Sub Total (A+B)**				**21,11,400.90**
D	Contingency @ 3 % of C				63,342.03
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				1,58,355.07
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**23,33,248.16**
I1	Sub Total (Erection Portion + Civil Portion)				4,29,307.30
I2	**Applicable Taxes to make it Landed Cost @18%**				**77,275.31**
I	**Total landed Cost (I=I1+ I2)**				**5,06,582.62**
J	**Total Cost (H+I)**				**28,39,830.78**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**28,39,830.78**
M	CESS 1% of L				28,398.31
N	**Grand Total (L+M)**				**28,68,229.09**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,625.00**
T	GST @ 18% on Total Inspection Fees (S)				472.50
U	Total Inspection Fees including GST (S+T)				3,097.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**28,71,326.59**

PART-B:-

1. Installation of 2 nos. of Line DP with AB Switch

2. Augmentation of 1.5Kms O/H line due to dense vegetation area and damagaed conductor

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,67,460.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,142.82**
A				**Total landed Cost (A=A1 + A2)**	**1,97,602.94**
B				Stock, Storage & Insurance i.e 3% of A	5,928.09
C				**Sub Total (A+B)**	**2,03,531.03**
D				Contigency @ 3% of C	6,105.93
E				Tools & Plants @ 2% of C	3,856.52
F				Transportation @ 7.5% of C	15,264.83

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,768.76
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**2,42,783.97**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,68,133.36**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,68,133.36**
O				CESS 1% of N	2,681.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**2,70,814.69**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,19,087.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**57,435.78**
A				**Total landed Cost (A=A1 + A2)**	**3,76,523.46**
B				Stock, Storage & Insurance i.e 3% of A	11,295.70
C				**Sub Total (A+B)**	**3,87,819.17**
D				Contigency @ 3% of C	11,634.57
E				Tools & Plants @ 2% of C (Except HT Stay Set)	7,042.70
F				Transportation @ 7.5% of C	29,086.44
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				17,690.47
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,62,034.87**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,17,862.84**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,17,862.84**
O				CESS 1% of N	5,178.63
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**5,23,041.47**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	20	5,76,700.00
2	11 KV V cross Arm(GI)	EA	851.00	20	17,020.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	20	1,620.00
4	Danger Plate	EA	180.00	20	3,600.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	30.80	2,402.40
6	GI barbed wire anticlimbing device	KG	74.00	60.00	4,440.00
7	11 KV pin insulator polymer	EA	140.00	60	8,400.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	60	6,600.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	40	8,800.00
10	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	27.44	2,030.56
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4635.00	6,07,185.00

13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**12,43,427.96**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,23,817.03**
A				**Total landed Cost (A=A1 + A2)**	**14,67,244.99**
B				Stock, Storage & Insurance i.e 3% of A	44,017.35
C				**Sub Total (A+B)**	**15,11,262.34**
D				Contigency @ 3% of C	45,337.87
E				Tools & Plants @ 2% of C	30,225.25
F				Transportation @ 7.5% of C	1,13,344.68
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	35,046.06
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	81,034.12
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**18,16,250.31**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.00	59,839.65
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.5	15,705.00
K1				**Total Civil & Services**	**1,12,891.36**
K2				**Applicable Taxes to make it Landed Cost @18%**	**20,320.45**
K				**Total landed Cost (K=K1+ K2)**	**1,33,211.81**
L				**Total Material+Services (J+K)**	19,49,462.12
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**19,49,462.12**
O				CESS 1% of N	19,494.62
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**19,68,956.74**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O) for DP With AB Switch	2,30,132.98
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	2,70,814.69
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	5,23,041.47
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	19,68,956.74
Q				**Gross Total Material +Services**	**29,92,945.87**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**29,93,388.37**

PART-C:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	15	1,300.00	19,500.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	4500	7.00	31,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**51,000.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,180.00**
A				**Total landed Cost (A=A1+ A2)**	**60,180.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	60,180.00
D				**CESS @ 1% of C**	601.80
E				**Grand Total (C+D)**	60,781.80

Annexure-12.6		
TPCODL		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		DHAULI
Name of the Feeder: -		11kV Kalyani Plaza Feeder (Pradhansahi PSS)
Name of the Work :-		Augmentation of 11KV line using 100Sq.mm AAAC XLPE covered conductor for 2.5CKM due to dense vegetation areas.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A:- Augmentation of 11KV line using 100Sq.mm AAAC XLPE covered conductor for 2.5CKM due to dense tree areas.	24,75,733.55
	PART-B:- Dismantling of Materials	70,316.20
4	**Total Gross**	**25,46,049.75**

Total estimated cost is Rs. 0.25Cr.

PART-A:-

Augmentation of 11KV line using 100Sq.mm AAAC XLPE covered conductor for 2.5CKM due to dense tree areas.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00

11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,11,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**1,31,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06
C				**Sub Total (A+B)**	**1,35,687.35**
D				Contigency @ 3% of C	4,070.62
E				Tools & Plants @ 2% of C	2,571.01
F				Transportation @ 7.5% of C	10,176.55
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,845.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,61,855.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,78,755.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,78,755.57**
O				CESS 1% of N	1,787.56
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,80,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,84,396.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,191.39**
A				**Total landed Cost (A=A1 + A2)**	**2,17,588.00**
B				Stock, Storage & Insurance i.e 3% of A	6,527.64
C				**Sub Total (A+B)**	**2,24,115.64**
D				Contigency @ 3% of C	6,723.47
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,054.10
F				Transportation @ 7.5% of C	16,808.67
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,756.70
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,66,715.49**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99

4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,00,212.27**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**3,00,212.27**
O				CESS 1% of N	3,002.12
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**3,03,214.39**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		2.5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	11 KV V cross Arm(GI)	EA	851.00	4	3,404.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	4	324.00
4	Danger Plate	EA	180.00	4	720.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	6.16	480.48
6	GI barbed wire anticlimbing device	KG	74.00	12.00	888.00
7	11 KV pin insulator polymer	EA	140.00	12	1,680.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
10	Earthing of Support (Coil Type)	EA	164.00	4	656.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.49	406.11
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	7725.00	10,11,975.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**11,39,893.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,05,180.85**
A				**Total landed Cost (A=A1 + A2)**	**13,45,074.44**
B				Stock, Storage & Insurance i.e 3% of A	40,352.23
C				**Sub Total (A+B)**	**13,85,426.67**
D				Contigency @ 3% of C	41,562.80
E				Tools & Plants @ 2% of C	27,708.53
F				Transportation @ 7.5% of C	1,03,907.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,24,524.24
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**16,90,138.46**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.5	26,175.00
K1				**Total Civil & Services**	**45,612.27**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,210.21**
K				**Total landed Cost (K=K1+ K2)**	**53,822.48**
L				**Total Material+Services (J+K)**	17,43,960.94
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**17,43,960.94**
O				CESS 1% of N	17,439.61
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**17,61,400.55**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				2,30,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				1,80,543.13
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				3,03,214.39
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				17,61,400.55
Q				**Gross Total Material +Services**	**24,75,291.05**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)				67.50
W	Total Inspection Fees including GST (U+V)				442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**24,75,733.55**

Annexure-12.7

TPCODL

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	LAXMISAGAR
Name of the Feeder: -	11kV Mangaraj Point Feeder
Name of the Work :-	Proposal for Augmentation of 0.8KM line strengthening for improving reliability
Names of Schemes: -	**CAPEX 26-27**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-B:- 1. Installation of 1nos. of Line DP with AB Switch 2. Augmentation of 0.8Kms O/H line due to damagaed conductor	13,68,995.80
2	PART-B:- Dismantling	32,774.50
4	**Total Gross**	**14,01,770.30**

Total estimated cost is Rs. 0.14Cr.

PART-B:-

1. Installation of 1nos. of Line DP with AB Switch

2. Augmentation of 0.8Kms O/H line due to damagaed conductor

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,11,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**1,31,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06
C				**Sub Total (A+B)**	**1,35,687.35**
D				Contigency @ 3% of C	4,070.62
E				Tools & Plants @ 2% of C	2,571.01
F				Transportation @ 7.5% of C	10,176.55

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,61,855.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,78,755.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,78,755.57**
O				CESS 1% of N	1,787.56
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**1,80,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00		-
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,22,931.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,127.59**
A				**Total landed Cost (A=A1 + A2)**	**1,45,058.66**
B				Stock, Storage & Insurance i.e 3% of A	4,351.76
C				**Sub Total (A+B)**	**1,49,410.42**
D				Contigency @ 3% of C	4,482.31
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,702.74
F				Transportation @ 7.5% of C	11,205.78
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,504.46
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,77,810.33**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,00,141.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,00,141.51**
O				CESS 1% of N	2,001.42
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,02,142.93**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.8

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	11 KV V cross Arm(GI)	EA	851.00	5	4,255.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	5	405.00
4	Danger Plate	EA	180.00	5	900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	7.70	600.60
6	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
7	11 KV pin insulator polymer	EA	140.00	15	2,100.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
10	Earthing of Support (Coil Type)	EA	164.00	5	820.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	6.86	507.64
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	2472.00	3,23,832.00

13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	0	-
A1				**Total Cost of materials**	**4,82,555.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**86,859.94**
A				**Total landed Cost (A=A1 + A2)**	**5,69,415.18**
B				Stock, Storage & Insurance i.e 3% of A	17,082.46
C				**Sub Total (A+B)**	**5,86,497.64**
D				Contigency @ 3% of C	17,594.93
E				Tools & Plants @ 2% of C	11,729.95
F				Transportation @ 7.5% of C	43,987.32
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	41,126.73
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,09,698.09**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.8	8,376.00
K1				**Total Civil & Services**	**32,672.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,881.07**
K				**Total landed Cost (K=K1+ K2)**	**38,553.66**
L				**Total Material+Services (J+K)**	7,48,251.75
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**7,48,251.75**
O				CESS 1% of N	7,482.52
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**7,55,734.27**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O) for DP With AB Switch	2,30,132.98
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,80,543.13
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,02,142.93
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	7,55,734.27
Q				**Gross Total Material +Services**	**13,68,553.30**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**13,68,995.80**

PART-B:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	5	1,300.00	6,500.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3000	7.00	21,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**27,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,950.00**
A				**Total landed Cost (A=A1+ A2)**	**32,450.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	32,450.00
D				**CESS @ 1% of C**	324.50
E				**Grand Total (C+D)**	32,774.50

Annexure-12.8		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-2
Name of the Section : -		Unit-2
Name of the Feeder: -		11kV Ashok Nagar
Name of the Work :-		Proposal for Bifurcation of 11kV Ashok Nagar Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 2 CKM using 3Cx400mm2 XLPE UG cable from kharvel nagar PSS to Kumuda Plaza RMU. 2. Installation of 2 Nos. of RMU in 11kV Ashok nagar Feeder in differen location.	2,11,08,403.20
2	Part-B:-Augmentation of 11kV Ashok Nagar Feeder of length 2 CKM.	41,35,173.50
3	Part-C Dismantling.	98,037.47
4	**Total Gross**	**2,53,41,614.16**
Total estimated cost is Rs. 2.53 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length- 2 CKM using 3Cx400mm2 XLPE UG cable from kharvel nagar PSS to Kumuda Plaza RMU.

2. Installation of 2 Nos. of RMU in 11kV Ashok nagar Feeder in differen location.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1000***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***1000***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2000	2,375.00	47,50,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	7	15,950.00	1,11,650.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	8,260.00	66,080.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	2,900.00	17,400.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1000.00	812.00	8,12,000.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**82,89,683.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2000	110.00	2,20,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	21	2,000.00	42,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1000	2,970.00	29,70,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1000.00	195.00	1,95,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**34,57,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				

1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	952		
1.1.a	Earth work excavation of **soil**	M3	799.68	716.03	5,72,594.87
1.1.b	Earth work excavation of **hard rock**	M3	342.72	1,759.39	6,02,978.14
1.2	Back filling with excavated soil outside and above the trench	M3	1142.4	220.00	2,51,328.00
1.3	Road Repair and restoration charges	KM	0.3	92,94,727.82	27,88,418.35
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	67	1,035.17	69,356.39
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2	10,470.00	20,940.00
	Sub Total (Civil Portion) (in Rs.)				**48,14,899.27**
A1	**Sub Total (Supply Portion)**				**82,89,683.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**14,92,142.98**
A	**Total Landed Cost (A=A1 + A2)**				**97,81,826.18**
B	Stock, Storage & Insurance @ 3 % of A				2,93,454.79
C	**Sub Total (A+B)**				**1,00,75,280.96**
D	Contingency @ 3 % of C				3,02,258.43
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				7,55,646.07
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**1,11,33,485.79**
I1	Sub Total (Erection Portion + Civil Portion)				82,71,899.27
I2	**Applicable Taxes to make it Landed Cost @18%**				**14,88,941.87**
I	**Total landed Cost (I=I1+ I2)**				**97,60,841.13**
J	**Total Cost (H+I)**				**2,08,94,326.93**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,08,94,326.93**
M	CESS 1% of L				2,08,943.27
N	**Grand Total (L+M)**				**2,11,03,270.20**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,350.00**
T	GST @ 18% on Total Inspection Fees (S)				783.00
U	Total Inspection Fees including GST (S+T)				5,133.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,11,08,403.20**

Part-B:-Augmentation of 11kV Ashok Nagar Feeder of length 2 CKM.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**2,25,040.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**40,507.23**

A	**Total landed Cost (A=A1 + A2)**	**2,65,547.39**
B	Stock, Storage & Insurance i.e 3% of A	7,966.42
C	**Sub Total (A+B)**	**2,73,513.81**
D	Contigency @ 3% of C	8,205.41
E	Tools & Plants @ 2% of C	5,184.80
F	Transportation @ 7.5% of C	20,513.54
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,905.59
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**3,26,332.37**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**28,643.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,155.81**
K	**Total landed Cost (K=K1+ K2)**				**33,799.18**
L	**Total (J+K)**				**3,60,131.55**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**3,60,131.55**
O	CESS 1% of N				3,601.32
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**3,63,732.86**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1	**Total Cost of materials**				**3,09,527.68**
A2	**Applicable Taxes to make it Landed Cost @18%**				**55,714.98**
A	**Total landed Cost (A=A1 + A2)**				**3,65,242.66**
B	Stock, Storage & Insurance i.e 3% of A				10,957.28
C	**Sub Total (A+B)**				**3,76,199.94**
D	Contigency @ 3% of C				11,286.00
E	Tools & Plants @ 2% of C (Except HT Stay Set)				6,810.32
F	Transportation @ 7.5% of C				28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1	**Total Civil & Services**				**47,311.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**8,516.13**
K	**Total landed Cost (K=K1+ K2)**				**55,827.97**
L	**Total (J+K)**				**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**5,03,629.29**
O	CESS 1% of N				5,036.29
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**5,08,665.58**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2

MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	30	8,65,050.00
2	11 KV V cross Arm(GI)	EA	851.00	30	25,530.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	30	2,430.00
4	Danger Plate	EA	180.00	30	5,400.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	46.20	3,603.60
6	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
7	11 KV pin insulator polymer	EA	140.00	90	12,600.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	90	9,900.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	60	13,200.00
10	Earthing of Support (Coil Type)	EA	164.00	30	4,920.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	41.16	3,045.84
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6180.00	8,09,580.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1	**Total Cost of materials**				**17,64,619.44**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,17,631.50**
A	**Total landed Cost (A=A1 + A2)**				**20,82,250.94**
B	Stock, Storage & Insurance i.e 3% of A				62,467.53
C	**Sub Total (A+B)**				**21,44,718.47**
D	Contigency @ 3% of C				64,341.55
E	Tools & Plants @ 2% of C				42,894.37
F	Transportation @ 7.5% of C				1,60,853.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				52,569.09
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,09,333.67
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**25,74,711.03**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.50	89,759.48
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.38	22,439.87
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1	**Total Civil & Services**				**1,66,719.54**
K2	**Applicable Taxes to make it Landed Cost @18%**				**30,009.52**
K	**Total landed Cost (K=K1+ K2)**				**1,96,729.06**
L	**Total Material+Services (J+K)**				27,71,440.10
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**27,71,440.10**
O	CESS 1% of N				27,714.40
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**27,99,154.50**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				3,63,732.86
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				27,99,154.50
Q	**Gross Total Material +Services**				**41,34,465.50**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				225.00
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**600.00**
V	GST @ 18% on Total Inspection Fees (U)				108.00
W	Total Inspection Fees including GST (U+V)				708.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**41,35,173.50**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	30	1,300.00	39,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	6180	7.00	43,260.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**82,260.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,806.80**
A				**Total landed Cost (A=A1+ A2)**	**97,066.80**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	97,066.80
D				**CESS @ 1% of C**	970.67
E				**Grand Total (C+D)**	98,037.47

Annexure-12.9

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Cicle :-	BBSR-2
Name of the Division :-	PED
Name of the Sub-Division : -	PURI-I
Name of the Section : -	Swargadwar-1
Name of the Work :-	Proposal for construction of a new 11 kV feeder of 0.82 CKM length, to bifurcate the load of the 11 kV Swargadwar-1 Feeder to enhance the reliability as well as to mitigate the overloading issue.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of One No. 11 kV Indoor Bay	32,73,345.56
2	PART B: Suppply & Laying of 11kV 1C, 630sqmm UG Cable of lenth= 0.08 KM with one run spare.	2,99,987.03
3	PART C: Supply & laying of 11kV 3CX400sqmm UG Cable of length= 0.82 km without spare run.	1,77,94,210.18
5	**Total Gross**	**2,13,67,542.76**

Total estimated cost is Rs. 2.14 Cr.

PART A: Construction of One No. 11 kV Indoor Bay

No. of Bay requirement (Indoor)	1

MATERIALS OF 11 kV Bay

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
2	GI Flat	KG	78.00	70.8	5,522.40
3	Supply of 11 kV extension Panel (O/G Feeder) as per the existing drawing (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	18,00,000.00	1	18,00,000.00
4	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**18,15,511.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,26,792.07**
A				**Total landed Cost (A=A1 + A2)**	**21,42,303.58**
B				Stock, Storage & Insurance i.e 3% of A	64,269.11
C				**Sub Total (A+B)**	**22,06,572.69**
D				Contigency @ 3% of C	66,197.18
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	44,068.25
F				Transportation @ 7.5% of C	1,65,492.95
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,09,386.00
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,569.26
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**25,93,286.34**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
2	**RCC Cable Trench :**	Qty			
2.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	69	16,008.00
2.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	4.6	6,808.00
2.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	4.6	23,138.00
2.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	9.2	69,000.00
2.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	8.4	63,000.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	112	30,240.00
2.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	1982.8	2,02,245.60
2.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	2.4	19,080.00
2.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1060.4	1,10,281.60
K1				**Total Civil & Services**	**5,47,370.66**
K2				**Applicable Taxes to make it Landed Cost @18%**	**98,526.72**
K				**Total landed Cost (K=K1+ K2)**	**6,45,897.38**
L				**Total (J+K)**	**32,39,183.72**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**32,39,183.72**

O	CESS 1% of (N)	32,391.84
P	**Total (N+O)**	32,71,575.56
Q	Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R	GST @ 18% on Total Inspection Fees (Q)	270.00
S	Total Inspection Fees including GST (Q+R)	1,770.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**32,73,345.56**

PART B: Suppply & Laying of 11kV 1C, 630sqmm UG Cable of lenth= 0.08 KM with one run spare.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 1C, 630sqmm cable (open trench)***	***M***	***0.08***		
1.1	Supply of 11kV, 1Core, 630sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	0.32	1,037.00	331.84
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits	EA	8	7,220.00	57,760.00
1.3	Supply of materials for High Density Polyethelene (HDPE) pipe 110mm diameter, PE 80- PN8 for laying of 11kV U/G cable	M	0.32	261.00	83.52
	Sub Total (Supply Portion) (in Rs.)				**58,175.36**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	0.32	96.66	30.93
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, aluminium UG cable kits	EA	8	2,129.37	17,034.97
1.3	Laying of **110mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	0.32	195.00	62.40
	Sub Total (Erection Portion) (in Rs.)				**17,128.30**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.00008	10,470.00	0.84
	Sub Total (Civil Portion) (in Rs.)				**1,67,031.98**

A1	**Sub Total (Supply Portion)**	**58,175.36**
A2	**Applicable Taxes to make it Landed Cost @18%**	**10,471.56**
A	**Total Landed Cost (A=A1 + A2)**	**68,646.92**
B	Stock, Storage & Insurance @ 3 % of A	2,059.41
C	**Sub Total (A+B)**	**70,706.33**
D	Contingency @ 3 % of C	2,121.19
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	5,302.97
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**78,130.50**
I1	Sub Total (Erection Portion + Civil Portion)	1,84,160.28
I2	**Applicable Taxes to make it Landed Cost @18%**	**33,148.85**
I	**Total landed Cost (I=I1+ I2)**	**2,17,309.13**
J	**Total Cost (H+I)**	**2,95,439.63**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**2,95,439.63**
M	CESS 1% of L	2,954.40
N	**Grand Total (L+M)**	**2,98,394.03**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,350.00**
T	GST @ 18% on Total Inspection Fees (S)	243.00
U	Total Inspection Fees including GST (S+T)	1,593.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**2,99,987.03**

PART C: Supply & laying of 11kV 3CX400sqmm UG Cable of length= 0.82 km without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***820***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	820	2,375.00	19,47,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	15,950.00	47,850.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.4	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	820.00	812.00	6,65,840.00
2	**Supply of 11kV RMU**				
f	***No. of 11kV 4WAY 630A LLVV WITH FRTU & AUXPT***	***EA***	***1***		
i	***No. of 11kV 1WAY 630A SINGLE BREAKER MOUDLE+FRTU+AUXPT***	***EA***	***1***		
2.6	Supply of 11kV RMU 4WAY 630A LLVV WITH FRTU & AUXPT	EA	1	11,23,040.00	11,23,040.00
2.9	Supply of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+FRTU+AUXPT	EA	1	6,47,248.00	6,47,248.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**44,71,777.20**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1640	110.00	1,80,400.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	7	2,000.00	14,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	820.00	195.00	1,59,900.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.6	Erection of 11kV RMU 4WAY 630A LLVV WITH FRTU & AUXPT	EA	1	12,000.00	12,000.00
2.9	Erection of 11kV RMU 1WAY 630A SINGLE BREAKER MOUDLE+FRTU+AUXPT	EA	1	14,475.00	14,475.00
	Sub Total (Erection Portion) (in Rs.)				**3,80,775.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	810		
1.1.a	Earth work excavation of **soil**	M3	680.4	716.03	4,87,186.81
1.1.b	Earth work excavation of **hard rock**	M3	291.6	1,759.39	5,13,038.12
1.2	Back filling with excavated soil outside and above the trench	M3	972	220.00	2,13,840.00
1.3	Road Repair and restoration charges	KM	0.81	92,94,727.82	75,28,729.53
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
3	**RMU Civil works**				

3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	27	1,035.17	27,949.59
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.82	10,470.00	8,585.40
	Sub Total (Civil Portion) (in Rs.)				**94,55,644.13**
A1	**Sub Total (Supply Portion)**				**44,71,777.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,04,919.90**
A	**Total Landed Cost (A=A1 + A2)**				**52,76,697.10**
B	Stock, Storage & Insurance @ 3 % of A				1,58,300.91
C	**Sub Total (A+B)**				**54,34,998.01**
D	Contingency @ 3 % of C				1,63,049.94
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				4,07,624.85
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**60,05,973.13**
I1	Sub Total (Erection Portion + Civil Portion)				98,36,419.13
I2	**Applicable Taxes to make it Landed Cost @18%**				**17,70,555.44**
I	**Total landed Cost (I=I1+ I2)**				**1,16,06,974.57**
J	**Total Cost (H+I)**				**1,76,12,947.70**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,76,12,947.70**
M	CESS 1% of L				1,76,129.48
N	**Grand Total (L+M)**				**1,77,89,077.18**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,350.00**
T	GST @ 18% on Total Inspection Fees (S)				783.00
U	Total Inspection Fees including GST (S+T)				5,133.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,77,94,210.18**

Annexure-12.10		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-3
Name of the Section : -		Unit-9 Flat
Name of the Feeder: -		11kV JP RMU-37
Name of the Work :-		Proposal for Bifurcation of 11kV JP RMU-37 Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:-	1,43,36,345.91
2	Part-B:-Augmentation of 11kV JP RMU-37 Feeder	12,02,989.59
3	Part-C Dismantling.	25,791.74
4	**Total Gross**	**1,55,65,127.24**
Total estimated cost is Rs. 1.56 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length- 0.65 CKM using 3Cx400mm2 XLPE UG cable from Shantipalli PSS to IDBI Square.

2. Laying of 11kV UG cable of length- 0.3 CKM using 3Cx400mm2 XLPE UG cable from Rupali Square to Rupali LABS for LILO arrangements.

2. Installation of 2 Nos. of RMU in 11kV JPRMU-37 Feeder (Near Rupali LABS & JPRMU 38).

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***820***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***200***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1020	2,375.00	24,22,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	4	15,950.00	63,800.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	8,260.00	66,080.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	820.00	812.00	6,65,840.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**57,56,573.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1020	110.00	1,12,200.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	14	2,000.00	28,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	200	2,970.00	5,94,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	820.00	195.00	1,59,900.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**9,24,100.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)

1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	804		
1.1.a	Earth work excavation of **soil**	M3	675.36	716.03	4,83,578.02
1.1.b	Earth work excavation of **hard rock**	M3	289.44	1,759.39	5,09,237.84
1.2	Back filling with excavated soil outside and above the trench	M3	964.8	220.00	2,12,256.00
1.3	Road Repair and restoration charges	KM	0.3	92,94,727.82	27,88,418.35
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	34	1,035.17	35,195.78
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.02	10,470.00	10,679.40
	Sub Total (Civil Portion) (in Rs.)				**45,48,648.91**
A1	**Sub Total (Supply Portion)**				**57,56,573.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**10,36,183.18**
A	**Total Landed Cost (A=A1 + A2)**				**67,92,756.38**
B	Stock, Storage & Insurance @ 3 % of A				2,03,782.69
C	**Sub Total (A+B)**				**69,96,539.07**
D	Contingency @ 3 % of C				2,09,896.17
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				5,24,740.43
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**77,31,476.00**
I1	Sub Total (Erection Portion + Civil Portion)				54,72,748.91
I2	**Applicable Taxes to make it Landed Cost @18%**				**9,85,094.80**
I	**Total landed Cost (I=I1+ I2)**				**64,57,843.71**
J	**Total Cost (H+I)**				**1,41,89,319.71**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,41,89,319.71**
M	CESS 1% of L				1,41,893.20
N	**Grand Total (L+M)**				**1,43,31,212.91**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,350.00**
T	GST @ 18% on Total Inspection Fees (S)				783.00
U	Total Inspection Fees including GST (S+T)				5,133.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,43,36,345.91**

Part-B:-Augmentation of 11kV JP RMU-37 Feeder of length 0.7 CKM.

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,09,527.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,714.98**
A				**Total landed Cost (A=A1 + A2)**	**3,65,242.66**
B				Stock, Storage & Insurance i.e 3% of A	10,957.28
C				**Sub Total (A+B)**	**3,76,199.94**
D				Contigency @ 3% of C	11,286.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	6,810.32
F				Transportation @ 7.5% of C	28,215.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,03,629.29**
O				CESS 1% of N	5,036.29
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**5,08,665.58**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.7

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	11 KV V cross Arm(GI)	EA	851.00	5	4,255.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	5	405.00
4	Danger Plate	EA	180.00	5	900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	7.70	600.60
6	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
7	11 KV pin insulator polymer	EA	140.00	15	2,100.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
10	Earthing of Support (Coil Type)	EA	164.00	5	820.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	6.86	507.64
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	2163.00	2,83,353.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	0	-
A1				**Total Cost of materials**	**4,42,076.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**79,573.72**
A				**Total landed Cost (A=A1 + A2)**	**5,21,649.96**
B				Stock, Storage & Insurance i.e 3% of A	15,649.50
C				**Sub Total (A+B)**	**5,37,299.46**
D				Contigency @ 3% of C	16,118.98
E				Tools & Plants @ 2% of C	10,745.99
F				Transportation @ 7.5% of C	40,297.46
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				36,206.92

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**6,49,430.33**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.7	7,329.00
K1				**Total Civil & Services**	**31,625.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,692.61**
K				**Total landed Cost (K=K1+ K2)**	**37,318.20**
L				**Total Material+Services (J+K)**	6,86,748.52
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**6,86,748.52**
O				CESS 1% of N	6,867.49
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**6,93,616.01**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				6,93,616.01
Q				**Gross Total Material +Services**	**12,02,281.59**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				225.00
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**600.00**
V	GST @ 18% on Total Inspection Fees (U)				108.00
W	Total Inspection Fees including GST (U+V)				708.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**12,02,989.59**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	5	1,300.00	6,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	2163	7.00	15,141.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**21,641.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,895.38**
A				**Total landed Cost (A=A1+ A2)**	**25,536.38**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	25,536.38
D				**CESS @ 1% of C**	255.36
E				**Grand Total (C+D)**	25,791.74

Annexure-12.11		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Unit-6
Name of the Feeder: -		11kV Unit-6
Name of the Work :-		Proposal for installation of RMU & linking with nearby Feeder for reliability improvement of 11kV Unit-6 Feeder.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Installation of 2 Nos. of RMU in 11kV Unit-6 Feeder in differen location.(Refer Proposed SLD)	68,02,167.03
2	Part-B:-Construction of 11kV OH line of length-0.15 CKM from VIR DSS to RK Enclave DSS. 2. Augmentation of backfeeding 11kV Medical OH feeder of length 0.4 CKM.	15,73,583.30
3	Part-C Dismantling.	18,058.15
4	**Total Gross**	**83,93,808.48**
Total estimated cost is Rs. 0.84 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Installation of 2 Nos. of RMU in 11kV Unit-6 Feeder in differen location.(Refer Proposed SLD)

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***240***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	240	2,375.00	5,70,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA		15,950.00	-
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	8,260.00	66,080.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	2,900.00	23,200.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	240.00	812.00	1,94,880.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**33,86,713.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	240	110.00	26,400.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	16	2,000.00	32,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	240.00	195.00	46,800.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,35,200.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	176		
1.1.a	Earth work excavation of **soil**	M3	147.84	716.03	1,05,857.88

1.1.b	Earth work excavation of **hard rock**	M3	63.36	1,759.39	1,11,474.95
1.2	Back filling with excavated soil outside and above the trench	M3	211.2	220.00	46,464.00
1.3	Road Repair and restoration charges	KM	0.1	92,94,727.82	9,29,472.78
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	8	1,035.17	8,281.36
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.24	10,470.00	2,512.80
	Sub Total (Civil Portion) (in Rs.)				**17,13,347.29**
A1	**Sub Total (Supply Portion)**				**33,86,713.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**6,09,608.38**
A	**Total Landed Cost (A=A1 + A2)**				**39,96,321.58**
B	Stock, Storage & Insurance @ 3 % of A				1,19,889.65
C	**Sub Total (A+B)**				**41,16,211.22**
D	Contingency @ 3 % of C				1,23,486.34
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				3,08,715.84
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**45,48,713.73**
I1	Sub Total (Erection Portion + Civil Portion)				18,48,547.29
I2	**Applicable Taxes to make it Landed Cost @18%**				**3,32,738.51**
I	**Total landed Cost (I=I1+ I2)**				**21,81,285.80**
J	**Total Cost (H+I)**				**67,29,999.53**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**67,29,999.53**
M	CESS 1% of L				67,300.00
N	**Grand Total (L+M)**				**67,97,299.53**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,125.00**
T	GST @ 18% on Total Inspection Fees (S)				742.50
U	Total Inspection Fees including GST (S+T)				4,867.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**68,02,167.03**

Part-B:-Construction of 11kV OH line of length- 0.15 CKM from VIR DSS to RK Enclave DSS.
2. Augmentation of backfeeding 11kV Medical OH feeder of length 0.4 CKM.

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	6

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	404.064	31,516.99
3	Danger Plate	EA	180.00	6	1,080.00
4	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
5	11 KV pin insulator polymer	EA	140.00	24	3,360.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	24	2,640.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	36	19,800.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	36	90,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
11	Earthing of Support (Coil Type)	EA	164.00	6	984.00
12	H.T. Stay clamp	EA	260.00	12	3,120.00
13	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
14	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
15	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.976	4,438.22
A1				**Total Cost of materials**	**3,71,433.22**
A2				**Applicable Taxes to make it Landed Cost @18%**	**66,857.98**
A				**Total landed Cost (A=A1 + A2)**	**4,38,291.19**
B				Stock, Storage & Insurance i.e 3% of A	13,148.74
C				**Sub Total (A+B)**	**4,51,439.93**
D				Contigency @ 3% of C	13,543.20
E				Tools & Plants @ 2% of C (Except HT Stay Set)	8,172.38
F				Transportation @ 7.5% of C	33,857.99
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				19,834.26
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,37,361.58**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.7	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.7	4,487.97
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6.00	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**56,774.21**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,219.36**
K				**Total landed Cost (K=K1+ K2)**	**66,993.57**
L				**Total (J+K)**	**6,04,355.15**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**6,04,355.15**
O				CESS 1% of N	6,043.55
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**6,10,398.70**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.55

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	12	3,46,020.00
2	11 KV V cross Arm(GI)	EA	851.00	12	10,212.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	12	972.00
4	Danger Plate	EA	180.00	12	2,160.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	18.48	1,441.44
6	GI barbed wire anticlimbing device	KG	74.00	36.00	2,664.00
7	11 KV pin insulator polymer	EA	140.00	36	5,040.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	36	3,960.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	24	5,280.00
10	Earthing of Support (Coil Type)	EA	164.00	12	1,968.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	16.46	1,218.34
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	1699.50	2,22,634.50
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	0	-
A1				**Total Cost of materials**	**6,03,570.28**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,08,642.65**
A				**Total landed Cost (A=A1 + A2)**	**7,12,212.93**
B				Stock, Storage & Insurance i.e 3% of A	21,366.39
C				**Sub Total (A+B)**	**7,33,579.31**
D				Contigency @ 3% of C	22,007.38
E				Tools & Plants @ 2% of C	14,671.59
F				Transportation @ 7.5% of C	55,018.45
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	21,027.64
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,302.66

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**8,77,607.02**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.40	35,903.79
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	12	10,032.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.55	5,758.50
K1				**Total Civil & Services**	**64,070.32**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,532.66**
K				**Total landed Cost (K=K1+ K2)**	**75,602.97**
L				**Total Material+Services (J+K)**	9,53,210.00
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**9,53,210.00**
O				CESS 1% of N	9,532.10
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**9,62,742.10**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				6,10,398.70
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				9,62,742.10
Q				**Gross Total Material +Services**	**15,73,140.80**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)				67.50
W	Total Inspection Fees including GST (U+V)				442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**15,73,583.30**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	5	1,300.00	6,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	1236	7.00	8,652.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**15,152.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,727.36**
A				**Total landed Cost (A=A1+ A2)**	**17,879.36**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	17,879.36
D				**CESS @ 1% of C**	178.79
E				**Grand Total (C+D)**	18,058.15

Annexure-12.12		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Khandagiri
Name of the Section : -		Kalinga Nagar
Name of the Feeder: -		11kV Aiginia
Name of the Work :-		Proposal for Bifurcation of existing 11kV AIginia feeder for mitigation of overloading & Reliability Improvement.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length-0.6 KM using 3Cx400mm2 XLPE UG cable from Ranasingh pur PSS to Ranasingh Pur Village 250 KVA DTR. 2. Installation of 4 Nos. of RMU in different location of 11kV Aiginia Feeder. 3. Laying of 11kV UG cable of length 0.4 KM using 3Cx400mm2 XLPE UG cable for linking with Udaygiri Vihar RMU & Proposed RMU near Khusi Sannjivani T-off.	1,83,69,092.58
2	Part-B:-Augmentation of 11kV Aiginia feeder of length 4 CKM. 2. Construction of 11kV O/H Linking line from K-9 feeder to Aiginia RMU of length 0.1 CKM using 100mm2 XLPE Covered conductor(Refer Proposed SLD A-B)	72,40,263.19
3	Part-C Dismantling.	1,65,088.14
4	**Total Gross**	**2,57,74,443.90**
Total estimated cost is Rs. 2.58 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length-0.6 KM using 3Cx400mm2 XLPE UG cable from Ranasingh pur PSS to Ranasingh Pur Village 250 KVA DTR.

2. Installation of 4 Nos. of RMU in different location of 11kV Aiginia Feeder.

3. Laying of 11kV UG cable of length 0.4 KM using 3Cx400mm2 XLPE UG cable for linking with Udaygiri Vihar RMU & Proposed RMU near Khusi Sannjivani T-off.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1280***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1280	2,375.00	30,40,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	15,950.00	47,850.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	15	8,260.00	1,23,900.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11	2,900.00	31,900.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1280.00	812.00	10,39,360.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***4***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	4	12,62,647.00	50,50,588.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	52.80	78.00	4,118.40
3.2	Pipe Earthing 40mm. GI Pipe	EA	8	1,300.00	10,400.00
	Sub Total (Supply Portion) (in Rs.)				**93,48,116.40**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1280	110.00	1,40,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	29	2,000.00	58,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1280.00	195.00	2,49,600.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	4	15,000.00	60,000.00
	Sub Total (Erection Portion) (in Rs.)				**5,08,400.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1192		
1.1.a	Earth work excavation of **soil**	M3	1001.28	716.03	7,16,946.52
1.1.b	Earth work excavation of **hard rock**	M3	429.12	1,759.39	7,54,989.44
1.2	Back filling with excavated soil outside and above the trench	M3	1430.4	220.00	3,14,688.00
1.3	Road Repair and restoration charges	KM	0.15	92,94,727.82	13,94,209.17
2	**Civil works for U/G Cable laying in Trench**				

2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	4	1,71,056.00	6,84,224.00
4	**Fencing**				
a	**GI Chain link**	EA	**4**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	72	4,167.57	3,00,065.20
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	8	3,784.73	30,277.84
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	43	1,035.17	44,512.31
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	4	1,000.00	4,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.28	10,470.00	13,401.60
	Sub Total (Civil Portion) (in Rs.)				**42,57,314.08**
A1	**Sub Total (Supply Portion)**				**93,48,116.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**16,82,660.95**
A	**Total Landed Cost (A=A1 + A2)**				**1,10,30,777.35**
B	Stock, Storage & Insurance @ 3 % of A				3,30,923.32
C	**Sub Total (A+B)**				**1,13,61,700.67**
D	Contingency @ 3 % of C				3,40,851.02
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				100.11
F	Transportation @ 7.5% of C				8,52,127.55
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				500.55
H	**Total (C+D+E+F+G)**				**1,25,55,279.90**
I1	Sub Total (Erection Portion + Civil Portion)				47,65,714.08
I2	**Applicable Taxes to make it Landed Cost @18%**				**8,57,828.53**
I	**Total landed Cost (I=I1+ I2)**				**56,23,542.61**
J	**Total Cost (H+I)**				**1,81,78,822.51**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,81,78,822.51**
M	CESS 1% of L				1,81,788.23
N	**Grand Total (L+M)**				**1,83,60,610.74**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				63.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				6,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**7,188.00**
T	GST @ 18% on Total Inspection Fees (S)				1,293.84
U	Total Inspection Fees including GST (S+T)				8,481.84
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,83,69,092.58**

Part-B:-Augmentation of 11kV Aiginia feeder of length 4 CKM.
2. Construction of 11kV O/H Linking line from K-9 feeder to Aiginia RMU of length 0.1 CKM using 100mm2 XLPE Covered conductor(Refer Proposed SLD A-B)

	No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)		3		
	MATERIALS OF DP With AB Switch				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A,3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1				**Total Cost of materials**	**4,12,027.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**74,165.01**
A				**Total landed Cost (A=A1 + A2)**	**4,86,192.85**
B				Stock, Storage & Insurance i.e 3% of A	14,585.79
C				**Sub Total (A+B)**	**5,00,778.64**
D				Contigency @ 3% of C	15,023.36
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	8,969.55
F				Transportation @ 7.5% of C	37,558.40
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,513.82
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				23,820.12
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**5,96,663.88**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**76,974.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,855.43**
K				**Total landed Cost (K=K1+ K2)**	**90,830.01**
L				**Total (J+K)**	**6,87,493.90**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**6,87,493.90**
O				CESS 1% of N	6,874.94
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**6,94,368.84**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)		5		
	MATERIALS FOR 11 KV Cut Point with 180 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**2,81,300.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**50,634.04**
A				**Total landed Cost (A=A1 + A2)**	**3,31,934.24**
B				Stock, Storage & Insurance i.e 3% of A	9,958.03
C				**Sub Total (A+B)**	**3,41,892.26**
D				Contigency @ 3% of C	10,256.77
E				Tools & Plants @ 2% of C	6,481.00
F				Transportation @ 7.5% of C	25,641.92
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,881.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,07,915.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**35,804.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,444.76**
K				**Total landed Cost (K=K1+ K2)**	**42,248.97**
L				**Total (J+K)**	**4,50,164.43**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**4,50,164.43**
O				CESS 1% of N	4,501.64
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**4,54,666.08**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	15

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	15	4,32,525.00
2	GI Channel, angle & flat of different size	KG	78.00	1010.16	78,792.48
3	Danger Plate	EA	180.00	15	2,700.00
4	GI barbed wire anticlimbing device	KG	74.00	45	3,330.00
5	11 KV pin insulator polymer	EA	140.00	60	8,400.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	60	6,600.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	90	49,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	30	6,600.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	90	2,25,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	90	13,500.00
11	Earthing of Support (Coil Type)	EA	164.00	15	2,460.00
12	H.T. Stay clamp	EA	260.00	30	7,800.00
13	H.T. Stay set (Complete)	SET	1,434.00	30	43,020.00
14	H.T. Stay Insulator Type-C	EA	87.00	30	2,610.00
15	7/10 SWG Stay Wire	KG	77.00	450	34,650.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	149.94	11,095.56
A1				**Total Cost of materials**	**9,28,583.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,67,144.95**
A				**Total landed Cost (A=A1 + A2)**	**10,95,727.99**
B				Stock, Storage & Insurance i.e 3% of A	32,871.84
C				**Sub Total (A+B)**	**11,28,599.83**
D				Contigency @ 3% of C	33,857.99
E				Tools & Plants @ 2% of C (Except HT Stay Set)	20,430.95
F				Transportation @ 7.5% of C	84,644.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				26,284.54
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				49,585.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**13,43,403.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	30	69,045.75
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.8	44,879.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.7	11,219.93
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	15.00	12,540.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	15.00	4,250.10
K1				**Total Civil & Services**	**1,41,935.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**25,548.39**
K				**Total landed Cost (K=K1+ K2)**	**1,67,483.92**
L				**Total (J+K)**	**15,10,887.87**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**15,10,887.87**
O				CESS 1% of N	15,108.88
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**15,25,996.75**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	4

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	40	11,53,400.00
2	11 KV V cross Arm(GI)	EA	851.00	40	34,040.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	40	3,240.00
4	Danger Plate	EA	180.00	40	7,200.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	61.60	4,804.80
6	GI barbed wire anticlimbing device	KG	74.00	120.00	8,880.00
7	11 KV pin insulator polymer	EA	140.00	120	16,800.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	120	13,200.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	80	17,600.00
10	Earthing of Support (Coil Type)	EA	164.00	40	6,560.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	54.88	4,061.12
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12360.00	16,19,160.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	12	5,400.00
A1				**Total Cost of materials**	**28,94,345.92**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,20,982.27**
A				**Total landed Cost (A=A1 + A2)**	**34,15,328.19**
B				Stock, Storage & Insurance i.e 3% of A	1,02,459.85
C				**Sub Total (A+B)**	**35,17,788.03**
D				Contigency @ 3% of C	1,05,533.64

E				Tools & Plants @ 2% of C	70,355.76
F				Transportation @ 7.5% of C	2,63,834.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				70,092.12
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,11,594.57
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**42,39,198.22**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	18.00	1,19,679.30
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	40	33,440.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	40	11,333.60
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4	41,880.00
K1				**Total Civil & Services**	**2,36,252.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**42,525.49**
K				**Total landed Cost (K=K1+ K2)**	**2,78,778.22**
L				**Total Material+Services (J+K)**	45,17,976.44
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**45,17,976.44**
O				CESS 1% of N	45,179.76
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**45,63,156.20**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				6,94,368.84
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				4,54,666.08
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				15,25,996.75
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				45,63,156.20
Q				**Gross Total Material +Services**	**72,38,187.86**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				1,383.75
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**1,758.75**
V				GST @ 18% on Total Inspection Fees (U)	316.58
W				Total Inspection Fees including GST (U+V)	2,075.33
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**72,40,263.19**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	40	1,300.00	52,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	12360	7.00	86,520.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,38,520.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,933.60**
A				**Total landed Cost (A=A1+ A2)**	**1,63,453.60**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,63,453.60
D				**CESS @ 1% of C**	1,634.54
E				**Grand Total (C+D)**	1,65,088.14

ANNEXURE-12.13		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Khandagiri
Name of the Section : -		Bharat Pur
Name of the Feeder: -		11kV Bharat Pur
Name of the Work :-		Proposal for Bifurcation of existing 11kV Bharat Pur feeder & augmentation for mitigation reliability improvement.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length-3 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Lokayukta Bhawan. 2. Installation of 2 Nos. of RMU near Lokayukta Bhawan & Studio Chowk.	2,79,00,458.68
2	Part-B:-Augmentation of 11kV Bharat Pur feeder Branch Line of length 6.1 CKM(GA Colony Branch & Hanuman Basti Sampur Area Branch) 2. Construction of 11kV O/H Linking line of length 1.05 CKM using 100mm2 XLPE Covered conductor(Refer Proposed SLD A-B, C-D, E-F)	1,17,88,054.32
3	Part-C Dismantling.	3,13,472.60
4	**Total Gross**	**4,00,01,985.60**
Total estimated cost is Rs. 4 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length-3 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Lokayukta Bhawan.

2. Installation of 2 Nos. of RMU near Lokayukta Bhawan & Studio Chowk.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***2350***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***1000***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	3350	2,375.00	79,56,250.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	11	15,950.00	1,75,450.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	9	8,260.00	74,340.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	9	2,900.00	26,100.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	2350.00	812.00	19,08,200.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**1,26,72,893.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	3350	110.00	3,68,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	29	2,000.00	58,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1000	2,970.00	29,70,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2350.00	195.00	4,58,250.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**38,84,750.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	2278		
1.1.a	Earth work excavation of **soil**	M3	1913.52	716.03	13,70,137.73
1.1.b	Earth work excavation of **hard rock**	M3	820.08	1,759.39	14,42,840.55

1.2	Back filling with excavated soil outside and above the trench	M3	2733.6	220.00	6,01,392.00
1.3	Road Repair and restoration charges	KM	0.11	92,94,727.82	10,22,420.06
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	112	1,035.17	1,15,939.04
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	3.35	10,470.00	35,074.50
	Sub Total (Civil Portion) (in Rs.)				**50,97,087.40**
A1	**Sub Total (Supply Portion)**				**1,26,72,893.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,81,120.78**
A	**Total Landed Cost (A=A1 + A2)**				**1,49,54,013.98**
B	Stock, Storage & Insurance @ 3 % of A				4,48,620.42
C	**Sub Total (A+B)**				**1,54,02,634.40**
D	Contingency @ 3 % of C				4,62,079.03
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				11,55,197.58
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**1,70,20,211.34**
I1	Sub Total (Erection Portion + Civil Portion)				89,81,837.40
I2	**Applicable Taxes to make it Landed Cost @18%**				**16,16,730.73**
I	**Total landed Cost (I=I1+ I2)**				**1,05,98,568.13**
J	**Total Cost (H+I)**				**2,76,18,779.46**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,76,18,779.46**
M	CESS 1% of L				2,76,187.79
N	**Grand Total (L+M)**				**2,78,94,967.26**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				528.75
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,653.75**
T	GST @ 18% on Total Inspection Fees (S)				837.68
U	Total Inspection Fees including GST (S+T)				5,491.43
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,79,00,458.68**

Part-B:-Augmentation of 11kV Bharat Pur feeder Branch Line of length 6.1 CKM(GA Colony Branch & Hanuman Basti Sampur Area Branch)
2. Construction of 11kV O/H Linking line of length 1.05 CKM using 100mm2 XLPE Covered conductor(Refer Proposed SLD A-B, C-D, E-F)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	5

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	1610.125	1,25,589.75
3	DMC Insulator for LA (70/10)	EA	113.50	40	4,540.00
4	Danger Plate	EA	180.00	10	1,800.00
5	H.T. Stay clamp	EA	260.00	20	5,200.00
6	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
7	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
8	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
10	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	15	29,400.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	5	54,860.00
13	11 KV pin insulator polymer	EA	140.00	15	2,100.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	20	4,400.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	55.18	4,083.32
A1				**Total Cost of materials**	**6,86,713.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,23,608.35**
A				**Total landed Cost (A=A1 + A2)**	**8,10,321.42**
B				Stock, Storage & Insurance i.e 3% of A	24,309.64
C				**Sub Total (A+B)**	**8,34,631.07**
D				Contigency @ 3% of C	25,038.93
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	14,949.25
F				Transportation @ 7.5% of C	62,597.33
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	39,700.20
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**9,94,439.81**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10.00	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1				**Total Civil & Services**	**1,28,290.98**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,092.38**
K				**Total landed Cost (K=K1+ K2)**	**1,51,383.36**
L				**Total (J+K)**	**11,45,823.16**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**11,45,823.16**
O				CESS 1% of N	11,458.23
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**11,57,281.40**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00

16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**2,81,300.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**50,634.04**
A				**Total landed Cost (A=A1 + A2)**	**3,31,934.24**
B				Stock, Storage & Insurance i.e 3% of A	9,958.03
C				**Sub Total (A+B)**	**3,41,892.26**
D				Contigency @ 3% of C	10,256.77
E				Tools & Plants @ 2% of C	6,481.00
F				Transportation @ 7.5% of C	25,641.92
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,881.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,07,915.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**35,804.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,444.76**
K				**Total landed Cost (K=K1+ K2)**	**42,248.97**
L				**Total (J+K)**	**4,50,164.43**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**4,50,164.43**
O				CESS 1% of N	4,501.64
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**4,54,666.08**

No. of Cut Point with 90 Degree Angle	15
(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	15	4,32,525.00
2	GI Channel, angle & flat of different size	KG	78.00	1010.16	78,792.48
3	Danger Plate	EA	180.00	15	2,700.00
4	GI barbed wire anticlimbing device	KG	74.00	45	3,330.00
5	11 KV pin insulator polymer	EA	140.00	60	8,400.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	60	6,600.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	90	49,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	30	6,600.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	90	2,25,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	90	13,500.00
11	Earthing of Support (Coil Type)	EA	164.00	15	2,460.00
12	H.T. Stay clamp	EA	260.00	30	7,800.00
13	H.T. Stay set (Complete)	SET	1,434.00	30	43,020.00
14	H.T. Stay Insulator Type-C	EA	87.00	30	2,610.00
15	7/10 SWG Stay Wire	KG	77.00	450	34,650.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	149.94	11,095.56
A1				**Total Cost of materials**	**9,28,583.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,67,144.95**
A				**Total landed Cost (A=A1 + A2)**	**10,95,727.99**
B				Stock, Storage & Insurance i.e 3% of A	32,871.84
C				**Sub Total (A+B)**	**11,28,599.83**
D				Contigency @ 3% of C	33,857.99
E				Tools & Plants @ 2% of C (Except HT Stay Set)	20,430.95
F				Transportation @ 7.5% of C	84,644.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				26,284.54
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				49,585.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**13,43,403.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	30	69,045.75
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.8	44,879.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.7	11,219.93
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	15.00	12,540.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	15.00	4,250.10
K1				**Total Civil & Services**	**1,41,935.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**25,548.39**
K				**Total landed Cost (K=K1+ K2)**	**1,67,483.92**
L				**Total (J+K)**	**15,10,887.87**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**15,10,887.87**
O				CESS 1% of N	15,108.88
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**15,25,996.75**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			7.15	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	81	23,35,635.00
2	11 KV V cross Arm(GI)	EA	851.00	81	68,931.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	81	6,561.00
4	Danger Plate	EA	180.00	81	14,580.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	124.74	9,729.72
6	GI barbed wire anticlimbing device	KG	74.00	243.00	17,982.00
7	11 KV pin insulator polymer	EA	140.00	243	34,020.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	243	26,730.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	162	35,640.00
10	Earthing of Support (Coil Type)	EA	164.00	81	13,284.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	111.13	8,223.77
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	22093.50	28,94,248.50
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	21	9,450.00
A1				**Total Cost of materials**	**54,75,014.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,85,502.70**
A				**Total landed Cost (A=A1 + A2)**	**64,60,517.69**
B				Stock, Storage & Insurance i.e 3% of A	1,93,815.53
C				**Sub Total (A+B)**	**66,54,333.22**
D				Contigency @ 3% of C	1,99,630.00
E				Tools & Plants @ 2% of C	1,33,086.66
F				Transportation @ 7.5% of C	4,99,074.99
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,41,936.54
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,81,560.24
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**80,09,621.65**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	36.45	2,42,350.58
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.11	60,587.65
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	81	67,716.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	81	22,950.54
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7.15	74,860.50
K1				**Total Civil & Services**	**4,68,465.27**
K2				**Applicable Taxes to make it Landed Cost @18%**	**84,323.75**
K				**Total landed Cost (K=K1+ K2)**	**5,52,789.02**
L				**Total Material+Services (J+K)**	85,62,410.67
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**85,62,410.67**
O				CESS 1% of N	85,624.11
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**86,48,034.77**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O) for DP With AB Switch	11,57,281.40
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	4,54,666.08
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	15,25,996.75
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	86,48,034.77
Q				**Gross Total Material +Services**	**1,17,85,978.99**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	1,383.75
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**1,758.75**
V				GST @ 18% on Total Inspection Fees (U)	316.58
W				Total Inspection Fees including GST (U+V)	2,075.33
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,17,88,054.32**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	100	1,300.00	1,30,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	19003.5	7.00	1,33,024.50
A1				**Sub Total (Civil Portion) (in Rs.)**	**2,63,024.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**47,344.41**
A				**Total landed Cost (A=A1+ A2)**	**3,10,368.91**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	3,10,368.91
D				**CESS @ 1% of C**	3,103.69
E				**Grand Total (C+D)**	3,13,472.60

ANNEXURE-12.14		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Khandagiri
Name of the Section : -		Khandagiri
Name of the Feeder: -		11kV Kolathia
Name of the Work :-		Proposal for Bifurcation of existing 11kV Kolathia feeder & conductor augmentation for Reliability improvement.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length-3.5 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Manipal Hospital. 2. Installation of 1 No. of RMU near Manipal Hospital.	2,80,27,297.79
2	Part-B:-Augmentation of 11kV Kolathia Feder Branch Line of length 6.5 CKM(Refer proposed SLD)	1,16,71,994.31
3	Part-C Dismantling.	3,22,495.12
4	**Total Gross**	**4,00,21,787.22**
Total estimated cost is Rs. 4 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length-3.5 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to Manipal Hospital.

2. Installation of 1 No. of RMU near Manipal Hospital.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***2060***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***1500***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	3560	2,375.00	84,55,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	13	15,950.00	2,07,350.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	2060.00	812.00	16,72,720.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**1,16,54,246.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	3560	110.00	3,91,600.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	22	2,000.00	44,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1500	2,970.00	44,55,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2060.00	195.00	4,01,700.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**53,07,300.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	2028		
1.1.a	Earth work excavation of **soil**	M3	1703.52	716.03	12,19,771.43
1.1.b	Earth work excavation of **hard rock**	M3	730.08	1,759.39	12,84,495.45
1.2	Back filling with excavated soil outside and above the trench	M3	2433.6	220.00	5,35,392.00
1.3	Road Repair and restoration charges	KM	0.16	92,94,727.82	14,87,156.45
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-

2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	119	1,035.17	1,23,185.23
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	3.56	10,470.00	37,273.20
	Sub Total (Civil Portion) (in Rs.)				**49,41,915.52**
A1	**Sub Total (Supply Portion)**				**1,16,54,246.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**20,97,764.39**
A	**Total Landed Cost (A=A1 + A2)**				**1,37,52,010.99**
B	Stock, Storage & Insurance @ 3 % of A				4,12,560.33
C	**Sub Total (A+B)**				**1,41,64,571.32**
D	Contingency @ 3 % of C				4,24,937.14
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				10,62,342.85
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**1,56,52,001.47**
I1	Sub Total (Erection Portion + Civil Portion)				1,02,49,215.52
I2	**Applicable Taxes to make it Landed Cost @18%**				**18,44,858.79**
I	**Total landed Cost (I=I1+ I2)**				**1,20,94,074.31**
J	**Total Cost (H+I)**				**2,77,46,075.78**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,77,46,075.78**
M	CESS 1% of L				2,77,460.76
N	**Grand Total (L+M)**				**2,80,23,536.54**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				562.50
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**3,187.50**
T	GST @ 18% on Total Inspection Fees (S)				573.75
U	Total Inspection Fees including GST (S+T)				3,761.25
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,80,27,297.79**

Part-B:-Augmentation of 11kV Kolathia Feder Branch Line of length 6.5 CKM(Refer proposed SLD)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				PB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00

15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**2,81,300.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**50,634.04**
A				**Total landed Cost (A=A1 + A2)**	**3,31,934.24**
B				Stock, Storage & Insurance i.e 3% of A	9,958.03
C				**Sub Total (A+B)**	**3,41,892.26**
D				Contigency @ 3% of C	10,256.77
E				Tools & Plants @ 2% of C	6,481.00
F				Transportation @ 7.5% of C	25,641.92
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	PB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,881.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,07,915.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**35,804.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,444.76**
K				**Total landed Cost (K=K1+ K2)**	**42,248.97**
L				**Total (J+K)**	**4,50,164.43**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**4,50,164.43**
O				CESS 1% of N	4,501.64
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**4,54,666.08**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	15

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	15	4,32,525.00
2	GI Channel, angle & flat of different size	KG	78.00	1010.16	78,792.48
3	Danger Plate	EA	180.00	15	2,700.00
4	GI barbed wire anticlimbing device	KG	74.00	45	3,330.00
5	11 KV pin insulator polymer	EA	140.00	60	8,400.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	60	6,600.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	90	49,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	30	6,600.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	90	2,25,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	90	13,500.00
11	Earthing of Support (Coil Type)	EA	164.00	15	2,460.00
12	H.T. Stay clamp	EA	260.00	30	7,800.00
13	H.T. Stay set (Complete)	SET	1,434.00	30	43,020.00
14	H.T. Stay Insulator Type-C	EA	87.00	30	2,610.00
15	7/10 SWG Stay Wire	KG	77.00	450	34,650.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	149.94	11,095.56
A1				**Total Cost of materials**	**9,28,583.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,67,144.95**
A				**Total landed Cost (A=A1 + A2)**	**10,95,727.99**
B				Stock, Storage & Insurance i.e 3% of A	32,871.84
C				**Sub Total (A+B)**	**11,28,599.83**
D				Contigency @ 3% of C	33,857.99
E				Tools & Plants @ 2% of C (Except HT Stay Set)	20,430.95
F				Transportation @ 7.5% of C	84,644.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				26,284.54
H	PB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				49,585.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**13,43,403.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	30	69,045.75
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.8	44,879.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.7	11,219.93
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	15.00	12,540.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	15.00	4,250.10
K1				**Total Civil & Services**	**1,41,935.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**25,548.39**
K				**Total landed Cost (K=K1+ K2)**	**1,67,483.92**

L				**Total (J+K)**	**15,10,887.87**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**15,10,887.87**
O				CESS 1% of N	15,108.88
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**15,25,996.75**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		6.5		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	100	28,83,500.00
2	11 KV V cross Arm(GI)	EA	851.00	100	85,100.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	100	8,100.00
4	Danger Plate	EA	180.00	100	18,000.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	154.00	12,012.00
6	GI barbed wire anticlimbing device	KG	74.00	300.00	22,200.00
7	11 KV pin insulator polymer	EA	140.00	300	42,000.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	300	33,000.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	200	44,000.00
10	Earthing of Support (Coil Type)	EA	164.00	100	16,400.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	137.20	10,152.80
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	20085.00	26,31,135.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	18	8,100.00
A1				**Total Cost of materials**	**58,13,699.80**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,46,465.96**
A				**Total landed Cost (A=A1 + A2)**	**68,60,165.76**
B				Stock, Storage & Insurance i.e 3% of A	2,05,804.97
C				**Sub Total (A+B)**	**70,65,970.74**
D				Contigency @ 3% of C	2,11,979.12
E				Tools & Plants @ 2% of C	1,41,319.41
F				Transportation @ 7.5% of C	5,29,947.81
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,75,230.30
H	PB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,56,136.48
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**84,80,583.86**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	45.00	2,99,198.25
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	100	83,600.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	100	28,334.00
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	6.5	68,055.00
K1				**Total Civil & Services**	**5,53,986.81**
K2				**Applicable Taxes to make it Landed Cost @18%**	**99,717.63**
K				**Total landed Cost (K=K1+ K2)**	**6,53,704.44**
L				**Total Material+Services (J+K)**	91,34,288.30
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**91,34,288.30**
O				CESS 1% of N	91,342.88
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**92,25,631.18**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				4,54,666.08
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				15,25,996.75
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				92,25,631.18
Q				**Gross Total Material +Services**	**1,16,69,206.56**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				1,237.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**2,362.50**
V	GST @ 18% on Total Inspection Fees (U)				425.25
W	Total Inspection Fees including GST (U+V)				2,787.75
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**1,16,71,994.31**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	100	1,300.00	1,30,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	20085	7.00	1,40,595.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**2,70,595.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**48,707.10**
A				**Total landed Cost (A=A1+ A2)**	**3,19,302.10**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	3,19,302.10
D				**CESS @ 1% of C**	3,193.02
E				**Grand Total (C+D)**	3,22,495.12

ANNEXURE-12.15		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Khandagiri
Name of the Section : -		Bharat Pur
Name of the Feeder: -		11kV PHD
Name of the Work :-		Proposal for augmentation of 11kV PHD Feeder for reliability improvement.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to 78 Dreams Ghatikia. 2. Installation of 3 Nos. of RMU in 11kV PHD Feeder in differen location.	2,81,87,767.90
2	Part-B:-Augmentation of 11kV PHD feeder Branch Line of length 4.5 CKM(Ghatikia Village Branch) 2. Construction of 11kV O/H Linking line of length 0.2 CKM using 100mm2 XLPE Covered conductor(Refer Proposed SLD A-B)	73,60,908.74
3	Part-C Dismantling.	2,08,964.25
4	**Total Gross**	**3,57,57,640.90**
Total estimated cost is Rs. 3.58 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Bharat Pur PSS to 78 Dreams Ghatikia.

2. Installation of 3 Nos. of RMU in 11kV PHD Feeder in differen location.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1590***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***1000***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2590	2,375.00	61,51,250.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	9	15,950.00	1,43,550.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11	8,260.00	90,860.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	7	2,900.00	20,300.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1590.00	812.00	12,91,080.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***3***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	3	12,62,647.00	37,87,941.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	39.60	78.00	3,088.80
3.2	Pipe Earthing 40mm. GI Pipe	EA	6	1,300.00	7,800.00
	Sub Total (Supply Portion) (in Rs.)				**1,14,95,869.80**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2590	110.00	2,84,900.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	27	2,000.00	54,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1000	2,970.00	29,70,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1590.00	195.00	3,10,050.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	3	15,000.00	45,000.00
	Sub Total (Erection Portion) (in Rs.)				**36,63,950.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1534		
1.1.a	Earth work excavation of **soil**	M3	1288.56	716.03	9,22,647.62

1.1.b	Earth work excavation of **hard rock**	M3	552.24	1,759.39	9,71,605.53
1.2	Back filling with excavated soil outside and above the trench	M3	1840.8	220.00	4,04,976.00
1.3	Road Repair and restoration charges	KM	0.4	92,94,727.82	37,17,891.13
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	3	1,71,056.00	5,13,168.00
4	**Fencing**				
a	**GI Chain link**	EA	**3**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	54	4,167.57	2,25,048.90
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	6	3,784.73	22,708.38
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	86	1,035.17	89,024.62
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	3	1,000.00	3,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.59	10,470.00	27,117.30
	Sub Total (Civil Portion) (in Rs.)				**68,97,187.48**
A1	**Sub Total (Supply Portion)**				**1,14,95,869.80**
A2	**Applicable Taxes to make it Landed Cost @18%**				**20,69,256.56**
A	**Total Landed Cost (A=A1 + A2)**				**1,35,65,126.36**
B	Stock, Storage & Insurance @ 3 % of A				4,06,953.79
C	**Sub Total (A+B)**				**1,39,72,080.15**
D	Contingency @ 3 % of C				4,19,162.40
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				75.08
F	Transportation @ 7.5% of C				10,47,906.01
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				375.41
H	**Total (C+D+E+F+G)**				**1,54,39,599.07**
I1	Sub Total (Erection Portion + Civil Portion)				1,05,61,137.48
I2	**Applicable Taxes to make it Landed Cost @18%**				**19,01,004.75**
I	**Total landed Cost (I=I1+ I2)**				**1,24,62,142.22**
J	**Total Cost (H+I)**				**2,79,01,741.29**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,79,01,741.29**
M	CESS 1% of L				2,79,017.41
N	**Grand Total (L+M)**				**2,81,80,758.70**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				315.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				4,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**5,940.00**
T	GST @ 18% on Total Inspection Fees (S)				1,069.20
U	Total Inspection Fees including GST (S+T)				7,009.20
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,81,87,767.90**

Part-B:-Augmentation of 11kV PHD feeder Branch Line of length 4.5 CKM(Ghatikia Village Branch)
2. Construction of 11kV O/H Linking line of length 0.2 CKM using 100mm2 XLPE Covered conductor(Refer Proposed SLD A-B)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**2,25,040.16**

A2	**Applicable Taxes to make it Landed Cost @18%**	**40,507.23**
A	**Total landed Cost (A=A1 + A2)**	**2,65,547.39**
B	Stock, Storage & Insurance i.e 3% of A	7,966.42
C	**Sub Total (A+B)**	**2,73,513.81**
D	Contigency @ 3% of C	8,205.41
E	Tools & Plants @ 2% of C	5,184.80
F	Transportation @ 7.5% of C	20,513.54
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,905.59
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**3,26,332.37**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**28,643.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,155.81**
K	**Total landed Cost (K=K1+ K2)**				**33,799.18**
L	**Total (J+K)**				**3,60,131.55**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**3,60,131.55**
O	CESS 1% of N				3,601.32
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**3,63,732.86**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	10

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	673.44	52,528.32
3	Danger Plate	EA	180.00	10	1,800.00
4	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
5	11 KV pin insulator polymer	EA	140.00	40	5,600.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	40	4,400.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	60	33,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	20	4,400.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	60	9,000.00
11	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
12	H.T. Stay clamp	EA	260.00	20	5,200.00
13	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
14	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
15	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	99.96	7,397.04
A1	**Total Cost of materials**				**6,19,055.36**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,11,429.96**
A	**Total landed Cost (A=A1 + A2)**				**7,30,485.32**
B	Stock, Storage & Insurance i.e 3% of A				21,914.56
C	**Sub Total (A+B)**				**7,52,399.88**
D	Contigency @ 3% of C				22,572.00
E	Tools & Plants @ 2% of C (Except HT Stay Set)				13,620.63
F	Transportation @ 7.5% of C				56,429.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				17,523.03
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				33,057.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**8,95,602.63**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,479.96
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	10.00	8,360.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1	**Total Civil & Services**				**94,623.68**
K2	**Applicable Taxes to make it Landed Cost @18%**				**17,032.26**
K	**Total landed Cost (K=K1+ K2)**				**1,11,655.94**
L	**Total (J+K)**				**10,07,258.58**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**10,07,258.58**
O	CESS 1% of N				10,072.59
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**10,17,331.16**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			4.7		
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	50	14,41,750.00
2	11 KV V cross Arm(GI)	EA	851.00	50	42,550.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	50	4,050.00
4	Danger Plate	EA	180.00	50	9,000.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	77.00	6,006.00
6	GI barbed wire anticlimbing device	KG	74.00	150.00	11,100.00
7	11 KV pin insulator polymer	EA	140.00	150	21,000.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	150	16,500.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	100	22,000.00
10	Earthing of Support (Coil Type)	EA	164.00	50	8,200.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	68.60	5,076.40
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	14523.00	19,02,513.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	12	5,400.00
A1	**Total Cost of materials**				**34,95,145.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**6,29,126.17**
A	**Total landed Cost (A=A1 + A2)**				**41,24,271.57**
B	Stock, Storage & Insurance i.e 3% of A				1,23,728.15
C	**Sub Total (A+B)**				**42,47,999.72**
D	Contigency @ 3% of C				1,27,439.99
E	Tools & Plants @ 2% of C				84,959.99
F	Transportation @ 7.5% of C				3,18,599.98
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				87,615.15
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,49,569.68
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**51,16,184.51**
Civil & Services					
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	22.50	1,49,599.13
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.63	37,399.78
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	50	41,800.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	50	14,167.00
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.7	49,209.00
K1	**Total Civil & Services**				**2,92,174.91**
K2	**Applicable Taxes to make it Landed Cost @18%**				**52,591.48**
K	**Total landed Cost (K=K1+ K2)**				**3,44,766.39**
L	**Total Material+Services (J+K)**				54,60,950.90
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**54,60,950.90**
O	CESS 1% of N				54,609.51
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**55,15,560.41**
Gross Total Summary					
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				3,63,732.86
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				10,17,331.16
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				55,15,560.41
Q	**Gross Total Material +Services**				**73,59,536.99**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				787.50
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**1,162.50**
V	GST @ 18% on Total Inspection Fees (U)				209.25
W	Total Inspection Fees including GST (U+V)				1,371.75
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**73,60,908.74**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	60	1,300.00	78,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	13905	7.00	97,335.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,75,335.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,560.30**
A				**Total landed Cost (A=A1+ A2)**	**2,06,895.30**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	2,06,895.30
D				**CESS @ 1% of C**	2,068.95
E				**Grand Total (C+D)**	2,08,964.25

Annexure-12.16		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Periphery
Name of the Section : -		CS Pur-2
Name of the Feeder: -		11kV HB-3
Name of the Work :-		Proposal for Augmentation of existing 11kV HB-3 feeder using 100mm2 XLPE Covered conductor & installation of RMU for reliability improvement.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length-0.1 KM using 3Cx400mm2 XLPE UG cable near Sailashree Vihar Tarini Temple for avoid unsafe Road Crossing. 2. Installation of 2 Nos. of RMU in different location of 11kV HB-3 Feeder.	71,69,294.13
2	Part-B:-Augmentation of 11kV HB-3 feeder of length 2.5CKM.	51,17,317.47
3	Part-C Dismantling.	1,21,057.09
4	**Total Gross**	**1,24,07,668.69**
Total estimated cost is Rs. 1.24 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length-0.1 KM using 3Cx400mm2 XLPE UG cable near Sailashree Vihar Tarini Temple for avoid unsafe Road Crossing.

2. Installation of 2 Nos. of RMU in different location of 11kV HB-3 Feeder.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***100***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	400	2,375.00	9,50,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA		15,950.00	-
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	7	8,260.00	57,820.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	9	2,900.00	26,100.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	300.00	812.00	2,43,600.00
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3WAY 630A LLV WITH FRTU & AUX PT***	***EA***	***1***		
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.1	Supply of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	1	7,51,384.00	7,51,384.00
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**32,98,810.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	400	110.00	44,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	16	2,000.00	32,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	100	2,970.00	2,97,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	300.00	195.00	58,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	1	12,000.00	12,000.00
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	0.0	6,755.00	-
	Sub Total (Erection Portion) (in Rs.)				**4,58,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	228		
1.1.a	Earth work excavation of **soil**	M3	191.52	716.03	1,37,134.07
1.1.b	Earth work excavation of **hard rock**	M3	82.08	1,759.39	1,44,410.73
1.2	Back filling with excavated soil outside and above the trench	M3	273.6	220.00	60,192.00
1.3	Road Repair and restoration charges	KM	0.1	92,94,727.82	9,29,472.78
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	13	1,035.17	13,457.21
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.4	10,470.00	4,188.00
	Sub Total (Civil Portion) (in Rs.)				**17,98,138.31**
A1	**Sub Total (Supply Portion)**				**32,98,810.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**5,93,785.84**
A	**Total Landed Cost (A=A1 + A2)**				**38,92,596.04**
B	Stock, Storage & Insurance @ 3 % of A				1,16,777.88
C	**Sub Total (A+B)**				**40,09,373.92**
D	Contingency @ 3 % of C				1,20,281.22
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				3,00,703.04
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**44,30,658.51**
I1	Sub Total (Erection Portion + Civil Portion)				22,56,638.31
I2	**Applicable Taxes to make it Landed Cost @18%**				**4,06,194.90**
I	**Total landed Cost (I=I1+ I2)**				**26,62,833.20**
J	**Total Cost (H+I)**				**70,93,491.71**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**70,93,491.71**
M	CESS 1% of L				70,934.92
N	**Grand Total (L+M)**				**71,64,426.63**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,125.00**
T	GST @ 18% on Total Inspection Fees (S)				742.50
U	Total Inspection Fees including GST (S+T)				4,867.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**71,69,294.13**

Part-B:-Augmentation of 11kV HB-3 feeder of length 2.5CKM.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,09,527.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,714.98**
A				**Total landed Cost (A=A1 + A2)**	**3,65,242.66**
B				Stock, Storage & Insurance i.e 3% of A	10,957.28

C	**Sub Total (A+B)**	**3,76,199.94**
D	Contigency @ 3% of C	11,286.00
E	Tools & Plants @ 2% of C (Except HT Stay Set)	6,810.32
F	Transportation @ 7.5% of C	28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,03,629.29**
O				CESS 1% of N	5,036.29
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**5,08,665.58**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2.5	

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	50	14,41,750.00
2	11 KV V cross Arm(GI)	EA	851.00	50	42,550.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	50	4,050.00
4	Danger Plate	EA	180.00	50	9,000.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	77.00	6,006.00
6	GI barbed wire anticlimbing device	KG	74.00	150.00	11,100.00
7	11 KV pin insulator polymer	EA	140.00	150	21,000.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	150	16,500.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	100	22,000.00
10	Earthing of Support (Coil Type)	EA	164.00	50	8,200.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	68.60	5,076.40
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	7725.00	10,11,975.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**26,01,907.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,68,343.33**
A				**Total landed Cost (A=A1 + A2)**	**30,70,250.73**
B				Stock, Storage & Insurance i.e 3% of A	92,107.52
C				**Sub Total (A+B)**	**31,62,358.25**
D				Contigency @ 3% of C	94,870.75
E				Tools & Plants @ 2% of C	63,247.17
F				Transportation @ 7.5% of C	2,37,176.87
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				87,615.15
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,41,005.53
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**37,86,273.71**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	22.50	1,49,599.13
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.63	37,399.78
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	50	41,800.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	50	14,167.00
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.5	26,175.00
K1				**Total Civil & Services**	**2,69,140.91**
K2				**Applicable Taxes to make it Landed Cost @18%**	**48,445.36**
K				**Total landed Cost (K=K1+ K2)**	**3,17,586.27**
L				**Total Material+Services (J+K)**	41,03,859.98
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**41,03,859.98**
O				CESS 1% of N	41,038.60
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**41,44,898.58**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	41,44,898.58
Q	**Gross Total Material +Services**	**51,16,476.72**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	337.50
T	Inspection Fee of Drawing Checking and Approval	

U	**Total Inspection Fees (R+S+T)**	**712.50**
V	GST @ 18% on Total Inspection Fees (U)	128.25
W	Total Inspection Fees including GST (U+V)	840.75
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**51,17,317.47**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
3	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	50	950.00	47,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7725	7.00	54,075.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,01,575.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,283.50**
A				**Total landed Cost (A=A1+ A2)**	**1,19,858.50**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,19,858.50
D				**CESS @ 1% of C**	1,198.59
E				**Grand Total (C+D)**	1,21,057.09

ANNEXURE-12.17

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Cicle :-	BBSR-1
Name of the Division :-	NED
Name of the Sub-Division : -	Nimapada
Name of the Section : -	Kakatpur-2 & Astaranga
Name of the Work :-	Proposal for construction of 2 Nos. of new 11 kV feeders of 3.5 CKM and 0.5 CKM lengths to bifurcate the load of the existing 11 kV Kakatpur-2 Feeder, mitigate the overloading of the 11 kV Kakatpur Feeder and the 8 MVA PTR-1 at Kakatpur PSS, and bifurcate the lengthy 11 kV Juinty Feeder.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of Two No of 11 KV Line Bay (Outdoor)	57,19,805.47
2	PART B : Installation of 2 Nos. DP with Isolator & earthswitch for feeder outgoing.	4,30,356.69
3	PART C: Construction 11kV 3Ph 3W O/H Line of Length= 5 CKM, with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP.	1,71,45,409.91
4	PART D- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.7 KM, with one run spare.	67,61,082.36
5	PART E: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing	56,502.88
6	PART F: Dismantling of Materials	98,177.44
7	**Total Gross**	**3,02,11,334.75**

Total estimated cost is Rs. 3.02 Cr.

PART A: Construction of Two No of 11 KV Line Bay (Outdoor)					
No. of BAY requirement				2	
No. of VCB Requirement				2	
MATERIALS OF 11 kV Bay					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size (1 Nos. Extra for existing bus refurbishment)	KG	78.00	3123.081	2,43,600.32
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate, 2 no's.	EA	180.00	4	720.00
5	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	29	37,700.00
6	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
7	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
8	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	3	2,01,291.00
9	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided) (Extra 2 Nos. for existing bus isolation)	EA	29,328.00	4	1,17,312.00
10	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	2	3,90,794.00
11	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	2	5,41,000.00
12	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	6	1,99,320.00
13	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	6	97,188.00
14	Control Cable 12Core x 2.5 mm2	Mtr	329.00	100	32,900.00
15	Control Cable 16Core x 2.5 mm2	Mtr	426.00	100	42,600.00
16	Control Cable 4Core x 2.5 mm2	Mtr	124.00	100	12,400.00
17	Control Cable 7Core x 2.5 mm2	Mtr	196.00	100	19,600.00
18	11 KV pin insulator polymer	EA	140.00	12	1,680.00
19	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
20	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
21	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
22	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
23	GI Nut , Bolt & Washer of different sizes	KG	74.00	100	7,400.00
24	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	40	5,880.00
25	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
26	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	2,49,965.00	0	-
27	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**22,42,100.14**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,03,578.02**
A				**Total landed Cost (A=A1 + A2)**	**26,45,678.16**
B				Stock, Storage & Insurance i.e 3% of A	79,370.34
C				**Sub Total (A+B)**	**27,25,048.51**
D				Contigency @ 3% of C	81,751.46
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	53,584.56
F				Transportation @ 7.5% of C	2,04,378.64
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	37,766.97
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,92,388.84
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**32,94,918.98**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	29	1,09,757.17
4	**VCB Foundation**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
4.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20

4.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
4.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
5	**CT & PT Foundation**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
5.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67
5.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
5.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**	Qty			
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	207	48,024.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	13.8	20,424.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	13.8	69,414.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	27.6	2,07,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	25.2	1,89,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	336	90,720.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	5948.4	6,06,736.80

6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	7.2	57,240.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	3181.2	3,30,844.80
8	**Land Leveling & Compaction/ Gravels sprading :**				
8.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
8.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**20,04,025.26**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,60,724.55**
K				**Total landed Cost (K=K1+ K2)**	**23,64,749.80**
L				**Total (J+K)**	**56,59,668.78**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**56,59,668.78**
O				CESS 1% of (N)	56,596.69
P				**Gross Total Material +Services (N+O)**	**57,16,265.47**
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**57,19,805.47**

PART B : Installation of 2 Nos. DP with Isolator & earthswitch for feeder outgoing.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,52,741.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,493.42**
A				**Total landed Cost (A=A1 + A2)**	**2,98,234.65**
B				Stock, Storage & Insurance i.e 3% of A	8,947.04
C				**Sub Total (A+B)**	**3,07,181.69**
D				Contigency @ 3% of C	9,215.45
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,446.29
F				Transportation @ 7.5% of C	23,038.63
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,213.01
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,65,104.27**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,25,657.61**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,25,657.61**
O				CESS 1% of N	4,256.58
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,29,914.19**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP With AB Switch	4,29,914.19
Q	**Gross Total Material +Services**	**4,29,914.19**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,30,356.69**

PART C: Construction 11kV 3Ph 3W O/H Line of Length= 5 CKM, with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP.

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	9

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	18	5,19,030.00
2	GI Channel, angle & flat of different size	KG	78.00	1612.521	1,25,776.64
3	Danger Plate	EA	180.00	18	3,240.00
4	H.T. Stay clamp	EA	260.00	18	4,680.00
5	H.T. Stay set (Complete)	SET	1,434.00	18	25,812.00
6	H.T. Stay Insulator Type-C	EA	87.00	18	1,566.00
7	7/10 SWG Stay Wire	KG	77.00	270	20,790.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	18	23,400.00
9	GI barbed wire anticlimbing device	KG	74.00	54	3,996.00
10	11 KV pin insulator polymer	EA	140.00	27	3,780.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	27	2,970.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	54	29,700.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	36	7,920.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	54	1,35,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	54	8,100.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	104.148	7,706.95
A1				**Total Cost of materials**	**9,23,467.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,66,224.17**
A				**Total landed Cost (A=A1 + A2)**	**10,89,691.76**
B				Stock, Storage & Insurance i.e 3% of A	32,690.75
C				**Sub Total (A+B)**	**11,22,382.51**
D				Contigency @ 3% of C	33,671.48
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	20,594.21
F				Transportation @ 7.5% of C	84,178.69
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	31,541.45
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				39,888.16
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**13,32,256.50**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	18	41,427.45
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.10	53,855.69
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.03	13,463.92
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	18	68,125.14
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	9	7,524.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	18	5,100.12
K1				**Total Civil & Services**	**1,89,496.32**
K2				**Applicable Taxes to make it Landed Cost @18%**	**34,109.34**
K				**Total landed Cost (K=K1+ K2)**	**2,23,605.65**
L				**Total (J+K)**	**15,55,862.16**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**15,55,862.16**
O				CESS 1% of N	15,558.62
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**15,71,420.78**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	10

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	20	5,76,700.00
2	GI Channel, angle & flat of different size	KG	78.00	3220.25	2,51,179.50
3	DMC Insulator for LA (70/10)	EA	113.50	80	9,080.00
4	Danger Plate	EA	180.00	20	3,600.00
5	H.T. Stay clamp	EA	260.00	40	10,400.00
6	H.T. Stay set (Complete)	SET	1,434.00	40	57,360.00
7	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
8	7/10 SWG Stay Wire	KG	77.00	600	46,200.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	20	26,000.00
10	GI barbed wire anticlimbing device	KG	74.00	60	4,440.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	30	58,800.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	10	1,09,720.00
13	11 KV pin insulator polymer	EA	140.00	30	4,200.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	30	3,300.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	60	33,000.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	40	8,800.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	60	9,000.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	110.36	8,166.64
A1				**Total Cost of materials**	**13,73,426.14**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,47,216.71**
A				**Total landed Cost (A=A1 + A2)**	**16,20,642.85**
B				Stock, Storage & Insurance i.e 3% of A	48,619.29
C				**Sub Total (A+B)**	**16,69,262.13**
D				Contigency @ 3% of C	50,077.86

E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	29,898.50
F	Transportation @ 7.5% of C	1,25,194.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	35,046.06
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	79,400.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**19,88,879.61**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	40	92,061.00
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.00	59,839.65
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	20.00	75,694.60
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10.00	8,360.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20.00	5,666.80
K1	**Total Civil & Services**				**2,56,581.96**
K2	**Applicable Taxes to make it Landed Cost @18%**				**46,184.75**
K	**Total landed Cost (K=K1+ K2)**				**3,02,766.72**
L	**Total (J+K)**				**22,91,646.33**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**22,91,646.33**
O	CESS 1% of N				22,916.46
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**23,14,562.79**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	14 Mtr. Long H-Pole(GI) (Total weight with Base Plate & Stiffner= 830 KG)	EA	65,570.00	4	2,62,280.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1	**Total Cost of materials**				**3,71,980.16**
A2	**Applicable Taxes to make it Landed Cost @18%**				**66,956.43**
A	**Total landed Cost (A=A1 + A2)**				**4,38,936.59**
B	Stock, Storage & Insurance i.e 3% of A				13,168.10
C	**Sub Total (A+B)**				**4,52,104.69**
D	Contigency @ 3% of C				13,563.14
E	Tools & Plants @ 2% of C				8,756.62
F	Transportation @ 7.5% of C				33,907.85
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				15,938.76
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,905.59
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**5,36,176.65**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.20	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**31,302.91**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,634.52**
K	**Total landed Cost (K=K1+ K2)**				**36,937.44**
L	**Total (J+K)**				**5,73,114.08**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**5,73,114.08**
O	CESS 1% of N				5,731.14
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**5,78,845.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	11

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	11	5,64,850.00
2	GI Channel, angle & flat of different size	KG	78.00	740.784	57,781.15
3	Danger Plate	EA	180.00	11	1,980.00
4	GI barbed wire anticlimbing device	KG	74.00	33	2,442.00
5	11 KV pin insulator polymer	EA	140.00	44	6,160.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	44	4,840.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	66	36,300.00

8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	22	4,840.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	66	1,65,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	66	9,900.00
11	Earthing of Support (Coil Type)	EA	164.00	11	1,804.00
12	H.T. Stay clamp	EA	260.00	22	5,720.00
13	H.T. Stay set (Complete)	SET	1,434.00	22	31,548.00
14	H.T. Stay Insulator Type-C	EA	87.00	22	1,914.00
15	7/10 SWG Stay Wire	KG	77.00	330	25,410.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	109.956	8,136.74
A1				**Total Cost of materials**	**9,28,625.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,67,152.66**
A				**Total landed Cost (A=A1 + A2)**	**10,95,778.56**
B				Stock, Storage & Insurance i.e 3% of A	32,873.36
C				**Sub Total (A+B)**	**11,28,651.91**
D				Contigency @ 3% of C	33,859.56
E				Tools & Plants @ 2% of C (Except HT Stay Set)	21,002.94
F				Transportation @ 7.5% of C	84,648.89
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	34,325.93
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				36,362.81
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**13,38,852.05**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	22	50,633.55
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.0	32,911.81
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.2	8,227.95
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	11.00	9,196.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	11.00	3,116.74
K1				**Total Civil & Services**	**1,04,086.05**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,735.49**
K				**Total landed Cost (K=K1+ K2)**	**1,22,821.54**
L				**Total (J+K)**	**14,61,673.58**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**14,61,673.58**
O				CESS 1% of N	14,616.74
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**14,76,290.32**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		5			

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	96	49,29,600.00
2	11 KV V cross Arm(GI)	EA	851.00	96	81,696.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	96	7,776.00
4	Danger Plate	EA	180.00	96	17,280.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	147.84	11,531.52
6	GI barbed wire anticlimbing device	KG	74.00	288.00	21,312.00
7	11 KV pin insulator polymer	EA	140.00	288	40,320.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	288	31,680.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	192	42,240.00
10	Earthing of Support (Coil Type)	EA	164.00	96	15,744.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	131.71	9,746.69
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	15450.00	20,23,950.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	15	6,750.00
A1				**Total Cost of materials**	**72,39,626.21**
A2				**Applicable Taxes to make it Landed Cost @18%**	**13,03,132.72**
A				**Total landed Cost (A=A1 + A2)**	**85,42,758.93**
B				Stock, Storage & Insurance i.e 3% of A	2,56,282.77
C				**Sub Total (A+B)**	**87,99,041.69**
D				Contigency @ 3% of C	2,63,971.25
E				Tools & Plants @ 2% of C	1,75,980.83
F				Transportation @ 7.5% of C	6,59,928.13
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	2,99,571.79
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,80,760.59
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,04,79,254.28**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	43.20	2,87,230.32
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	10.80	71,807.58
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	96	80,256.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	96	27,200.64
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	5	52,350.00
K1				**Total Civil & Services**	**5,18,844.54**
K2				**Applicable Taxes to make it Landed Cost @18%**	**93,392.02**
K				**Total landed Cost (K=K1+ K2)**	**6,12,236.56**
L				**Total Material+Services (J+K)**	1,10,91,490.84
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,10,91,490.84**
O				CESS 1% of N	1,10,914.91
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,12,02,405.75**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	15,71,420.78
2	Gross Total Material +Services (N+O) for DP With AB Switch	23,14,562.79
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	5,78,845.22
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	14,76,290.32

5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	1,12,02,405.75
Q	**Gross Total Material +Services**	**1,71,43,524.86**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	472.50
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,597.50**
V	GST @ 18% on Total Inspection Fees (U)	287.55
W	Total Inspection Fees including GST (U+V)	1,885.05
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,71,45,409.91**

PART D- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.7 KM, with one run spare.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***700***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	700	2,375.00	16,62,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	1	15,950.00	15,950.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	2,900.00	17,400.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	700.00	812.00	5,68,400.00
	Sub Total (Supply Portion) (in Rs.)				**22,64,250.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	700	110.00	77,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	7	2,000.00	14,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	700.00	195.00	1,36,500.00
	Sub Total (Erection Portion) (in Rs.)				**2,27,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	652		
1.1.a	Earth work excavation of **soil**	M3	547.68	716.03	3,92,155.31
1.1.b	Earth work excavation of **hard rock**	M3	234.72	1,759.39	4,12,964.02
1.2	Back filling with excavated soil outside and above the trench	M3	782.4	220.00	1,72,128.00
1.3	Road Repair and restoration charges	KM	0.2	92,94,727.82	18,58,945.56
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	23	1,035.17	23,808.91
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.7	10,470.00	7,329.00
	Sub Total (Civil Portion) (in Rs.)				**28,67,330.81**

A1	**Sub Total (Supply Portion)**	**22,64,250.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**4,07,565.00**
A	**Total Landed Cost (A=A1 + A2)**	**26,71,815.00**
B	Stock, Storage & Insurance @ 3 % of A	80,154.45
C	**Sub Total (A+B)**	**27,51,969.45**
D	Contingency @ 3 % of C	82,559.08
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	2,06,397.71
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**30,40,926.24**
I1	Sub Total (Erection Portion + Civil Portion)	30,94,830.81
I2	**Applicable Taxes to make it Landed Cost @18%**	**5,57,069.54**
I	**Total landed Cost (I=I1+ I2)**	**36,51,900.35**
J	**Total Cost (H+I)**	**66,92,826.59**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**66,92,826.59**
M	CESS 1% of L	66,928.27
N	**Grand Total (L+M)**	**67,59,754.86**

O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)	202.50
U	Total Inspection Fees including GST (S+T)	1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**67,61,082.36**

PART E: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**26,085.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,695.41**
A				**Total landed Cost (A=A1 + A2)**	**30,781.00**
B				Stock, Storage & Insurance i.e 3% of A	923.43
C				**Sub Total (A+B)**	**31,704.43**
D				Contigency @ 3% of C	951.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	507.69
F				Transportation @ 7.5% of C	2,377.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,538.43
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**38,079.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	55,943.44
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**55,943.44**
O				Total CESS @ 1% of (N)	559.43
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**56,502.88**

PART F: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	30	1,380.92	41,427.45
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	5850	7.00	40,950.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**82,377.45**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,827.94**
A				**Total landed Cost (A=A1+ A2)**	**97,205.39**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	97,205.39
D				**CESS @ 1% of C**	972.05
E				**Grand Total (C+D)**	98,177.44

ANNEXURE-12.18

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Cicle :-	BBSR-1
Name of the Division :-	NED
Name of the Sub-Division : -	Nimapada
Name of the Section : -	Nimapada-1
Name of the Work :-	Proposal for augmentation & Bifurcation of 11kV Patapur feeder using RMU to mitigate overloading issue & improve reliability.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A- Supply and Laying of 11kV 1C, 630sqmm UG Cable of length = 0.06 KM, 3 run without spare run.	31,57,361.26
2	PART B: Construction of 11kV Feeder outgoing DP with isolator & Earth switch.	2,92,205.32
3	PART C- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.83 KM, with one run spare.	66,09,700.83
4	PART D: Construction of 3Ph, 3W ,11kV Line of Length= 0.5 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor.	14,82,406.92
5	**Total Gross**	**1,15,41,674.32**

Total estimated cost is Rs. 1.15 Cr.

PART A- Supply and Laying of 11kV 1C, 630sqmm UG Cable of length = 0.06 KM, 3 run without spare run.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 1C, 630sqmm cable (open trench)***	***M***	***60***		
1.1	Supply of 11kV, 1Core, 630sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	240	1,037.00	2,48,880.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits	EA	8	7,220.00	57,760.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits	EA	8	7,390.00	59,120.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 110mm diameter, PE 80- PN8 for laying of 11kV U/G cable	M	240.00	261.00	62,640.00
2	**Supply of 11kV RMU**				
a	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.1	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**16,94,676.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	60	96.66	5,799.60
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, aluminium UG cable kits	EA	16	2,129.37	34,069.93
1.3	Laying of **110mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	240.00	195.00	46,800.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**1,01,669.53**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	10		
1.1.a	Earth work excavation of **soil**	M3	8.4	716.03	6,014.65
1.1.b	Earth work excavation of **hard rock**	M3	3.6	1,759.39	6,333.80
1.2	Back filling with excavated soil outside and above the trench	M3	12	220.00	2,640.00
1.3	Road Repair and restoration charges	KM	0.01	92,94,727.82	92,947.28
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**15**	16,703.11	2,50,546.72
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30

5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.06	10,470.00	628.20
	Sub Total (Civil Portion) (in Rs.)				**6,15,822.75**
A1	**Sub Total (Supply Portion)**				**16,94,676.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,05,041.79**
A	**Total Landed Cost (A=A1 + A2)**				**19,99,718.39**
B	Stock, Storage & Insurance @ 3 % of A				59,991.55
C	**Sub Total (A+B)**				**20,59,709.94**
D	Contingency @ 3 % of C				61,791.30
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				1,54,478.25
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**22,76,129.65**
I1	Sub Total (Erection Portion + Civil Portion)				7,17,492.29
I2	**Applicable Taxes to make it Landed Cost @18%**				**1,29,148.61**
I	**Total landed Cost (I=I1+ I2)**				**8,46,640.90**
J	**Total Cost (H+I)**				**31,22,770.55**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**31,22,770.55**
M	CESS 1% of L				31,227.71
N	**Grand Total (L+M)**				**31,53,998.26**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,850.00**
T	GST @ 18% on Total Inspection Fees (S)				513.00
U	Total Inspection Fees including GST (S+T)				3,363.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**31,57,361.26**

PART B: Construction of 11kV Feeder outgoing DP with isolator & Earth switch.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,91,762.82**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP With AB Switch	2,91,762.82
Q	**Gross Total Material +Services**	**2,91,762.82**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,92,205.32**

PART C- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.83 KM, with one run spare.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***830***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	830	2,375.00	19,71,250.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	15,950.00	47,850.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	8,260.00	16,520.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	830.00	812.00	6,73,960.00
	Sub Total (Supply Portion) (in Rs.)				**27,15,380.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	830	110.00	91,300.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	7	2,000.00	14,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	830.00	195.00	1,61,850.00
	Sub Total (Erection Portion) (in Rs.)				**2,67,150.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	814		
1.1.a	Earth work excavation of **soil**	M3	683.76	716.03	4,89,592.67
1.1.b	Earth work excavation of **hard rock**	M3	293.04	1,759.39	5,15,571.65
1.2	Back filling with excavated soil outside and above the trench	M3	976.8	220.00	2,14,896.00
1.3	Road Repair and restoration charges	KM	0.1	92,94,727.82	9,29,472.78
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	28	1,035.17	28,984.76
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.83	10,470.00	8,690.10
	Sub Total (Civil Portion) (in Rs.)				**21,87,207.96**

A1	**Sub Total (Supply Portion)**	**27,15,380.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**4,88,768.40**
A	**Total Landed Cost (A=A1 + A2)**	**32,04,148.40**
B	Stock, Storage & Insurance @ 3 % of A	96,124.45
C	**Sub Total (A+B)**	**33,00,272.85**
D	Contingency @ 3 % of C	99,008.19
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	2,47,520.46
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**36,46,801.50**
I1	Sub Total (Erection Portion + Civil Portion)	24,54,357.96
I2	**Applicable Taxes to make it Landed Cost @18%**	**4,41,784.43**
I	**Total landed Cost (I=I1+ I2)**	**28,96,142.39**
J	**Total Cost (H+I)**	**65,42,943.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**65,42,943.89**
M	CESS 1% of L	65,429.44

N	**Grand Total (L+M)**	**66,08,373.33**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)	202.50
U	Total Inspection Fees including GST (S+T)	1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**66,09,700.83**

PART D: Construction of 3Ph, 3W ,11kV Line of Length= 0.5 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20

F	Transportation @ 7.5% of C	5,128.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,976.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**81,583.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**90,032.89**
O	CESS 1% of N				900.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,933.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**1,23,811.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,285.99**
A	**Total landed Cost (A=A1 + A2)**				**1,46,097.06**
B	Stock, Storage & Insurance i.e 3% of A				4,382.91
C	**Sub Total (A+B)**				**1,50,479.98**
D	Contigency @ 3% of C				4,514.40
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,724.13
F	Transportation @ 7.5% of C				11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**2,01,451.72**
O	CESS 1% of N				2,014.52
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,03,466.23**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	8	2,30,680.00
2	11 KV V cross Arm(GI)	EA	851.00	8	6,808.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	8	648.00
4	Danger Plate	EA	180.00	8	1,440.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	12.32	960.96
6	GI barbed wire anticlimbing device	KG	74.00	24.00	1,776.00
7	11 KV pin insulator polymer	EA	140.00	24	3,360.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	24	2,640.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00

10	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	10.98	812.22
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	1545.00	2,02,395.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	0	-
A1				**Total Cost of materials**	**4,56,352.18**
A2				**Applicable Taxes to make it Landed Cost @18%**	**82,143.39**
A				**Total landed Cost (A=A1 + A2)**	**5,38,495.58**
B				Stock, Storage & Insurance i.e 3% of A	16,154.87
C				**Sub Total (A+B)**	**5,54,650.44**
D				Contigency @ 3% of C	16,639.51
E				Tools & Plants @ 2% of C	11,093.01
F				Transportation @ 7.5% of C	41,598.78
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	27,428.20
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,65,428.37**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.5	5,235.00
K1				**Total Civil & Services**	**44,109.55**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,939.72**
K				**Total landed Cost (K=K1+ K2)**	**52,049.26**
L				**Total Material+Services (J+K)**	7,17,477.63
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**7,17,477.63**
O				CESS 1% of N	7,174.78
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**7,24,652.41**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	-
2				Gross Total Material +Services (N+O) for DP With AB Switch	4,62,912.56
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,933.22
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	7,24,652.41
Q				**Gross Total Material +Services**	**14,81,964.42**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**14,82,406.92**

Annexure-12.19

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Cicle :-	BBSR-2
Name of the Division :-	PED
Name of the Sub-Division : -	PURI-II
Name of the Section : -	Sunamuhin
Name of the Work :-	Proposal for refurbishment and augmentation of 11kV Brahmagiri feeder 3 CKM in Dadra kund and Gada rodanga by using 100 SQ.MM. AAA to enhance reliability.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction 11kV 3Ph 3W O/H Line of Length= 3 CKM, with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP.	92,98,729.19
2	PART B: Installation of 14Mtr H-pole for 11kV & 33kV Crossing.	11,28,869.72
3	PART C: Dismantling of Materials	1,48,151.64
4	PART D: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing	60,874.38
6	**Total Gross**	**1,06,36,624.93**

Total estimated cost is Rs. 1.06 Cr.

PART A: Construction 11kV 3Ph 3W O/H Line of Length= 3 CKM, with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP.

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	4

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	716.676	55,900.73
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
9	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
10	11 KV pin insulator polymer	EA	140.00	12	1,680.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	46.288	3,425.31
A1				**Total Cost of materials**	**4,10,430.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**73,877.41**
A				**Total landed Cost (A=A1 + A2)**	**4,84,307.45**
B				Stock, Storage & Insurance i.e 3% of A	14,529.22
C				**Sub Total (A+B)**	**4,98,836.67**
D				Contigency @ 3% of C	14,965.10
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	9,152.98
F				Transportation @ 7.5% of C	37,412.75
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,728.07
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,92,114.00**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**84,220.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**15,159.71**
K				**Total landed Cost (K=K1+ K2)**	**99,380.29**
L				**Total (J+K)**	**6,91,494.29**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**6,91,494.29**
O				CESS 1% of N	6,914.94
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**6,98,409.23**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	3

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1				**Total Cost of materials**	**4,12,027.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**74,165.01**
A				**Total landed Cost (A=A1 + A2)**	**4,86,192.85**
B				Stock, Storage & Insurance i.e 3% of A	14,585.79

C	**Sub Total (A+B)**	**5,00,778.64**
D	Contigency @ 3% of C	15,023.36
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	8,969.55
F	Transportation @ 7.5% of C	37,558.40
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	23,820.12
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**5,96,663.88**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1	**Total Civil & Services**				**76,974.59**
K2	**Applicable Taxes to make it Landed Cost @18%**				**13,855.43**
K	**Total landed Cost (K=K1+ K2)**				**90,830.01**
L	**Total (J+K)**				**6,87,493.90**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**6,87,493.90**
O	CESS 1% of N				6,874.94
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**6,94,368.84**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	4	2,05,400.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1	**Total Cost of materials**				**3,15,100.16**
A2	**Applicable Taxes to make it Landed Cost @18%**				**56,718.03**
A	**Total landed Cost (A=A1 + A2)**				**3,71,818.19**
B	Stock, Storage & Insurance i.e 3% of A				11,154.55
C	**Sub Total (A+B)**				**3,82,972.73**
D	Contigency @ 3% of C				11,489.18
E	Tools & Plants @ 2% of C				7,373.98
F	Transportation @ 7.5% of C				28,722.96
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				12,482.16
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,905.59
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,54,946.60**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**28,643.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,155.81**
K	**Total landed Cost (K=K1+ K2)**				**33,799.18**
L	**Total (J+K)**				**4,88,745.78**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**4,88,745.78**
O	CESS 1% of N				4,887.46
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**4,93,633.24**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	3	1,54,050.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50

3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**2,53,261.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,587.09**
A				**Total landed Cost (A=A1 + A2)**	**2,98,848.70**
B				Stock, Storage & Insurance i.e 3% of A	8,965.46
C				**Sub Total (A+B)**	**3,07,814.16**
D				Contigency @ 3% of C	9,234.42
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,728.07
F				Transportation @ 7.5% of C	23,086.06
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				9,361.62
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,917.13
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,65,141.47**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,98,638.25**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**3,98,638.25**
O				CESS 1% of N	3,986.38
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**4,02,624.63**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	3

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	61	31,32,350.00
2	11 KV V cross Arm(GI)	EA	851.00	61	51,911.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	61	4,941.00
4	Danger Plate	EA	180.00	61	10,980.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	93.94	7,327.32
6	GI barbed wire anticlimbing device	KG	74.00	183.00	13,542.00
7	11 KV pin insulator polymer	EA	140.00	183	25,620.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	183	20,130.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	122	26,840.00
10	Earthing of Support (Coil Type)	EA	164.00	61	10,004.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	83.69	6,193.21
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	9270.00	12,14,370.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	9	4,050.00
A1				**Total Cost of materials**	**45,28,258.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,15,086.54**
A				**Total landed Cost (A=A1 + A2)**	**53,43,345.06**
B				Stock, Storage & Insurance i.e 3% of A	1,60,300.35
C				**Sub Total (A+B)**	**55,03,645.41**
D				Contigency @ 3% of C	1,65,109.36
E				Tools & Plants @ 2% of C	1,10,072.91
F				Transportation @ 7.5% of C	4,12,773.41
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,90,352.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,69,658.72
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**65,51,612.72**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	27.45	1,82,510.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.86	45,627.73
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	61	50,996.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	61	17,283.74
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**3,27,828.41**
K2				**Applicable Taxes to make it Landed Cost @18%**	**59,009.11**
K				**Total landed Cost (K=K1+ K2)**	**3,86,837.52**
L				**Total Material+Services (J+K)**	69,38,450.24
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**69,38,450.24**

O	CESS 1% of N	69,384.50
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**70,07,834.74**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	6,98,409.23
2	Gross Total Material +Services (N+O) for DP With AB Switch	6,94,368.84
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	4,93,633.24
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	4,02,624.63
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	70,07,834.74
Q	**Gross Total Material +Services**	**92,96,870.69**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	450.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,575.00**
V	GST @ 18% on Total Inspection Fees (U)	283.50
W	Total Inspection Fees including GST (U+V)	1,858.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**92,98,729.19**

PART B: Installation of 14Mtr H-pole for 11kV & 33kV Crossing.

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	8

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	8	5,24,560.00
2	GI Channel,angle & flat of different size	KG	78.00	360.832	28,144.90
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	16	4,160.00
5	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
6	H.T. Stay Insulator Type-C	EA	87.00	32	2,784.00
7	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
8	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
9	33KV pin insulator polymer	EA	398.00	24	9,552.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	48	30,288.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	48	13,872.00
12	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
13	Wedge connector for 100 sq.mm AAA conductor	EA	138.00	48	6,624.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	42.912	3,175.49
15	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
A1				**Total Cost of materials**	**6,70,144.38**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,20,625.99**
A				**Total landed Cost (A=A1 + A2)**	**7,90,770.37**
B				Stock, Storage & Insurance i.e 3% of A	23,723.11
C				**Sub Total (A+B)**	**8,14,493.48**
D				Contigency @ 3% of C	24,434.80
E				Tools & Plants @ 2% of C	15,125.81
F				Transportation @ 7.5% of C	61,087.01
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				31,877.51
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,874.02
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**9,58,892.64**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**81,018.03**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,583.24**
K				**Total landed Cost (K=K1+ K2)**	**95,601.27**
L				**Total (J+K)**	10,54,493.91
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**10,54,493.91**
O				CESS 1% of N	10,544.94
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**10,65,038.85**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	0.16

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	100 sq.mm AAA conductor	M	78.41	494.40	38,765.90
A1				**Total Cost of materials**	**38,765.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**6,977.86**
A				**Total landed Cost (A=A1 + A2)**	**45,743.77**
B				Stock, Storage & Insurance i.e 3% of A	1,372.31
C				**Sub Total (A+B)**	**47,116.08**
D				Contigency @ 3% of C	1,413.48
E				Tools & Plants @ 2% of C	942.32
F				Transportation @ 7.5% of C	3,533.71
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,711.61
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**57,717.20**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.16	1,675.20
K1	**Total Civil & Services**				**1,675.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**301.54**
K	**Total landed Cost (K=K1+ K2)**				**1,976.74**
L	**Total (J+K)**				59,693.93
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**59,693.93**
O	CESS 1% of N				596.94
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**60,290.87**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	-
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	-
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	10,65,038.85
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	-
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	60,290.87
Q	**Gross Total Material +Services**	**11,25,329.72**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	750.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)	540.00
W	Total Inspection Fees including GST (U+V)	3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**11,28,869.72**

PART C: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	10	1,380.92	13,809.15
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	50	950.00	47,500.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	9000	7.00	63,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,24,309.15**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,375.65**
A				**Total landed Cost (A=A1+ A2)**	**1,46,684.80**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,46,684.80
D				**CESS @ 1% of C**	1,466.85
E				**Grand Total (C+D)**	1,48,151.64

PART D: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	40

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	13.1	1,021.80
3	No-8 GI wire for guard wire	KG	78.00	61.44	4,792.32
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**28,992.65**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,218.68**
A				**Total landed Cost (A=A1 + A2)**	**34,211.33**
B				Stock, Storage & Insurance i.e 3% of A	1,026.34
C				**Sub Total (A+B)**	**35,237.67**
D				Contigency @ 3% of C	1,057.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	578.35
F				Transportation @ 7.5% of C	2,642.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,891.76
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**42,407.74**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	60,271.66
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**60,271.66**
O				Total CESS @ 1% of (N)	602.72
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**60,874.38**

Annexure-12.20		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Cicle :-		BBSR-2
Name of the Division :-		PED
Name of the Sub-Division : -		Sakhigopal
Name of the Section : -		Sakhigopal-1 & 2
Name of the Work :-		Proposal for augmentation of the 11 kV Sakhigopal Bajar Feeder to enhance reliability including to mitigate the overloading issue.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
2	PART A: Construction of one 11kV Out Going DP.	3,16,296.95
3	PART B: Construction of 11kV Line Length= 2.9 CKM with 40 Mtr. Span using 100 SQ.MM. - XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP	86,81,033.23
4	PART C : Dismantling of Materials	1,11,825.88
5	PART D: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing	1,13,005.75
7	**Total Gross**	**92,22,161.81**
Total estimated cost is Rs. 0.92 Cr.		

PART A: Construction of one 11kV Out Going DP.					
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				1	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,93,467.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**34,824.17**
A				**Total landed Cost (A=A1 + A2)**	**2,28,291.78**
B				Stock, Storage & Insurance i.e 3% of A	6,848.75
C				**Sub Total (A+B)**	**2,35,140.54**
D				Contigency @ 3% of C	7,054.22
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,354.14
F				Transportation @ 7.5% of C	17,635.54
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,761.47
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,82,450.51**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**3,12,727.18**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**3,12,727.18**
O				CESS 1% of N	3,127.27
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,15,854.45**
Gross Total Summary					
1				Gross Total Material +Services (N+O) for DP With AB Switch	3,15,854.45
Q				**Gross Total Material +Services**	**3,15,854.45**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**3,16,296.95**

PART B: Construction of 11kV Line Length= 2.9 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**3,07,822.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,408.06**
A				**Total landed Cost (A=A1 + A2)**	**3,63,230.59**
B				Stock, Storage & Insurance i.e 3% of A	10,896.92
C				**Sub Total (A+B)**	**3,74,127.50**
D				Contigency @ 3% of C	11,223.83
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,864.74
F				Transportation @ 7.5% of C	28,059.56
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,296.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,44,085.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**5,18,620.72**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**5,18,620.72**
O				CESS 1% of N	5,186.21
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**5,23,806.93**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,37,342.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,721.67**
A				**Total landed Cost (A=A1 + A2)**	**1,62,064.28**
B				Stock, Storage & Insurance i.e 3% of A	4,861.93
C				**Sub Total (A+B)**	**1,66,926.21**

D	Contigency @ 3% of C	5,007.79
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,989.85
F	Transportation @ 7.5% of C	12,519.47
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,940.04
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,98,887.96**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**2,29,164.63**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**2,29,164.63**
O	CESS 1% of N				2,291.65
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**2,31,456.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	4	2,05,400.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1	**Total Cost of materials**				**3,15,100.16**
A2	**Applicable Taxes to make it Landed Cost @18%**				**56,718.03**
A	**Total landed Cost (A=A1 + A2)**				**3,71,818.19**
B	Stock, Storage & Insurance i.e 3% of A				11,154.55
C	**Sub Total (A+B)**				**3,82,972.73**
D	Contigency @ 3% of C				11,489.18
E	Tools & Plants @ 2% of C				7,373.98
F	Transportation @ 7.5% of C				28,722.96
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				12,482.16
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,905.59
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,54,946.60**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**28,643.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,155.81**
K	**Total landed Cost (K=K1+ K2)**				**33,799.18**
L	**Total (J+K)**				**4,88,745.78**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**4,88,745.78**
O	CESS 1% of N				4,887.46
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**4,93,633.24**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	3	1,54,050.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00

4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**2,53,261.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,587.09**
A				**Total landed Cost (A=A1 + A2)**	**2,98,848.70**
B				Stock, Storage & Insurance i.e 3% of A	8,965.46
C				**Sub Total (A+B)**	**3,07,814.16**
D				Contigency @ 3% of C	9,234.42
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,728.07
F				Transportation @ 7.5% of C	23,086.06
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	9,361.62
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,917.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,65,141.47**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,98,638.25**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**3,98,638.25**
O				CESS 1% of N	3,986.38
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**4,02,624.63**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2.9

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	62	31,83,700.00
2	11 KV V cross Arm(GI)	EA	851.00	62	52,762.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	62	5,022.00
4	Danger Plate	EA	180.00	62	11,160.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	95.48	7,447.44
6	GI barbed wire anticlimbing device	KG	74.00	186.00	13,764.00
7	11 KV pin insulator polymer	EA	140.00	186	26,040.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	186	20,460.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	124	27,280.00
10	Earthing of Support (Coil Type)	EA	164.00	62	10,168.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	85.06	6,294.74
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	8961.00	11,73,891.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**45,40,689.18**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,17,324.05**
A				**Total landed Cost (A=A1 + A2)**	**53,58,013.23**
B				Stock, Storage & Insurance i.e 3% of A	1,60,740.40
C				**Sub Total (A+B)**	**55,18,753.62**
D				Contigency @ 3% of C	1,65,562.61
E				Tools & Plants @ 2% of C	1,10,375.07
F				Transportation @ 7.5% of C	4,13,906.52
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,93,473.45
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,64,928.46
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**65,66,999.74**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	27.90	1,85,502.92
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.98	46,375.73
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	62	51,832.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	62	17,567.08
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.9	30,363.00
K1				**Total Civil & Services**	**3,31,640.72**
K2				**Applicable Taxes to make it Landed Cost @18%**	**59,695.33**
K				**Total landed Cost (K=K1+ K2)**	**3,91,336.05**
L				**Total Material+Services (J+K)**	69,58,335.80
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**69,58,335.80**
O				CESS 1% of N	69,583.36

P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**70,27,919.15**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	5,23,806.93
2	Gross Total Material +Services (N+O) for DP With AB Switch	2,31,456.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	4,93,633.24
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	4,02,624.63
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	70,27,919.15
Q	**Gross Total Material +Services**	**86,79,440.23**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	225.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,350.00**
V	GST @ 18% on Total Inspection Fees (U)	243.00
W	Total Inspection Fees including GST (U+V)	1,593.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**86,81,033.23**

PART C : Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	20	1,380.92	27,618.30
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	8700	7.00	60,900.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**88,518.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,933.29**
A				**Total landed Cost (A=A1+ A2)**	**1,04,451.59**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	6,267.10
C				**Gross Total Estimated Cost i.e. (A+B)**	1,10,718.69
D				**CESS @ 1% of C**	1,107.19
E				**Grand Total (C+D)**	1,11,825.88

PART D: Construction of 11kV Line Protecting Guarding on Single Pole for Road Crossing

No. of 11 KV Line Protecting Guarding	4
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	460.988	35,957.06
2	No-10 GI wire for lacing	KG	78.00	13.1	1,021.80
3	No-8 GI wire for guard wire	KG	78.00	61.44	4,792.32
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
A1				**Total Cost of materials**	**52,171.18**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,390.81**
A				**Total landed Cost (A=A1 + A2)**	**61,562.00**
B				Stock, Storage & Insurance i.e 3% of A	1,846.86
C				**Sub Total (A+B)**	**63,408.86**
D				Contigency @ 3% of C	1,902.27
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,015.37
F				Transportation @ 7.5% of C	4,755.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,076.87
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**76,159.03**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
K1				**Total Civil & Services**	**30,277.84**
K2				Applicable Taxes to make it Landed Cost @18%	5,450.01
K				**Total landed Cost (K=K1+ K2)**	**35,727.85**
L				**Total (J+K)**	1,11,886.88
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**1,11,886.88**
O				Total CESS @ 1% of (N)	1,118.87
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**1,13,005.75**

Annexure-12.21		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BAED
Name of the Sub-Division : -		Balugaon
Name of the Section : -		Balugaon-1
11kV feeder name : -		11kV Singheswar feeder
Name of the Work :-		Proposal for refurbishment and augmentation of existing 11 KV Singheswar Feeder from Lambodarpur to khandewallkot to enhance reliability.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part A: Augmentation of existing 11kV Line Length of 2.5 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP	49,69,062.47
4	Part B: Dismantling of Materials	85,213.70
5	**Total Gross**	**50,54,276.17**
Total estimated cost is Rs. 0.51 Cr. (On TPCODL CAPEX Scheme)		

Part A: Augmentation of existing 11kV Line Length of 2.5 CKM with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1				**Total Cost of materials**	**4,12,027.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**74,165.01**
A				**Total landed Cost (A=A1 + A2)**	**4,86,192.85**
B				Stock, Storage & Insurance i.e 3% of A	14,585.79
C				**Sub Total (A+B)**	**5,00,778.64**
D				Contigency @ 3% of C	15,023.36
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	8,969.55
F				Transportation @ 7.5% of C	37,558.40
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	23,820.12
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,96,663.88**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**76,974.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,855.43**
K				**Total landed Cost (K=K1+ K2)**	**90,830.01**
L				**Total (J+K)**	**6,87,493.90**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**6,87,493.90**
O				CESS 1% of N	6,874.94
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**6,94,368.84**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00

7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**78,775.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,179.51**
A				**Total landed Cost (A=A1 + A2)**	**92,954.55**
B				Stock, Storage & Insurance i.e 3% of A	2,788.64
C				**Sub Total (A+B)**	**95,743.18**
D				Contigency @ 3% of C	2,872.30
E				Tools & Plants @ 2% of C	1,843.50
F				Transportation @ 7.5% of C	7,180.74
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,120.54
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,976.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,13,736.65**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**1,22,186.45**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,22,186.45**
O				CESS 1% of N	1,221.86
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,23,408.31**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	3	1,54,050.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**2,53,261.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,587.09**
A				**Total landed Cost (A=A1 + A2)**	**2,98,848.70**
B				Stock, Storage & Insurance i.e 3% of A	8,965.46
C				**Sub Total (A+B)**	**3,07,814.16**
D				Contigency @ 3% of C	9,234.42
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,728.07
F				Transportation @ 7.5% of C	23,086.06
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				9,361.62
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,917.13

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**3,65,141.47**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1	**Total Civil & Services**				**28,387.10**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,109.68**
K	**Total landed Cost (K=K1+ K2)**				**33,496.78**
L	**Total (J+K)**				**3,98,638.25**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**3,98,638.25**
O	CESS 1% of N				3,986.38
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**4,02,624.63**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		2.5		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	26	13,35,100.00
2	11 KV V cross Arm(GI)	EA	851.00	26	22,126.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	26	2,106.00
4	Danger Plate	EA	180.00	26	4,680.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	40.04	3,123.12
6	GI barbed wire anticlimbing device	KG	74.00	78.00	5,772.00
7	11 KV pin insulator polymer	EA	140.00	78	10,920.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	78	8,580.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	52	11,440.00
10	Earthing of Support (Coil Type)	EA	164.00	26	4,264.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	35.67	2,639.73
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	7725.00	10,11,975.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1	**Total Cost of materials**				**24,25,425.85**
A2	**Applicable Taxes to make it Landed Cost @18%**				**4,36,576.65**
A	**Total landed Cost (A=A1 + A2)**				**28,62,002.50**
B	Stock, Storage & Insurance i.e 3% of A				85,860.08
C	**Sub Total (A+B)**				**29,47,862.58**
D	Contigency @ 3% of C				88,435.88
E	Tools & Plants @ 2% of C				58,957.25
F	Transportation @ 7.5% of C				2,21,089.69
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				81,134.03
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,32,518.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**35,29,997.63**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.70	77,791.55
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.93	19,447.89
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	26	21,736.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	26	7,366.84
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.5	26,175.00
K1	**Total Civil & Services**				**1,52,517.27**
K2	**Applicable Taxes to make it Landed Cost @18%**				**27,453.11**
K	**Total landed Cost (K=K1+ K2)**				**1,79,970.38**
L	**Total Material+Services (J+K)**				37,09,968.01
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**37,09,968.01**
O	CESS 1% of N				37,099.68
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**37,47,067.69**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				6,94,368.84
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				1,23,408.31
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				4,02,624.63
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				37,47,067.69
Q	**Gross Total Material +Services**				**49,67,469.47**

R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	225.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,350.00**
V	GST @ 18% on Total Inspection Fees (U)	243.00
W	Total Inspection Fees including GST (U+V)	1,593.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**49,69,062.47**

Part B: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	20	950.00	19,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7500	7.00	52,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**71,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**12,870.00**
A				**Total landed Cost (A=A1+ A2)**	**84,370.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	84,370.00
D				**CESS @ 1% of C**	843.70
E				**Grand Total (C+D)**	85,213.70

Annexure-12.22		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		KHD
Name of the Sub-Division : -		Khordha
Name of the Section : -		Khordha 3
11kV feeder name : -		11kV Taraboi feeder
Name of the Work :-		Proposal for refurbishment and augmentation of the existing 11 kV Taraboi Feeder for a length of 3.4 CKM near Anlajodi and Samantaraypur villages to improve feeder reliability.
Names of Schemes: -		**CAPEX 27-28**
WBS: -		
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 3.4 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point A-B, C-D, E-F & G-H)	48,66,130.26
2	PART B: Dismantling of Materials	1,42,510.15
4	**Total Gross**	**50,08,640.40**
Total estimated cost is Rs. 0.50 Cr.		

PART A: Augmentation of 3.4 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point A-B, C-D, E-F & G-H)					
No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)				4	
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	716.676	55,900.73
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
9	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
10	11 KV pin insulator polymer	EA	140.00	12	1,680.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	46.288	3,425.31
A1				**Total Cost of materials**	**3,46,346.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**62,342.29**
A				**Total landed Cost (A=A1 + A2)**	**4,08,688.33**
B				Stock, Storage & Insurance i.e 3% of A	12,260.65
C				**Sub Total (A+B)**	**4,20,948.98**
D				Contigency @ 3% of C	12,628.47
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	7,595.23
F				Transportation @ 7.5% of C	31,571.17
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,939.30
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,96,701.58**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**84,220.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**15,159.71**
K				**Total landed Cost (K=K1+ K2)**	**99,380.29**
L				**Total (J+K)**	**5,96,081.87**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**5,96,081.87**
O				CESS 1% of N	5,960.82
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**6,02,042.69**
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00

13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,42,643.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**43,675.78**
A				**Total landed Cost (A=A1 + A2)**	**2,86,319.01**
B				Stock, Storage & Insurance i.e 3% of A	8,589.57
C				**Sub Total (A+B)**	**2,94,908.58**
D				Contigency @ 3% of C	8,847.26
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,200.82
F				Transportation @ 7.5% of C	22,118.14
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,985.69
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,50,069.71**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,10,623.05**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,10,623.05**
O				CESS 1% of N	4,106.23
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,14,729.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
12	Earthing of Support (Coil Type)	EA	164.00	3	492.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,22,037.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,966.68**
A				**Total landed Cost (A=A1 + A2)**	**1,44,003.80**
B				Stock, Storage & Insurance i.e 3% of A	4,320.11
C				**Sub Total (A+B)**	**1,48,323.92**
D				Contigency @ 3% of C	4,449.72
E				Tools & Plants @ 2% of C	2,752.37
F				Transportation @ 7.5% of C	11,124.29
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,248.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,75,155.26**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,00,504.64**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,00,504.64**
O				CESS 1% of N	2,005.05
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**2,02,509.69**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		3		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
8	Earthing of Support (Coil Type)	EA	164.00	3	492.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	30	630.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,38,706.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,967.19**
A				**Total landed Cost (A=A1 + A2)**	**1,63,673.80**
B				Stock, Storage & Insurance i.e 3% of A	4,910.21
C				**Sub Total (A+B)**	**1,68,584.01**
D				Contigency @ 3% of C	5,057.52
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,943.47
F				Transportation @ 7.5% of C	12,643.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,203.53
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,98,689.25**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**2,32,186.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,32,186.03**
O				CESS 1% of N	2,321.86
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,34,507.89**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		3.4		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	42	12,11,070.00
2	11 KV V cross Arm(GI)	EA	851.00	42	35,742.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	42	3,402.00
4	Danger Plate	EA	180.00	42	7,560.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	64.68	5,045.04
6	GI barbed wire anticlimbing device	KG	74.00	126.00	9,324.00
7	11 KV pin insulator polymer	EA	140.00	126	17,640.00
8	Earthing of Support (Coil Type)	EA	164.00	42	6,888.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	57.62	4,264.18
10	100 sq.mm AAA conductor	M	78.41	10506.00	8,23,775.46
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	126	2,646.00
A1				**Total Cost of materials**	**21,27,356.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,82,924.20**
A				**Total landed Cost (A=A1 + A2)**	**25,10,280.88**
B				Stock, Storage & Insurance i.e 3% of A	75,308.43
C				**Sub Total (A+B)**	**25,85,589.30**
D				Contigency @ 3% of C	77,567.68
E				Tools & Plants @ 2% of C	51,711.79
F				Transportation @ 7.5% of C	1,93,919.20
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				73,596.72
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,11,365.48
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**30,93,750.17**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	18.90	1,25,663.27
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.73	31,415.82
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	42	35,112.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	42	11,900.28
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3.4	35,598.00
K1				**Total Civil & Services**	**2,39,689.36**
K2				**Applicable Taxes to make it Landed Cost @18%**	**43,144.09**
K				**Total landed Cost (K=K1+ K2)**	**2,82,833.45**
L				**Total Material+Services (J+K)**	33,76,583.62
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**33,76,583.62**
O				CESS 1% of N	33,765.84
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**34,10,349.46**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				6,02,042.69
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,14,729.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,02,509.69
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,34,507.89
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				34,10,349.46
Q				**Gross Total Material +Services**	**48,64,139.01**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				562.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,687.50**
V	GST @ 18% on Total Inspection Fees (U)				303.75
W	Total Inspection Fees including GST (U+V)				1,991.25
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**48,66,130.26**

PART B: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	17	1,380.92	23,475.56
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	26	950.00	24,700.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	10200	7.00	71,400.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,19,575.56**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,523.60**
A				**Total landed Cost (A=A1+ A2)**	**1,41,099.15**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,41,099.15
D				**CESS @ 1% of C**	1,410.99
E				**Grand Total (C+D)**	1,42,510.15

Annexure-12.23

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	KHD
Name of the Sub-Division : -	BANKI
Name of the Section : -	Banki-III
Name of the Work :-	Proposal for refurbishment and augmentation of 11kV Rajiba Feeder 3.5 CKM by using 100 SQ.MM. AAA from Khandiabandha line AB switch to Kurum chain Line AB switch to improve reliability .
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 3.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point B-C)	48,95,497.18
2	PART B: Dismantling of Materials	1,38,546.75
3	**Total Gross**	**50,34,043.93**

Total estimated cost is Rs. 0.50 Cr.

PART A: Augmentation of 3.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point B-C)					
No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)				5	
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	895.845	69,875.91
3	Danger Plate	EA	180.00	10	1,800.00
4	H.T. Stay clamp	EA	260.00	10	2,600.00
5	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
6	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
7	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
9	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
10	11 KV pin insulator polymer	EA	140.00	15	2,100.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	57.86	4,281.64
A1				**Total Cost of materials**	**4,32,932.55**
A2				**Applicable Taxes to make it Landed Cost @18%**	**77,927.86**
A				**Total landed Cost (A=A1 + A2)**	**5,10,860.41**
B				Stock, Storage & Insurance i.e 3% of A	15,325.81
C				**Sub Total (A+B)**	**5,26,186.22**
D				Contigency @ 3% of C	15,785.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	9,494.04
F				Transportation @ 7.5% of C	39,463.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,424.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,20,876.97**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**1,05,275.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,949.63**
K				**Total landed Cost (K=K1+ K2)**	**1,24,225.36**
L				**Total (J+K)**	**7,45,102.33**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**7,45,102.33**
O				CESS 1% of N	7,451.02
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**7,52,553.36**
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				1	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00

13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,21,321.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**
A				**Total landed Cost (A=A1 + A2)**	**1,43,159.50**
B				Stock, Storage & Insurance i.e 3% of A	4,294.79
C				**Sub Total (A+B)**	**1,47,454.29**
D				Contigency @ 3% of C	4,423.63
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F				Transportation @ 7.5% of C	11,059.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,992.85
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,75,034.86**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,05,311.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,05,311.53**
O				CESS 1% of N	2,053.12
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,07,364.64**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
12	Earthing of Support (Coil Type)	EA	164.00	4	656.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**1,62,716.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**29,288.91**
A				**Total landed Cost (A=A1 + A2)**	**1,92,005.07**
B				Stock, Storage & Insurance i.e 3% of A	5,760.15
C				**Sub Total (A+B)**	**1,97,765.22**
D				Contigency @ 3% of C	5,932.96
E				Tools & Plants @ 2% of C	3,669.83
F				Transportation @ 7.5% of C	14,832.39
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,330.73
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,33,540.34**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**28,643.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,155.81**
K				**Total landed Cost (K=K1+ K2)**	**33,799.18**
L				**Total (J+K)**	**2,67,339.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,67,339.52**
O				CESS 1% of N	2,673.40
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**2,70,012.92**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		6		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	404.064	31,516.99
3	Danger Plate	EA	180.00	6	1,080.00
4	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
5	11 KV pin insulator polymer	EA	140.00	24	3,360.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
8	Earthing of Support (Coil Type)	EA	164.00	6	984.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	36	4,968.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	60	1,260.00
11	H.T. Stay clamp	EA	260.00	12	3,120.00
12	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
13	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
14	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.976	4,438.22
A1				**Total Cost of materials**	**2,77,413.22**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,934.38**
A				**Total landed Cost (A=A1 + A2)**	**3,27,347.59**
B				Stock, Storage & Insurance i.e 3% of A	9,820.43
C				**Sub Total (A+B)**	**3,37,168.02**
D				Contigency @ 3% of C	10,115.04
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,886.94
F				Transportation @ 7.5% of C	25,287.60
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,513.82
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,407.07
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,97,378.49**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.7	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.7	4,487.97
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6.00	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**56,774.21**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,219.36**
K				**Total landed Cost (K=K1+ K2)**	**66,993.57**
L				**Total (J+K)**	**4,64,372.06**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**4,64,372.06**
O				CESS 1% of N	4,643.72
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**4,69,015.78**
	11 Kv Line Length In KM with 50 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		3.5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	37	10,66,895.00
2	11 KV V cross Arm(GI)	EA	851.00	37	31,487.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	37	2,997.00
4	Danger Plate	EA	180.00	37	6,660.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	56.98	4,444.44
6	GI barbed wire anticlimbing device	KG	74.00	111.00	8,214.00
7	11 KV pin insulator polymer	EA	140.00	111	15,540.00
8	Earthing of Support (Coil Type)	EA	164.00	37	6,068.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	50.77	3,756.81
10	100 sq.mm AAA conductor	M	78.41	10815.00	8,48,004.15
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	111	2,331.00
A1				**Total Cost of materials**	**19,96,397.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,59,351.53**
A				**Total landed Cost (A=A1 + A2)**	**23,55,748.93**
B				Stock, Storage & Insurance i.e 3% of A	70,672.47
C				**Sub Total (A+B)**	**24,26,421.40**
D				Contigency @ 3% of C	72,792.64
E				Tools & Plants @ 2% of C	48,528.43
F				Transportation @ 7.5% of C	1,81,981.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	64,835.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,12,971.72
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**29,07,531.01**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	16.65	1,10,703.35
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.16	27,675.84
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	37	30,932.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	37	10,483.58
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3.5	36,645.00
K1				**Total Civil & Services**	**2,16,439.77**
K2				**Applicable Taxes to make it Landed Cost @18%**	**38,959.16**
K				**Total landed Cost (K=K1+ K2)**	**2,55,398.93**
L				**Total Material+Services (J+K)**	31,62,929.93
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**31,62,929.93**
O				CESS 1% of N	31,629.30
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**31,94,559.23**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	7,52,553.36
2				Gross Total Material +Services (N+O) for DP With AB Switch	2,07,364.64
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	2,70,012.92
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	4,69,015.78
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	31,94,559.23
Q				**Gross Total Material +Services**	**48,93,505.93**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	562.50
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,687.50**
V				GST @ 18% on Total Inspection Fees (U)	303.75
W				Total Inspection Fees including GST (U+V)	1,991.25
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**48,95,497.18**

PART B: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	45	950.00	42,750.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	10500	7.00	73,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,16,250.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,925.00**
A				**Total landed Cost (A=A1+ A2)**	**1,37,175.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,37,175.00
D				**CESS @ 1% of C**	1,371.75
E				**Grand Total (C+D)**	1,38,546.75

Annexure-12.24		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		NYED
Name of the Sub-Division :-		Daspalla
Name of the Section : -		Gania
Name of the Work :-		Proposal for construction of a new 11 KV Feeder from 33/11 KV Gania PSS and interlink with existing 11kV Kuska Feeder to bifurcate the length of the 11 KV Kuska Feeder.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part A: Construction of One No of 11 KV Line Bay (Outdoor)	20,47,132.35
2	Part B: Refubrishment of 11KV Line length of 4 CKM using 100 SQMM AAAC and 11 mtr WPB Pole	26,97,974.37
3	Part C: Refubrishment of 11KV Line length of 2.5 CKM using 100 SQMM XLPE covered AAAC and 11 mtr WPB Pole	12,88,203.89
3	**Total Gross**	**60,33,310.61**
Total estimated cost is Rs. 0.60 Cr.		

Part A: Construction of One No of 11 KV Line Bay (Outdoor)					
No. of BAY requirement				1	
No. of VCB Requirement				1	
MATERIALS OF 11 kV Bay					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	1041.027	81,200.11
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate, 2 no's.	EA	180.00	2	360.00
5	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	13	16,900.00
6	GI barbed wire anticlimbing device	KG	74.00	12	888.00
7	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
8	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	1	67,097.00
9	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	1	29,328.00
10	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	1	1,95,397.00
11	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
12	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	3	99,660.00
13	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	3	48,594.00
14	Control Cable 12Core x 2.5 mm2	Mtr	329.00	50	16,450.00
15	Control Cable 16Core x 2.5 mm2	Mtr	426.00	50	21,300.00
16	Control Cable 4Core x 2.5 mm2	Mtr	124.00	50	6,200.00
17	Control Cable 7Core x 2.5 mm2	Mtr	196.00	50	9,800.00
18	11 KV pin insulator polymer	EA	140.00	6	840.00
19	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
20	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
21	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	18	2,484.00
22	100 sq.mm AAA conductor	M	78.41	30.00	2,352.30
23	GI Nut , Bolt & Washer of different sizes	KG	74.00	50	3,700.00
24	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	0	-
25	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
26	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	2,49,965.00	0	-
27	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**10,12,683.52**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,82,283.03**
A				**Total landed Cost (A=A1 + A2)**	**11,94,966.55**
B				Stock, Storage & Insurance i.e 3% of A	35,849.00
C				**Sub Total (A+B)**	**12,30,815.55**
D				Contigency @ 3% of C	36,924.47
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	24,205.51
F				Transportation @ 7.5% of C	92,311.17
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	18,883.49
H				Erection Charges @ 10% of C (except TH/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	83,260.55
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**14,86,400.72**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	13	49,201.49
4	**VCB Foundation**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
4.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60

4.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
4.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
5	**CT & PT Foundation**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
5.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
5.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
5.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
5.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
6	**RCC Cable Trench :**	Qty			
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	34.5	8,004.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	2.3	3,404.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	2.3	11,569.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.6	34,500.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.2	31,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	56	15,120.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	991.4	1,01,122.80

6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	1.2	9,540.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	530.2	55,140.80
8	**Land Leveling & Compaction/ Gravels sprading :**				
8.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
8.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00

K1	**Total Civil & Services**	**4,56,534.33**
K2	**Applicable Taxes to make it Landed Cost @18%**	**82,176.18**
K	**Total landed Cost (K=K1+ K2)**	**5,38,710.51**
L	**Total (J+K)**	**20,25,111.24**
M	Other overheads (Including 6% supervision charges) of L	
N	**Sub-Total (L+M)**	**20,25,111.24**
O	CESS 1% of (N)	20,251.11
P	**Gross Total Material +Services (N+O)**	**20,45,362.35**
Q	Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R	GST @ 18% on Total Inspection Fees (Q)	270.00
S	Total Inspection Fees including GST (Q+R)	1,770.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**20,47,132.35**

Part B: Refubrishment of 11KV Line length of 4 CKM using 100 SQMM AAAC and 11 mtr WPB Pole					
No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)				2	
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**1,73,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**2,04,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**2,10,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,48,350.79**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**2,98,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**2,98,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,01,021.34**
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				4	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00

13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**4,85,286.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**87,351.56**
A				**Total landed Cost (A=A1 + A2)**	**5,72,638.02**
B				Stock, Storage & Insurance i.e 3% of A	17,179.14
C				**Sub Total (A+B)**	**5,89,817.16**
D				Contigency @ 3% of C	17,694.51
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	10,401.65
F				Transportation @ 7.5% of C	44,236.29
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	23,971.39
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,00,139.42**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**8,21,246.11**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**8,21,246.11**
O				CESS 1% of N	8,212.46
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**8,29,458.57**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**81,358.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,644.45**
A				**Total landed Cost (A=A1 + A2)**	**96,002.53**
B				Stock, Storage & Insurance i.e 3% of A	2,880.08
C				**Sub Total (A+B)**	**98,882.61**
D				Contigency @ 3% of C	2,966.48
E				Tools & Plants @ 2% of C	1,834.92
F				Transportation @ 7.5% of C	7,416.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,165.37
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,16,770.17**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,33,669.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,33,669.76**
O				CESS 1% of N	1,336.70
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,35,006.46**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		1		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	10	210.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**46,235.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,322.40**
A				**Total landed Cost (A=A1 + A2)**	**54,557.93**
B				Stock, Storage & Insurance i.e 3% of A	1,636.74
C				**Sub Total (A+B)**	**56,194.67**
D				Contigency @ 3% of C	1,685.84
E				Tools & Plants @ 2% of C (Except HT Stay Set)	981.16
F				Transportation @ 7.5% of C	4,214.60
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,401.18
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**66,229.75**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**77,395.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**77,395.34**
O				CESS 1% of N	773.95
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**78,169.30**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		1.3		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	17	4,90,195.00
2	11 KV V cross Arm(GI)	EA	851.00	17	14,467.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	17	1,377.00
4	Danger Plate	EA	180.00	17	3,060.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	26.18	2,042.04
6	GI barbed wire anticlimbing device	KG	74.00	51.00	3,774.00
7	11 KV pin insulator polymer	EA	140.00	51	7,140.00
8	Earthing of Support (Coil Type)	EA	164.00	17	2,788.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.32	1,725.98
10	100 sq.mm AAA conductor	M	78.41	4017.00	3,14,972.97
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
12	POLYCARBONATE BIRD GUARD	EA	21.00	51	1,071.00
A1				**Total Cost of materials**	**8,43,138.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,51,764.97**
A				**Total landed Cost (A=A1 + A2)**	**9,94,903.71**
B				Stock, Storage & Insurance i.e 3% of A	29,847.11
C				**Sub Total (A+B)**	**10,24,750.82**
D				Contigency @ 3% of C	30,742.52
E				Tools & Plants @ 2% of C	20,495.02
F				Transportation @ 7.5% of C	76,856.31
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				29,789.15
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				42,896.78
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**12,25,530.60**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.65	50,863.70
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.91	12,715.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	17	14,212.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	17	4,816.78
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.3	13,611.00
K1				**Total Civil & Services**	**96,219.41**
K2				**Applicable Taxes to make it Landed Cost @18%**	**17,319.49**
K				**Total landed Cost (K=K1+ K2)**	**1,13,538.90**
L				**Total Material+Services (J+K)**	13,39,069.51
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**13,39,069.51**
O				CESS 1% of N	13,390.70
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**13,52,460.20**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				3,01,021.34
2	Gross Total Material +Services (N+O) for DP With AB Switch				8,29,458.57
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				1,35,006.46
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				78,169.30
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				13,52,460.20
Q				**Gross Total Material +Services**	**26,96,115.87**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				450.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,575.00**
V	GST @ 18% on Total Inspection Fees (U)				283.50
W	Total Inspection Fees including GST (U+V)				1,858.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**26,97,974.37**

Part C: Refubrishment of 11KV Line length of 2.5 CKM using 100 SQMM XLPE covered AAAC and 11 mtr WPB Pole					
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)				2	
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,952.80
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,63,166.18**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,80,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,80,065.77**
O				CESS 1% of N	1,800.66
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,81,866.43**
No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				1	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00

14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**61,905.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**11,143.00**
A				**Total landed Cost (A=A1 + A2)**	**73,048.53**
B				Stock, Storage & Insurance i.e 3% of A	2,191.46
C				**Sub Total (A+B)**	**75,239.99**
D				Contigency @ 3% of C	2,257.20
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,362.06
F				Transportation @ 7.5% of C	5,643.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,305.71
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**89,560.26**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**1,00,725.86**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**1,00,725.86**
O				CESS 1% of N	1,007.26
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**1,01,733.12**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		0.7		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	11	3,17,185.00
2	11 KV V cross Arm(GI)	EA	851.00	11	9,361.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	11	891.00
4	Danger Plate	EA	180.00	11	1,980.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	16.94	1,321.32
6	GI barbed wire anticlimbing device	KG	74.00	33.00	2,442.00
7	11 KV pin insulator polymer	EA	140.00	33	4,620.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	33	3,630.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	22	4,840.00
10	Earthing of Support (Coil Type)	EA	164.00	11	1,804.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	15.09	1,116.81
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	2163.00	2,83,353.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	0	-
A1				**Total Cost of materials**	**6,32,544.13**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,13,857.94**
A				**Total landed Cost (A=A1 + A2)**	**7,46,402.07**
B				Stock, Storage & Insurance i.e 3% of A	22,392.06
C				**Sub Total (A+B)**	**7,68,794.13**
D				Contigency @ 3% of C	23,063.82
E				Tools & Plants @ 2% of C	15,375.88
F				Transportation @ 7.5% of C	57,659.56
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	19,275.33
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	38,328.75
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**9,22,497.48**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.95	32,911.81
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.24	8,227.95
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	11	9,196.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	11	3,116.74
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.7	7,329.00
K1				**Total Civil & Services**	**60,781.50**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,940.67**
K				**Total landed Cost (K=K1+ K2)**	**71,722.17**

L	**Total Material+Services (J+K)**	9,94,219.65
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**9,94,219.65**
O	CESS 1% of N	9,942.20
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**10,04,161.85**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,81,866.43
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	1,01,733.12
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	10,04,161.85
Q	**Gross Total Material +Services**	**12,87,761.39**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	-
T	Inspection Fee of Drawing Checking and Approval	-
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**12,88,203.89**

Annexure-12.25		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		NYED
Name of the Sub-Division : -		Nayagarh
Name of the Section : -		Nayagarh
11kV feeder name : -		11kV Similisahi feeder
Name of the Work :-		Proposal for construction of a 0.04 CKM interlinking line between the 11 kV Similisahi Feeder and the 11 kV Old Town Feeder for reliability improvement and length reduction.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.04 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point A-B)	4,31,129.50
2	**Total Gross**	**4,31,129.50**
Total estimated cost is Rs. 0.04 Cr.		

PART A: Construction of 0.04 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor. (Refer PSLD point A-B)					
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,42,643.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**43,675.78**
A				**Total landed Cost (A=A1 + A2)**	**2,86,319.01**
B				Stock, Storage & Insurance i.e 3% of A	8,589.57
C				**Sub Total (A+B)**	**2,94,908.58**
D				Contigency @ 3% of C	8,847.26
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,200.82
F				Transportation @ 7.5% of C	22,118.14
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,985.69
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,50,069.71**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,10,623.05**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,10,623.05**
O				CESS 1% of N	4,106.23
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,14,729.28**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				0.04	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	100 sq.mm AAA conductor	M	78.41	123.60	9,691.48
A1				**Total Cost of materials**	**9,691.48**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,744.47**
A				**Total landed Cost (A=A1 + A2)**	**11,435.94**
B				Stock, Storage & Insurance i.e 3% of A	343.08
C				**Sub Total (A+B)**	**11,779.02**
D				Contigency @ 3% of C	353.37
E				Tools & Plants @ 2% of C	235.58
F				Transportation @ 7.5% of C	883.43
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,177.90

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**14,429.30**
	Civil & Services				
1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.04	418.80
K1	**Total Civil & Services**				**418.80**
K2	**Applicable Taxes to make it Landed Cost @18%**				**75.38**
K	**Total landed Cost (K=K1+ K2)**				**494.18**
L	**Total Material+Services (J+K)**				14,923.48
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**14,923.48**
O	CESS 1% of N				149.23
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**15,072.72**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP With AB Switch				4,14,729.28
2	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				15,072.72
Q	**Gross Total Material +Services**				**4,29,802.00**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				-
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**4,31,129.50**

ANNEXURE-12.26		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CDD-1	
Name of the Sub-Division : -	RANIHAT	
Name of the Section : -	JOBRA	
Name of the Work :-	Proposal for refurbishment of 1 CKM O/H line of 11 kV collage square Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction New Line of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD C-D)	12,24,651.09
2	Part B: Dismantling	22,525.02
	Total Amount	**12,47,176.11**
	Total Amount (In Cr.)	**0.12**
Total estimated cost is Rs. 0.12 Crore. (On TPCODL Capex Scheme)		

PART A: Construction New Line of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD C-D)

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Quantity for 1 No's CP***	***No. of Cut Point Requirment***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	1	1	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	35.81	1	78.00	35.8	2,793.34
3	Danger Plate	EA	1	1	180.00	1	180.00
4	H.T. Stay clamp	EA	1	1	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1	1	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	1	1	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	15	1	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	3	1	74.00	3	222.00
9	11 KV pin insulator polymer	EA	3	1	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	3	1	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	6	1	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	6	1	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	6	1	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	1	1	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	10.00	1	74.00	9.996	739.70
A1						**Total Cost of materials**	**55,820.04**
A2						**Applicable Taxes to make it Landed Cost @18%**	**10,047.61**
A						**Total landed Cost (A=A1 + A2)**	**65,867.65**
B						Stock, Storage & Insurance i.e 3% of A	1,976.03
C						**Sub Total (A+B)**	**67,843.68**
D						Contigency @ 3% of C	2,035.31
E						Tools & Plants @ 2% of C	1,285.51
F						Transportation @ 7.5% of C	5,088.28
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,922.92
I						Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J						**Sum of (C to I)**	**80,927.99**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Quantity for 1 No's CP***	***No. of Cut Point Requirment***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.4500	1	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.1125	1	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	1	1	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	1.000	1	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	1.000	1	283.34	1.00	283.34
K1						**Total Civil & Services**	**7,160.84**
K2						**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K						**Total landed Cost (K=K1+ K2)**	**8,449.79**
L						**Total (J+K)**	**89,377.79**
M						Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N						**Sub-Total (L+M)**	**89,377.79**
O						CESS 1% of N	893.78
P						**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**90,271.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Quantity for 1 No's CP***	***No. of Cut Point Requirment***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	1	1	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	67.34	1	78.00	67.344	5,252.83
3	Danger Plate	EA	1	1	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	3	1	74.00	3	222.00
5	11 KV pin insulator polymer	EA	4	1	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	4	1	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	6	1	550.00	6	3,300.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	2	0	220.00	0	-
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	6	1	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	6	1	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	1	1	164.00	1	164.00
12	H.T. Stay clamp	EA	2	1	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	2	1	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	2	1	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	30	1	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	10.00	1	74.00	9.996	739.70
A1						**Total Cost of materials**	**61,465.54**
A2						**Applicable Taxes to make it Landed Cost @18%**	**11,063.80**
A						**Total landed Cost (A=A1 + A2)**	**72,529.33**
B						Stock, Storage & Insurance i.e 3% of A	2,175.88
C						**Sub Total (A+B)**	**74,705.21**
D						Contigency @ 3% of C	2,241.16
E						Tools & Plants @ 2% of C (Except HT Stay Set)	1,351.37
F						Transportation @ 7.5% of C	5,602.89
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,252.23
I						Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-

J						**Sum of (C to I)**	**88,905.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Quantity for 1 No's CP*	*No. of Cut Point Requirment*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2	1	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.45	1	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.11	1	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	1.000	1	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	1.000	1	283.34	1.00	283.34
K1						**Total Civil & Services**	**9,462.37**
K2						**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K						**Total landed Cost (K=K1+ K2)**	**11,165.59**
L						**Total (J+K)**	**1,00,070.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)						
N						**Sub-Total (L+M)**	**1,00,070.76**
O						CESS 1% of N	1,000.71
P						**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**1,01,071.46**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		1				

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Quantity for 1 KM Line*	*For Circuit Km*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	21	1.0	28,835.00	8	2,30,680.00
2	11 KV V cross Arm(GI)	EA	21	1.0	851.00	8	6,808.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	21	1.0	81.00	8	648.00
4	Danger Plate	EA	21	1.0	180.00	8	1,440.00
5	Back Clamp for danger Plate and barbed wire	KG	32.38	1.00	78.00	12.32	960.96
6	GI barbed wire anticlimbing device	KG	63	1.0	74.00	24.00	1,776.00
7	11 KV pin insulator polymer	EA	63	1.0	140.00	24	3,360.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	63	1.0	110.00	24	2,640.00
10	Earthing of Support (Coil Type)	EA	21	1.0	164.00	8	1,312.00
11	GI Nut , Bolt & Washer of different sizes	KG	29	1.0	74.00	10.98	812.22
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	3.09	1.0	131.00	3090.00	4,04,790.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	3	1.0	450.00	3	1,350.00
A1						**Total Cost of materials**	**6,56,577.18**
A2						**Applicable Taxes to make it Landed Cost @18%**	**1,18,183.89**
A						**Total landed Cost (A=A1 + A2)**	**7,74,761.08**
B						Stock, Storage & Insurance i.e 3% of A	23,242.83
C						**Sub Total (A+B)**	**7,98,003.91**
D						Contigency @ 3% of C	23,940.12
E						Tools & Plants @ 2% of C	15,960.08
F						Transportation @ 7.5% of C	59,850.29
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)						14,018.42
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)						51,763.54
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)						-
J						**Sum of (C to I)**	**9,63,536.37**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	9.45	1	6,648.85	3.60	23,935.86
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	2.36	1	6,648.85	0.90	5,983.97
3	GIS Mapping, indexing/numbering of Poles	EA	21	1	836.00	8	6,688.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	21	1	283.34	8	2,266.72
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	1	10,470.00	1	10,470.00
K1						**Total Civil & Services**	**49,344.55**
K2						**Applicable Taxes to make it Landed Cost @18%**	**8,882.02**
K						**Total landed Cost (K=K1+ K2)**	**58,226.56**
L						**Total Material+Services (J+K)**	10,21,762.93
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)						
N						**Sub-Total (L+M)**	**10,21,762.93**
O						CESS 1% of N	10,217.63
P						**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**10,31,980.56**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,271.56
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	1,01,071.46
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	10,31,980.56
Q	**Gross Total Material +Services**	**12,23,323.59**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)	202.50
W	Total Inspection Fees including GST (U+V)	1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**12,24,651.09**

Part B: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	2700	7.00	18,900.00

A1	**Sub Total (Civil Portion) (in Rs.)**	**18,900.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**3,402.00**
A	**Total landed Cost (A=A1+ A2)**	**22,302.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C	**Gross Total Estimated Cost i.e. (A+B)**	22,302.00
D	**CESS @ 1% of C**	223.02
E	**Grand Total (C+D)**	22,525.02

Part B: Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	4200	7.00	29,400.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**29,400.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,292.00**
A				**Total landed Cost (A=A1+ A2)**	**34,692.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	34,692.00
D				**CESS @ 1% of C**	346.92
E				**Grand Total (C+D)**	35,038.92

ANNEXURE-12.28		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CDD-2	
Name of the Sub-Division : -	Jobra	
Name of the Section : -	Kandarpur	
Name of the Work :-	Proposal for refurbishment of 1.8 CKM O/H line of 11 kV AIR Fdr. along with construction of 2.26 CKM new line for reliability improvement & safety issue mitigation.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 2.32 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B-C)	48,17,763.57
2	PART B: Construction of 1.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)	25,25,419.44
3	PART C: Installation 02 Nos of 11 kV line protecting guarding on single pole for canal crossing having span 30 Mtr. each (Refer PSLD)	58,688.63
4	PART D: Installation 01 No of 11 kV line protecting guarding on DP for canal crossing (Refer PSLD)	33,364.17
5	PART E: Dismantling of Materials	1,45,399.60
6	**Total Amount**	**75,80,635.41**
	Total Amount (In Cr.)	**0.76**
Total estimated cost is Rs. 0.76 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 2.32 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B-C)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00

10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
14	Earthing of Support (Coil Type)	EA	164.00	2	328.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,11,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**1,31,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06
C				**Sub Total (A+B)**	**1,35,687.35**
D				Contigency @ 3% of C	4,070.62
E				Tools & Plants @ 2% of C	2,571.01
F				Transportation @ 7.5% of C	10,176.55
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,61,855.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,78,755.57**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N				**Sub-Total (L+M)**	**1,78,755.57**
O				CESS 1% of N	1,787.56
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,80,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,84,396.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,191.39**
A				**Total landed Cost (A=A1 + A2)**	**2,17,588.00**
B				Stock, Storage & Insurance i.e 3% of A	6,527.64
C				**Sub Total (A+B)**	**2,24,115.64**
D				Contigency @ 3% of C	6,723.47
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,054.10
F				Transportation @ 7.5% of C	16,808.67
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,756.70
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,66,715.49**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,00,212.27**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**3,00,212.27**
O				CESS 1% of N	3,002.12
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**3,03,214.39**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		2.32		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	52	14,99,420.00
2	11 KV V cross Arm(GI)	EA	851.00	52	44,252.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	52	4,212.00
4	Danger Plate	EA	180.00	52	9,360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	80.08	6,246.24
6	GI barbed wire anticlimbing device	KG	74.00	156.00	11,544.00
7	11 KV pin insulator polymer	EA	140.00	156	21,840.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	156	17,160.00
9	Earthing of Support (Coil Type)	EA	164.00	52	8,528.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	71.34	5,279.46
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	7168.80	9,39,112.80
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**25,69,654.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,62,537.81**
A				**Total landed Cost (A=A1 + A2)**	**30,32,192.31**
B				Stock, Storage & Insurance i.e 3% of A	90,965.77
C				**Sub Total (A+B)**	**31,23,158.07**
D				Contigency @ 3% of C	93,694.74
E				Tools & Plants @ 2% of C	62,463.16
F				Transportation @ 7.5% of C	2,34,236.86
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				91,119.75
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,30,076.30
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**37,34,748.89**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	23.40	1,55,583.09
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.85	38,895.77
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	52	43,472.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	52	14,733.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.32	24,290.40
K1				**Total Civil & Services**	**2,76,974.94**
K2				**Applicable Taxes to make it Landed Cost @18%**	**49,855.49**
K				**Total landed Cost (K=K1+ K2)**	**3,26,830.43**
L				**Total Material+Services (J+K)**	40,61,579.32
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**40,61,579.32**
O				CESS 1% of N	40,615.79
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**41,02,195.11**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	2,30,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,80,543.13
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	3,03,214.39
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	41,02,195.11
Q	**Gross Total Material +Services**	**48,16,085.61**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	297.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,422.00**

V	GST @ 18% on Total Inspection Fees (U)	255.96
W	Total Inspection Fees including GST (U+V)	1,677.96
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**48,17,763.57**

PART B: Construction of 1.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Quantity for 1 No's CP***	***No. of Cut Point Requirment***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	1	2	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	35.81	2	78.00	71.6	5,586.67
3	Danger Plate	EA	1	2	180.00	2	360.00
4	H.T. Stay clamp	EA	1	2	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1	2	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	1	2	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	15	2	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	3	2	74.00	6	444.00
9	11 KV pin insulator polymer	EA	3	2	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	3	2	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	6	2	550.00	12	6,600.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	6	2	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	6	2	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	1	2	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	10.00	2	74.00	19.992	1,479.41
A1						**Total Cost of materials**	**1,11,640.08**
A2						**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A						**Total landed Cost (A=A1 + A2)**	**1,31,735.29**
B						Stock, Storage & Insurance i.e 3% of A	3,952.06
C						**Sub Total (A+B)**	**1,35,687.35**
D						Contigency @ 3% of C	4,070.62
E						Tools & Plants @ 2% of C	2,571.01
F						Transportation @ 7.5% of C	10,176.55
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I						Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J						**Sum of (C to I)**	**1,61,855.98**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Quantity for 1 No's CP***	***No. of Cut Point Requirment***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.4500	2	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.1125	2	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	1	2	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	1.000	2	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	1.000	2	283.34	2.00	566.68
K1						**Total Civil & Services**	**14,321.69**
K2						**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K						**Total landed Cost (K=K1+ K2)**	**16,899.59**
L						**Total (J+K)**	**1,78,755.57**
M						Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N						**Sub-Total (L+M)**	**1,78,755.57**
O						CESS 1% of N	1,787.56
P						**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,80,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Quantity for 1 No's CP***	***No. of Cut Point Requirment***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	1	2	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	67.34	2	78.00	134.688	10,505.66
3	Danger Plate	EA	1	2	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	3	2	74.00	6	444.00
5	11 KV pin insulator polymer	EA	4	2	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	4	2	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	6	2	550.00	12	6,600.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	6	2	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	6	2	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	1	2	164.00	2	328.00
12	H.T. Stay clamp	EA	2	2	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	2	2	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	2	2	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	30	2	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	10.00	2	74.00	19.992	1,479.41
A1						**Total Cost of materials**	**1,22,931.07**
A2						**Applicable Taxes to make it Landed Cost @18%**	**22,127.59**
A						**Total landed Cost (A=A1 + A2)**	**1,45,058.66**
B						Stock, Storage & Insurance i.e 3% of A	4,351.76
C						**Sub Total (A+B)**	**1,49,410.42**
D						Contigency @ 3% of C	4,482.31
E						Tools & Plants @ 2% of C (Except HT Stay Set)	2,702.74
F						Transportation @ 7.5% of C	11,205.78
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	6,504.46
I						Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J						**Sum of (C to I)**	**1,77,810.33**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Quantity for 1 No's CP*	*No. of Cut Point Requirment*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2	2	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.45	2	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.11	2	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	1.000	2	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	1.000	2	283.34	2.00	566.68
K1						**Total Civil & Services**	**18,924.74**
K2						**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K						**Total landed Cost (K=K1+ K2)**	**22,331.19**
L						**Total (J+K)**	**2,00,141.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)						
N						**Sub-Total (L+M)**	**2,00,141.51**
O						CESS 1% of N	2,001.42
P						**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,02,142.93**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.8

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Quantity for 1 KM Line*	*For Circuit Km*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	21	1.8	28,835.00	20	5,76,700.00
2	11 KV V cross Arm(GI)	EA	21	1.8	851.00	20	17,020.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	21	1.8	81.00	20	1,620.00
4	Danger Plate	EA	21	1.8	180.00	20	3,600.00
5	Back Clamp for danger Plate and barbed wire	KG	32.38	1.80	78.00	30.80	2,402.40
6	GI barbed wire anticlimbing device	KG	63	1.8	74.00	60.00	4,440.00
7	11 KV pin insulator polymer	EA	63	1.8	140.00	60	8,400.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	63	1.8	110.00	60	6,600.00
10	Earthing of Support (Coil Type)	EA	21	1.8	164.00	20	3,280.00
11	GI Nut , Bolt & Washer of different sizes	KG	29	1.8	74.00	27.44	2,030.56
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	3.09	1.8	131.00	5562.00	7,28,622.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	3	1.8	450.00	3	1,350.00
A1						**Total Cost of materials**	**13,56,064.96**
A2						**Applicable Taxes to make it Landed Cost @18%**	**2,44,091.69**
A						**Total landed Cost (A=A1 + A2)**	**16,00,156.65**
B						Stock, Storage & Insurance i.e 3% of A	48,004.70
C						**Sub Total (A+B)**	**16,48,161.35**
D						Contigency @ 3% of C	49,444.84
E						Tools & Plants @ 2% of C	32,963.23
F						Transportation @ 7.5% of C	1,23,612.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)						35,046.06
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)						94,724.02
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)						-
J						**Sum of (C to I)**	**19,83,951.60**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	9.45	2	6,648.85	9.00	59,839.65
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	2.36	2	6,648.85	2.25	14,959.91
3	GIS Mapping, indexing/numbering of Poles	EA	21	2	836.00	20	16,720.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	21	2	283.34	20	5,666.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	2	10,470.00	1.8	18,846.00
K1						**Total Civil & Services**	**1,16,032.36**
K2						**Applicable Taxes to make it Landed Cost @18%**	**20,885.83**
K						**Total landed Cost (K=K1+ K2)**	**1,36,918.19**
L						**Total Material+Services (J+K)**	21,20,869.79
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)						
N						**Sub-Total (L+M)**	**21,20,869.79**
O						CESS 1% of N	21,208.70
P						**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**21,42,078.48**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,80,543.13
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,02,142.93
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	21,42,078.48
Q	**Gross Total Material +Services**	**25,24,764.54**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	180.00
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**555.00**
V	GST @ 18% on Total Inspection Fees (U)	99.90
W	Total Inspection Fees including GST (U+V)	654.90
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**25,25,419.44**

PART C: Installation 02 Nos of 11 kV line protecting guarding on single pole for canal crossing having span 30 Mtr. each (Refer PSLD)

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	9.825	766.35
3	No-8 GI wire for guard wire	KG	78.00	46.08	3,594.24
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**27,539.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,957.04**
A				**Total landed Cost (A=A1 + A2)**	**32,496.16**
B				Stock, Storage & Insurance i.e 3% of A	974.88
C				**Sub Total (A+B)**	**33,471.05**
D				Contigency @ 3% of C	1,004.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	543.02
F				Transportation @ 7.5% of C	2,510.33
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,715.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**40,243.63**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	58,107.55
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**58,107.55**
O				Total CESS @ 1% of (N)	581.08
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**58,688.63**

PART D: Installation 01 No of 11 kV line protecting guarding on DP for canal crossing (Refer PSLD)

No. of 11 KV Line Protecting Guarding	1
Length of 11 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road CrossingRef. Drawing No.- PD-1346-TPCODL-COM-LINE-8041)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	149.519	11,662.48
2	No-10 GI wire for lacing	KG	78.00	4.9125	383.18
3	No-8 GI wire for guard wire	KG	78.00	23.04	1,797.12
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1				**Total Cost of materials**	**16,442.78**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,959.70**
A				**Total landed Cost (A=A1 + A2)**	**19,402.48**
B				Stock, Storage & Insurance i.e 3% of A	582.07
C				**Sub Total (A+B)**	**19,984.55**
D				Contigency @ 3% of C	599.54
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	336.49
F				Transportation @ 7.5% of C	1,498.84
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,682.45
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**24,101.87**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1				**Total Civil & Services**	**7,569.46**
K2				Applicable Taxes to make it Landed Cost @18%	1,362.50
K				**Total landed Cost (K=K1+ K2)**	**8,931.96**
L				**Total (J+K)**	33,033.83
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**33,033.83**
O				Total CESS @ 1% of (N)	330.34
P				**Gross Total Material +Services (N+O) for 11 KV DP With Road crossing Guarding**	**33,364.17**

PART E: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	40	950.00	38,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	12000	7.00	84,000.00

ANNEXURE-12.29		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	AED	
Name of the Sub-Division : -	NARSINGHPUR	
Name of the Section : -	BADAMBA	
Name of the Work :-	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV Badamba town Fdr. along with construction of 0.08 CKM U/G line for N-1 connectivity between 11 kV Badamba town & Badabarsingha FDR .	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,D-E) 2. Installation of 01 No. AB Switch in existing DP (Refer PSLD)	8,56,654.01
2	Part B:Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 80 MTR Without Spare . (Refer Proposed SLD point C-D,F-G)	6,78,701.82
3	Part C: Dismantling	12,513.90
4	**Total Amount**	**15,47,869.74**
	Total Amount (In Cr.)	**0.15**
Total estimated cost is Rs. 0.15 Crore. (On TPCODL Capex Scheme)		

PART A:

1. Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,D-E)

2. Installation of 01 No. AB Switch in existing DP (Refer PSLD)

MATERIALS OF LA& AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	GI Channel, angle & flat of different size	KG	78.00	258.305	20,147.79
2	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
3	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
4	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
5	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
6	GI Nut , Bolt & Washer of different sizes	KG	74.00	5	370.00
A1				**Total Cost of materials**	**49,357.79**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,884.40**
A				**Total landed Cost (A=A1 + A2)**	**58,242.19**
B				Stock, Storage & Insurance i.e 3% of A	1,747.27
C				**Sub Total (A+B)**	**59,989.46**
D				Contigency @ 3% of C	1,799.68
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	1,073.39
F				Transportation @ 7.5% of C	4,499.21
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,366.94
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**72,728.68**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,725.01**
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	**90,592.60**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**90,592.60**
O				CESS 1% of N	905.93
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**91,498.53**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20
F				Transportation @ 7.5% of C	5,128.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,976.40
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**81,583.09**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53

4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**90,032.89**
O				CESS 1% of N	900.33
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**90,933.22**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.5	

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	7	2,01,845.00
2	11 KV V cross Arm(GI)	EA	851.00	7	5,957.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	7	567.00
4	Danger Plate	EA	180.00	7	1,260.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	10.78	840.84
6	GI barbed wire anticlimbing device	KG	74.00	21.00	1,554.00
7	11 KV pin insulator polymer	EA	140.00	21	2,940.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	21	2,310.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	14	3,080.00
10	Earthing of Support (Coil Type)	EA	164.00	7	1,148.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.60	710.70
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	1545.00	2,02,395.00
A1				**Total Cost of materials**	**4,24,607.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**76,429.36**
A				**Total landed Cost (A=A1 + A2)**	**5,01,036.89**
B				Stock, Storage & Insurance i.e 3% of A	15,031.11
C				**Sub Total (A+B)**	**5,16,068.00**
D				Contigency @ 3% of C	15,482.04
E				Tools & Plants @ 2% of C	10,321.36
F				Transportation @ 7.5% of C	38,705.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				12,266.12
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				27,074.56
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**6,19,917.18**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.15	20,943.88
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.79	5,235.97
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	7	5,852.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	7	1,983.38
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.5	5,235.00
K1				**Total Civil & Services**	**39,250.23**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,065.04**
K				**Total landed Cost (K=K1+ K2)**	**46,315.27**
L				**Total Material+Services (J+K)**	6,66,232.45
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**6,66,232.45**
O				CESS 1% of N	6,662.32
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**6,72,894.77**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP With AB Switch				91,498.53
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				90,933.22
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				6,72,894.77
Q				**Gross Total Material +Services**	**8,55,326.51**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**8,56,654.01**

Part B:Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 80 MTR Without Spare . (Refer Proposed SLD point C-D,F-G)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***			
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***80***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	80	2,375.00	1,90,000.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
	Sub Total (Supply Portion) (in Rs.)				**1,95,800.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	80	110.00	8,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	80	2,970.00	2,37,600.00
	Sub Total (Erection Portion) (in Rs.)				**2,50,400.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Road Repair and restoration charges	KM	0.01	92,94,727.82	92,947.28
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.08	10,470.00	837.60
	Sub Total (Civil Portion) (in Rs.)				**95,855.22**

A1	**Sub Total (Supply Portion)**	**1,95,800.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**35,244.00**
A	**Total Landed Cost (A=A1 + A2)**	**2,31,044.00**
B	Stock, Storage & Insurance @ 3 % of A	6,931.32
C	**Sub Total (A+B)**	**2,37,975.32**
D	Contingency @ 3 % of C	7,139.26
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	17,848.15
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**2,62,962.73**
I1	Sub Total (Erection Portion + Civil Portion)	3,46,255.22
I2	**Applicable Taxes to make it Landed Cost @18%**	**62,325.94**
I	**Total landed Cost (I=I1+ I2)**	**4,08,581.16**
J	**Total Cost (H+I)**	**6,71,543.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**6,71,543.89**
M	CESS 1% of L	6,715.44
N	**Grand Total (L+M)**	**6,78,259.32**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**6,78,701.82**

Part C: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	1500	7.00	10,500.00

A1	**Sub Total (Civil Portion) (in Rs.)**	**10,500.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,890.00**
A	**Total landed Cost (A=A1+ A2)**	**12,390.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C	**Gross Total Estimated Cost i.e. (A+B)**	12,390.00
D	**CESS @ 1% of C**	123.90
E	**Grand Total (C+D)**	12,513.90

ANNEXURE-12.30		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	AED	
Name of the Sub-Division : -	ATHAGARH	
Name of the Section : -	TIGIRIA	
Name of the Work :-	Proposal for refurbishment of 3 CKM O/H line of 11 kV panchgaon Fdr from 55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B)	39,94,222.12
2	Part B: Dismantling	97,727.60
	Total Amount	**40,91,949.72**
	Total Amount (In Cr.)	**0.41**
Total estimated cost is Rs. 0.41 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00

19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,37,342.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,721.67**
A				**Total landed Cost (A=A1 + A2)**	**1,62,064.28**
B				Stock, Storage & Insurance i.e 3% of A	4,861.93
C				**Sub Total (A+B)**	**1,66,926.21**
D				Contigency @ 3% of C	5,007.79
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,989.85
F				Transportation @ 7.5% of C	12,519.47
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	) (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,940.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,98,887.96**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,29,164.63**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**2,29,164.63**
O				CESS 1% of N	2,291.65
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,31,456.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,68,780.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,380.42**
A				**Total landed Cost (A=A1 + A2)**	**1,99,160.54**
B				Stock, Storage & Insurance i.e 3% of A	5,974.82
C				**Sub Total (A+B)**	**2,05,135.36**
D				Contigency @ 3% of C	6,154.06
E				Tools & Plants @ 2% of C	3,888.60
F				Transportation @ 7.5% of C	15,385.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H	) (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,929.19
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,44,749.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,70,098.66**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,70,098.66**

O	CESS 1% of N				2,700.99
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**2,72,799.65**
	No. of Cut Point with 90 Degree Angle		3		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				
	MATERIALS FOR 11 KV Cut Point with 90 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1	**Total Cost of materials**				**1,85,716.61**
A2	**Applicable Taxes to make it Landed Cost @18%**				**33,428.99**
A	**Total landed Cost (A=A1 + A2)**				**2,19,145.60**
B	Stock, Storage & Insurance i.e 3% of A				6,574.37
C	**Sub Total (A+B)**				**2,25,719.97**
D	Contigency @ 3% of C				6,771.60
E	Tools & Plants @ 2% of C (Except HT Stay Set)				4,086.19
F	Transportation @ 7.5% of C				16,929.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	Erection Charges @ 10% of (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,917.13
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**2,68,680.79**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1	**Total Civil & Services**				**28,387.10**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,109.68**
K	**Total landed Cost (K=K1+ K2)**				**33,496.78**
L	**Total (J+K)**				**3,02,177.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**3,02,177.57**
O	CESS 1% of N				3,021.78
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**3,05,199.35**
	11 Kv Line Length In KM with 40 Mtr. Span		3		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	22	6,34,370.00
2	11 KV V cross Arm(GI)	EA	851.00	22	18,722.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	22	1,782.00
4	Danger Plate	EA	180.00	22	3,960.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	33.88	2,642.64
6	GI barbed wire anticlimbing device	KG	74.00	66.00	4,884.00
7	11 KV pin insulator polymer	EA	140.00	66	9,240.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	66	7,260.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	44	9,680.00
10	Earthing of Support (Coil Type)	EA	164.00	22	3,608.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	30.18	2,233.62
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	9270.00	12,14,370.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	9	4,050.00
A1	**Total Cost of materials**				**19,16,802.26**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,45,024.41**
A	**Total landed Cost (A=A1 + A2)**				**22,61,826.66**
B	Stock, Storage & Insurance i.e 3% of A				67,854.80
C	**Sub Total (A+B)**				**23,29,681.46**
D	Contigency @ 3% of C				69,890.44
E	Tools & Plants @ 2% of C				46,593.63

F				Transportation @ 7.5% of C	1,74,726.11
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	38,550.66
H				(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,55,866.82
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**28,15,309.13**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.90	65,823.62
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.48	16,455.90
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	22	18,392.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	22	6,233.48
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**1,38,315.00**
K2				**Applicable Taxes to make it Landed Cost @18%**	**24,896.70**
K				**Total landed Cost (K=K1+ K2)**	**1,63,211.70**
L				**Total Material+Services (J+K)**	29,78,520.82
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**29,78,520.82**
O				CESS 1% of N	29,785.21
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**30,08,306.03**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	1,74,602.31
2				Gross Total Material +Services (N+O) for DP With AB Switch	2,31,456.28
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	2,72,799.65
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	3,05,199.35
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	30,08,306.03
Q				**Gross Total Material +Services**	**39,92,363.62**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	450.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,575.00**
V				GST @ 18% on Total Inspection Fees (U)	283.50
W				Total Inspection Fees including GST (U+V)	1,858.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**39,94,222.12**

Part B: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	20	950.00	19,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	9000	7.00	63,000.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**82,000.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**14,760.00**
A	**Total landed Cost (A=A1+ A2)**				**96,760.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				96,760.00
D	**CESS @ 1% of C**				967.60
E	**Grand Total (C+D)**				97,727.60

ANNEXURE-12.31		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	ERKANA	
Name of the Work :-	Proposal for bifurcation of 11 kV Laxminarayanpur Fdr by constraction of 01 No. of new 11 kV Indoor Bay at 33/11 kV Erkana PSS.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of One No. of 11 KV Line Bay (indoor) at 33/11 kV Erkana PSS (Refer PSLD)	27,90,844.25
2	PART B: Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Erkana PSS (DC Voltage- 48 V) (Refer PSLD)	3,15,854.45
3	PART C: Supply and laying of 11 kV 3C X 400 sqmm XLPE UG cable of 80 Mtr. length without spare at 33/11 kV ERKANA PSS.(Refer PSLD). (In existing RCC trench)	2,90,443.70
	Total Amount	**33,97,142.41**
	Total Amount (In Cr.)	**0.34**
Total estimated cost is Rs. 0.34 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of One No. of 11 KV Line Bay (indoor) at 33/11 kV Erkana PSS (Refer PSLD)

No. of Bay requirement (Indoor)	1

MATERIALS OF 11 kV Bay

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
2	GI Flat	KG	78.00	70.8	5,522.40
3	Supply of 11 kV extension Panel (O/G Feeder) as per the existing drawing (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	18,00,000.00	1	18,00,000.00
4	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**18,15,511.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,26,792.07**
A				**Total landed Cost (A=A1 + A2)**	**21,42,303.58**
B				Stock, Storage & Insurance i.e 3% of A	64,269.11
C				**Sub Total (A+B)**	**22,06,572.69**
D				Contigency @ 3% of C	66,197.18
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	44,068.25
F				Transportation @ 7.5% of C	1,65,492.95
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,09,386.00
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,569.26
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**25,93,286.34**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
2	**RCC Cable Trench :**	Qty			
2.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	17.25	4,002.00
2.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	1.15	1,702.00
2.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	1.15	5,784.50
2.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	2.3	17,250.00
2.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	2.1	15,750.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	28	7,560.00
2.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	495.7	50,561.40
2.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	0.6	4,770.00
2.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	265.1	27,570.40
K1				**Total Civil & Services**	**1,42,519.76**
K2				**Applicable Taxes to make it Landed Cost @18%**	**25,653.56**
K				**Total landed Cost (K=K1+ K2)**	**1,68,173.32**
L				**Total (J+K)**	**27,61,459.66**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**27,61,459.66**

O	CESS 1% of (N)	27,614.60
P	**Total (N+O)**	27,89,074.25
Q	Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R	GST @ 18% on Total Inspection Fees (Q)	270.00
S	Total Inspection Fees including GST (Q+R)	1,770.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**27,90,844.25**

PART B: Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Erkana PSS (DC Voltage- 48 V) (Refer PSLD)

No. of DP required With Isolator with earth switch	1

MATERIALS OF DP With Isolator with earth switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (48 V)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,93,467.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**34,824.17**
A				**Total landed Cost (A=A1 + A2)**	**2,28,291.78**
B				Stock, Storage & Insurance i.e 3% of A	6,848.75
C				**Sub Total (A+B)**	**2,35,140.54**
D				Contigency @ 3% of C	7,054.22
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,354.14
F				Transportation @ 7.5% of C	17,635.54
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,761.47
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,82,450.51**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**3,12,727.18**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**3,12,727.18**
O				CESS 1% of N	3,127.27
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,15,854.45**

PART C: Supply and laying of 11 kV 3C X 400 sqmm XLPE UG cable of 80 Mtr. length without spare at 33/11 kV ERKANA PSS.(Refer PSLD). (In existing RCC trench)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***80***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	80	2,375.00	1,90,000.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	1	8,260.00	8,260.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	1	2,900.00	2,900.00
	Sub Total (Supply Portion) (in Rs.)				**2,01,160.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	80	110.00	8,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
	Sub Total (Erection Portion) (in Rs.)				**12,800.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.08	10,470.00	837.60
	Sub Total (Civil Portion) (in Rs.)				**837.60**

A1	**Sub Total (Supply Portion)**	**2,01,160.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**36,208.80**
A	**Total Landed Cost (A=A1 + A2)**	**2,37,368.80**
B	Stock, Storage & Insurance @ 3 % of A	7,121.06
C	**Sub Total (A+B)**	**2,44,489.86**
D	Contingency @ 3 % of C	7,334.70
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	18,336.74
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**2,70,161.30**
I1	Sub Total (Erection Portion + Civil Portion)	13,637.60
I2	**Applicable Taxes to make it Landed Cost @18%**	**2,454.77**
I	**Total landed Cost (I=I1+ I2)**	**16,092.37**
J	**Total Cost (H+I)**	**2,86,253.67**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**2,86,253.67**
M	CESS 1% of L	2,862.54
N	**Grand Total (L+M)**	**2,89,116.20**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)	202.50
U	Total Inspection Fees including GST (S+T)	1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**2,90,443.70**

ANNEXURE-12.32		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	SALEPUR	
Name of the Work :-	Proposal for refurbishment of 1.5 CKM O/H line of 11 kV Bahugram Gopinathpur Fdr. Along with construction of 1.4 CKM new line for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Refurbishment of 1.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD D-E) 2.Construction of new 11 kV line of 1.4 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,B-C)	53,38,893.08
2	Part B: Dismantling	89,563.77
	Total Amount	**54,28,456.85**
	Total Amount (In Cr.)	**0.54**
Total estimated cost is Rs. 0.54 Crore. (On TPCODL Capex Scheme)		

PART A:

1. Refurbishment of 1.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD D-E)

2.Construction of new 11 kV line of 1.4 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD A-B,B-C)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**2,03,455.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,621.90**
A				**Total landed Cost (A=A1 + A2)**	**2,40,076.92**
B				Stock, Storage & Insurance i.e 3% of A	7,202.31
C				**Sub Total (A+B)**	**2,47,279.23**
D				Contigency @ 3% of C	7,418.38
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,533.71
F				Transportation @ 7.5% of C	18,545.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,650.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,93,436.60**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**3,43,126.74**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**3,43,126.74**
O				CESS 1% of N	3,431.27
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,46,558.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00

19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,67,460.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,142.82**
A				**Total landed Cost (A=A1 + A2)**	**1,97,602.94**
B				Stock, Storage & Insurance i.e 3% of A	5,928.09
C				**Sub Total (A+B)**	**2,03,531.03**
D				Contigency @ 3% of C	6,105.93
E				Tools & Plants @ 2% of C	3,856.52
F				Transportation @ 7.5% of C	15,264.83
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,768.76
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,42,783.97**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,68,133.36**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,68,133.36**
O				CESS 1% of N	2,681.33

P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**2,70,814.69**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		3		
	MATERIALS FOR 11 KV Cut Point with 90 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,84,396.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,191.39**
A				**Total landed Cost (A=A1 + A2)**	**2,17,588.00**
B				Stock, Storage & Insurance i.e 3% of A	6,527.64
C				**Sub Total (A+B)**	**2,24,115.64**
D				Contigency @ 3% of C	6,723.47
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,054.10
F				Transportation @ 7.5% of C	16,808.67
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,756.70
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,66,715.49**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,00,212.27**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**3,00,212.27**
O				CESS 1% of N	3,002.12
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**3,03,214.39**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		2.9		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	46	13,26,410.00
2	11 KV V cross Arm(GI)	EA	851.00	46	39,146.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	46	3,726.00
4	Danger Plate	EA	180.00	46	8,280.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	70.84	5,525.52
6	GI barbed wire anticlimbing device	KG	74.00	138.00	10,212.00
7	11 KV pin insulator polymer	EA	140.00	138	19,320.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	138	15,180.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	92	20,240.00
10	Earthing of Support (Coil Type)	EA	164.00	46	7,544.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	63.11	4,670.29
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	8961.00	11,73,891.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**26,36,844.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,74,632.07**
A				**Total landed Cost (A=A1 + A2)**	**31,11,476.87**
B				Stock, Storage & Insurance i.e 3% of A	93,344.31
C				**Sub Total (A+B)**	**32,04,821.18**
D				Contigency @ 3% of C	96,144.64
E				Tools & Plants @ 2% of C	64,096.42
F				Transportation @ 7.5% of C	2,40,361.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	80,605.94

H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,59,270.25
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**38,45,300.01**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	20.70	1,37,631.20
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.18	34,407.80
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	46	38,456.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	46	13,033.64
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.9	30,363.00
K1	**Total Civil & Services**				**2,53,891.63**
K2	**Applicable Taxes to make it Landed Cost @18%**				**45,700.49**
K	**Total landed Cost (K=K1+ K2)**				**2,99,592.13**
L	**Total Material+Services (J+K)**				41,44,892.14
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**41,44,892.14**
O	CESS 1% of N				41,448.92
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**41,86,341.06**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				3,46,558.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				2,30,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,70,814.69
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				3,03,214.39
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				41,86,341.06
Q	**Gross Total Material +Services**				**53,37,061.13**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				427.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,552.50**
V	GST @ 18% on Total Inspection Fees (U)				279.45
W	Total Inspection Fees including GST (U+V)				1,831.95
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**53,38,893.08**

Part B: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	15	950.00	14,250.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	8700	7.00	60,900.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**75,150.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**13,527.00**
A	**Total landed Cost (A=A1+ A2)**				**88,677.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				88,677.00
D	**CESS @ 1% of C**				886.77
E	**Grand Total (C+D)**				89,563.77

ANNEXURE-12.33		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	Salepur	
Name of the Section : -	ORIKANTA	
Name of the Work :-	Proposal for refurbishment of 4 CKM O/H line of 11 KV Orikanta Gopinathpur Fdr. using 100 Sq.mm AAA Conductor along with construction of 1 CKM 11 kV new line to improve reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of new 11 kV line of 1 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD A-B)	18,90,214.13
2	PART B: Refurbishment of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD B-C)	41,29,994.82
3	Part C: Dismantling	1,59,105.30
	Total Amount	**61,79,314.24**
	Total Amount (In Cr.)	**0.62**
Total estimated cost is Rs. 0.62 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of new 11 kV line of 1 CKM using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD A-B)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**1,73,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**2,04,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**2,10,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,48,350.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**2,98,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**2,98,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,01,021.34**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
12	Earthing of Support (Coil Type)	EA	164.00	1	164.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**40,679.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,322.23**
A				**Total landed Cost (A=A1 + A2)**	**48,001.27**
B				Stock, Storage & Insurance i.e 3% of A	1,440.04

C	**Sub Total (A+B)**	**49,441.31**
D	Contigency @ 3% of C	1,483.24
E	Tools & Plants @ 2% of C	917.46
F	Transportation @ 7.5% of C	3,708.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,082.68
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**58,385.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**66,834.88**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**66,834.88**
O	CESS 1% of N				668.35
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**67,503.23**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	10	210.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**46,235.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,322.40**
A	**Total landed Cost (A=A1 + A2)**				**54,557.93**
B	Stock, Storage & Insurance i.e 3% of A				1,636.74
C	**Sub Total (A+B)**				**56,194.67**
D	Contigency @ 3% of C				1,685.84
E	Tools & Plants @ 2% of C (Except HT Stay Set)				981.16
F	Transportation @ 7.5% of C				4,214.60
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,401.18
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**66,229.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**77,395.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**77,395.34**
O	CESS 1% of N				773.95
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**78,169.30**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	21	6,05,535.00
2	11 KV V cross Arm(GI)	EA	851.00	21	17,871.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	21	1,701.00
4	Danger Plate	EA	180.00	21	3,780.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	32.34	2,522.52
6	GI barbed wire anticlimbing device	KG	74.00	63.00	4,662.00
7	11 KV pin insulator polymer	EA	140.00	63	8,820.00
8	Earthing of Support (Coil Type)	EA	164.00	21	3,444.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	28.81	2,132.09
10	100 sq.mm AAA conductor	M	78.41	3090.00	2,42,286.90
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
12	POLYCARBONATE BIRD GUARD	EA	21.00	63	1,323.00
A1				**Total Cost of materials**	**8,94,603.26**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,61,028.59**
A				**Total landed Cost (A=A1 + A2)**	**10,55,631.84**
B				Stock, Storage & Insurance i.e 3% of A	31,668.96
C				**Sub Total (A+B)**	**10,87,300.80**
D				Contigency @ 3% of C	32,619.02
E				Tools & Plants @ 2% of C	21,746.02
F				Transportation @ 7.5% of C	81,547.56
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				36,798.36
H	(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				35,133.36
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**12,95,145.12**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.45	62,831.63
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.36	15,707.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	21	17,556.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	21	5,950.14
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**1,12,515.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**20,252.82**
K				**Total landed Cost (K=K1+ K2)**	**1,32,768.50**
L				**Total Material+Services (J+K)**	14,27,913.62
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**14,27,913.62**
O				CESS 1% of N	14,279.14
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**14,42,192.76**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				3,01,021.34
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				67,503.23
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				78,169.30
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				14,42,192.76
Q				**Gross Total Material +Services**	**18,88,886.63**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**18,90,214.13**

PART B: Refurbishment of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD B-C)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***No. of DP Requirment***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	2	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	2	358.338	27,950.36
3	Danger Plate	EA	2	4	720.00
4	H.T. Stay clamp	EA	2	4	1,040.00
5	H.T. Stay set (Complete)	SET	2	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	2	4	348.00
7	7/10 SWG Stay Wire	KG	2	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	2	4	5,200.00
9	GI barbed wire anticlimbing device	KG	2	12	888.00
10	11 KV pin insulator polymer	EA	2	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	2	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	2	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	2	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	2	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	2	23.144	1,712.66
A1				**Total Cost of materials**	**1,73,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**2,04,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**2,10,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,48,350.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***No. of DP Requirment***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	2	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	2	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	2	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	2	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**2,98,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**2,98,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,01,021.34**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***No. of DP Requirment***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	1	2	57,670.00
2	GI Channel, angle & flat of different size	KG	1	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	1	8	908.00
4	Danger Plate	EA	1	2	360.00
5	H.T. Stay clamp	EA	1	4	1,040.00
6	H.T. Stay set (Complete)	SET	1	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	1	4	348.00
8	7/10 SWG Stay Wire	KG	1	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1	2	2,600.00
10	GI barbed wire anticlimbing device	KG	1	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	1	1	10,972.00
13	11 KV pin insulator polymer	EA	1	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	1	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	1	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	1	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	1	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	1	11.036	816.66

A1	**Total Cost of materials**	**1,21,321.61**
A2	**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**
A	**Total landed Cost (A=A1 + A2)**	**1,43,159.50**
B	Stock, Storage & Insurance i.e 3% of A	4,294.79
C	**Sub Total (A+B)**	**1,47,454.29**
D	Contigency @ 3% of C	4,423.63
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F	Transportation @ 7.5% of C	11,059.07
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,992.85
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,75,034.86**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*No. of DP Requirment*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	1	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	1	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	1	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	1	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	1	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	1	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**2,05,311.53**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**2,05,311.53**
O	CESS 1% of N				2,053.12
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**2,07,364.64**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*No. of Cut Point Requirment*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	3	3	86,505.00
2	GI Channel, angle & flat of different size	KG	3	107.4	8,380.01
3	Danger Plate	EA	3	3	540.00
4	H.T. Stay clamp	EA	3	3	780.00
5	H.T. Stay set (Complete)	SET	3	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	3	3	261.00
7	7/10 SWG Stay Wire	KG	3	45	3,465.00
8	GI barbed wire anticlimbing device	KG	3	9	666.00
9	11 KV pin insulator polymer	EA	3	9	1,260.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	3	18	7,416.00
11	Disc insulator (B&S) 70 KN polymer	EA	3	18	2,700.00
12	Earthing of Support (Coil Type)	EA	3	3	492.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	3	18	2,484.00
14	POLYCARBONATE BIRD GUARD	EA	3	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	3	29.988	2,219.11
A1	**Total Cost of materials**				**1,22,037.12**
A2	**Applicable Taxes to make it Landed Cost @18%**				**21,966.68**
A	**Total landed Cost (A=A1 + A2)**				**1,44,003.80**
B	Stock, Storage & Insurance i.e 3% of A				4,320.11
C	**Sub Total (A+B)**				**1,48,323.92**
D	Contigency @ 3% of C				4,449.72
E	Tools & Plants @ 2% of C				2,752.37
F	Transportation @ 7.5% of C				11,124.29
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,248.05
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,75,155.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*No. of Cut Point Requirment*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	3	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	3	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	3	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	3	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	3	3.00	850.02
K1	**Total Civil & Services**				**21,482.53**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,866.86**
K	**Total landed Cost (K=K1+ K2)**				**25,349.38**
L	**Total (J+K)**				**2,00,504.64**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**2,00,504.64**
O	CESS 1% of N				2,005.05

P	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,02,509.69
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		3		
	MATERIALS FOR 11 KV Cut Point with 90 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***No. of Cut Point Requirment***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	3	3	86,505.00
2	GI Channel, angle & flat of different size	KG	3	202.032	15,758.50
3	Danger Plate	EA	3	3	540.00
4	GI barbed wire anticlimbing device	KG	3	9	666.00
5	11 KV pin insulator polymer	EA	3	12	1,680.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	3	18	7,416.00
7	Disc insulator (B&S) 70 KN polymer	EA	3	18	2,700.00
8	Earthing of Support (Coil Type)	EA	3	3	492.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	3	18	2,484.00
10	POLYCARBONATE BIRD GUARD	EA	3	30	630.00
11	H.T. Stay clamp	EA	3	6	1,560.00
12	H.T. Stay set (Complete)	SET	3	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	3	6	522.00
14	7/10 SWG Stay Wire	KG	3	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	3	29.988	2,219.11
A1				**Total Cost of materials**	**1,38,706.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,967.19**
A				**Total landed Cost (A=A1 + A2)**	**1,63,673.80**
B				Stock, Storage & Insurance i.e 3% of A	4,910.21
C				**Sub Total (A+B)**	**1,68,584.01**
D				Contigency @ 3% of C	5,057.52
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,943.47
F				Transportation @ 7.5% of C	12,643.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,203.53
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,98,689.25**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***No. of Cut Point Requirment***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	3	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	3	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	3	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	3	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	3	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**2,32,186.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,32,186.03**
O				CESS 1% of N	2,321.86
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,34,507.89**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		4		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***For Circuit Km***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	4.0	33	9,51,555.00
2	11 KV V cross Arm(GI)	EA	4.0	33	28,083.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	4.0	33	2,673.00
4	Danger Plate	EA	4.0	33	5,940.00
5	Back Clamp for danger Plate and barbed wire	KG	4.00	50.82	3,963.96
6	GI barbed wire anticlimbing device	KG	4.0	99.00	7,326.00
7	11 KV pin insulator polymer	EA	4.0	99	13,860.00
8	Earthing of Support (Coil Type)	EA	4.0	33	5,412.00
9	GI Nut , Bolt & Washer of different sizes	KG	4.0	45.28	3,350.42
10	100 sq.mm AAA conductor	M	4.0	12360.00	9,69,147.60
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	4.0	12	2,103.00
12	POLYCARBONATE BIRD GUARD	EA	4.0	99	2,079.00
A1				**Total Cost of materials**	**19,95,492.98**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,59,188.74**
A				**Total landed Cost (A=A1 + A2)**	**23,54,681.72**
B				Stock, Storage & Insurance i.e 3% of A	70,640.45
C				**Sub Total (A+B)**	**24,25,322.17**
D				Contigency @ 3% of C	72,759.67
E				Tools & Plants @ 2% of C	48,506.44
F				Transportation @ 7.5% of C	1,81,899.16
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				57,826.00

H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,26,880.22
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**29,13,193.66**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	4	14.85	98,735.42
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	4	3.71	24,683.86
3	GIS Mapping, indexing/numbering of Poles	EA	4	33	27,588.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	4	33	9,350.22
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	4	4	41,880.00
K1	**Total Civil & Services**				**2,02,237.50**
K2	**Applicable Taxes to make it Landed Cost @18%**				**36,402.75**
K	**Total landed Cost (K=K1+ K2)**				**2,38,640.25**
L	**Total Material+Services (J+K)**				31,51,833.91
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**31,51,833.91**
O	CESS 1% of N				31,518.34
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**31,83,352.25**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				3,01,021.34
2	Gross Total Material +Services (N+O) for DP With AB Switch				2,07,364.64
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,02,509.69
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,34,507.89
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				31,83,352.25
Q	**Gross Total Material +Services**				**41,28,755.82**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				675.00
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**1,050.00**
V	GST @ 18% on Total Inspection Fees (U)				189.00
W	Total Inspection Fees including GST (U+V)				1,239.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**41,29,994.82**

Part C: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	30	950.00	28,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	15000	7.00	1,05,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,33,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,030.00**
A				**Total landed Cost (A=A1+ A2)**	**1,57,530.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,57,530.00
D				**CESS @ 1% of C**	1,575.30
E				**Grand Total (C+D)**	1,59,105.30

ANNEXURE-12.34

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	CED
Name of the Sub-Division : -	GOPALPUR
Name of the Section : -	BALIKUDA
Name of the Work :-	Proposal for construction of 1.39 CKM 11 kV line along with augmentation of 1.55 CKM 11 kV O/H line for N-1 connectivity between 11 kV Baranga & Phulnakhra feeder and 11 kV Pratapnagari & Uttampur feeder for reliability improvement.
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction New Line of 1.55 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 148 Sq.mm. AAAC (Refer PSLD B-C & C-D)	25,73,894.74
2	PART B: Construction New Line of 0.95 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 148 Sq.mm. AAAC (Refer PSLD F-G,H-I,J-K)	25,77,821.98
3	PART C: Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Balikuda PSS (Refer PSLD)	3,15,854.45
4	Part D: 1. Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 440 MTR Without Spare . (Refer Proposed SLD point A-B,E1-F, E2-H, D-E,I-J) 2. Installation of 01 No. of 11 kV 4-way RMU (LLVV) (refer PSLD)	56,33,548.25
5	PART E: Installation of 3 Nos of 11 kV line protecting guarding on single pole for road crossing(Refer PSLD)	84,754.31
6	Part F: Dismantling	30,033.36
7	**Total Amount**	**1,12,15,907.09**
	Total Amount (In Cr.)	**1.12**

Total estimated cost is Rs. 1.12 Crore. (On TPCODL Capex Scheme)

PART A: Construction New Line of 1.55 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 148 Sq.mm. AAAC (Refer PSLD B-C & C-D)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	WEDGE CONNECTOR FOR 148 SQMM.CONDUCTOR	EA	258.00	18	4,644.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1				**Total Cost of materials**	**3,66,124.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**65,902.47**
A				**Total landed Cost (A=A1 + A2)**	**4,32,027.31**
B				Stock, Storage & Insurance i.e 3% of A	12,960.82
C				**Sub Total (A+B)**	**4,44,988.13**
D				Contigency @ 3% of C	13,349.64
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	7,853.74
F				Transportation @ 7.5% of C	33,374.11
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	18,241.07
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,28,320.51**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**76,974.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,855.43**
K				**Total landed Cost (K=K1+ K2)**	**90,830.01**
L				**Total (J+K)**	**6,19,150.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**6,19,150.53**
O				CESS 1% of N	6,191.51
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**6,25,342.03**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00

10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
12	Earthing of Support (Coil Type)	EA	164.00	1	164.00
13	WEDGE CONNECTOR FOR 148 SQMM.CONDUCTOR	EA	258.00	6	1,548.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**41,399.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,451.83**
A				**Total landed Cost (A=A1 + A2)**	**48,850.87**
B				Stock, Storage & Insurance i.e 3% of A	1,465.53
C				**Sub Total (A+B)**	**50,316.39**
D				Contigency @ 3% of C	1,509.49
E				Tools & Plants @ 2% of C	934.96
F				Transportation @ 7.5% of C	3,773.73
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,170.19
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**59,457.07**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**67,906.86**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**67,906.86**
O				CESS 1% of N	679.07
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**68,585.93**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	WEDGE CONNECTOR FOR 148 SQMM.CONDUCTOR	EA	258.00	12	3,096.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	20	420.00
11	H.T. Stay clamp	EA	260.00	4	1,040.00
12	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
13	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
14	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**93,911.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,903.99**
A				**Total landed Cost (A=A1 + A2)**	**1,10,815.06**
B				Stock, Storage & Insurance i.e 3% of A	3,324.45
C				**Sub Total (A+B)**	**1,14,139.52**
D				Contigency @ 3% of C	3,424.19
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,997.32
F				Transportation @ 7.5% of C	8,560.46
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,977.37
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,34,603.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**1,56,934.65**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**1,56,934.65**
O				CESS 1% of N	1,569.35
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**1,58,504.00**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		1.55		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	17	4,90,195.00
2	11 KV V cross Arm(GI)	EA	851.00	17	14,467.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	17	1,377.00
4	Danger Plate	EA	180.00	17	3,060.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	26.18	2,042.04
6	GI barbed wire anticlimbing device	KG	74.00	51.00	3,774.00
7	11 KV pin insulator polymer	EA	140.00	51	7,140.00
8	Earthing of Support (Coil Type)	EA	164.00	17	2,788.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.32	1,725.98
10	148 sq.mm AAA conductor	KM	1,16,360.00	4.79	5,57,306.22
11	Crimping type Midspan Compression Joint for 148 sq.mm AAA conductor	EA	175.25	3	525.75
12	POLYCARBONATE BIRD GUARD	EA	21.00	51	1,071.00
A1				**Total Cost of materials**	**10,85,471.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,95,384.96**
A				**Total landed Cost (A=A1 + A2)**	**12,80,856.94**
B				Stock, Storage & Insurance i.e 3% of A	38,425.71
C				**Sub Total (A+B)**	**13,19,282.65**
D				Contigency @ 3% of C	39,578.48
E				Tools & Plants @ 2% of C	26,385.65
F				Transportation @ 7.5% of C	98,946.20
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				29,789.15
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				72,349.96
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**15,86,332.10**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.65	50,863.70
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.91	12,715.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	17	14,212.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	17	4,816.78
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.55	16,228.50
K1				**Total Civil & Services**	**98,836.91**
K2				**Applicable Taxes to make it Landed Cost @18%**	**17,790.64**
K				**Total landed Cost (K=K1+ K2)**	**1,16,627.55**
L				**Total Material+Services (J+K)**	17,02,959.65
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**17,02,959.65**
O				CESS 1% of N	17,029.60
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**17,19,989.25**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP With AB Switch				6,25,342.03
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				68,585.93
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				1,58,504.00
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				17,19,989.25
Q				**Gross Total Material +Services**	**25,72,421.21**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				123.75
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,248.75**
V	GST @ 18% on Total Inspection Fees (U)				224.78
W	Total Inspection Fees including GST (U+V)				1,473.53
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**25,73,894.74**

PART B: Construction New Line of 0.95 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 148 Sq.mm. AAAC (Refer PSLD F-G,H-I,J-K)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	5

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	1610.125	1,25,589.75
3	DMC Insulator for LA (70/10)	EA	113.50	40	4,540.00
4	Danger Plate	EA	180.00	10	1,800.00
5	H.T. Stay clamp	EA	260.00	20	5,200.00
6	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
7	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
8	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
10	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	15	29,400.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	5	54,860.00
13	11 KV pin insulator polymer	EA	140.00	15	2,100.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
16	WEDGE CONNECTOR FOR 148 SQMM.CONDUCTOR	EA	258.00	30	7,740.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	55.18	4,083.32
A1				**Total Cost of materials**	**6,10,208.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,09,837.45**
A				**Total landed Cost (A=A1 + A2)**	**7,20,045.52**
B				Stock, Storage & Insurance i.e 3% of A	21,601.37
C				**Sub Total (A+B)**	**7,41,646.89**
D				Contigency @ 3% of C	22,249.41
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	13,089.57
F				Transportation @ 7.5% of C	55,623.52
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	30,401.78
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**8,80,534.19**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10.00	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1				**Total Civil & Services**	**1,28,290.98**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,092.38**
K				**Total landed Cost (K=K1+ K2)**	**1,51,383.36**
L				**Total (J+K)**	**10,31,917.55**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**10,31,917.55**
O				CESS 1% of N	10,319.18
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**10,42,236.72**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00

10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
12	Earthing of Support (Coil Type)	EA	164.00	1	164.00
13	WEDGE CONNECTOR FOR 148 SQMM.CONDUCTOR	EA	258.00	6	1,548.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**41,399.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,451.83**
A				**Total landed Cost (A=A1 + A2)**	**48,850.87**
B				Stock, Storage & Insurance i.e 3% of A	1,465.53
C				**Sub Total (A+B)**	**50,316.39**
D				Contigency @ 3% of C	1,509.49
E				Tools & Plants @ 2% of C	934.96
F				Transportation @ 7.5% of C	3,773.73
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,170.19
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**59,457.07**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**67,906.86**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**67,906.86**
O				CESS 1% of N	679.07
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**68,585.93**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	WEDGE CONNECTOR FOR 148 SQMM.CONDUCTOR	EA	258.00	6	1,548.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	10	210.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**46,955.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,452.00**
A				**Total landed Cost (A=A1 + A2)**	**55,407.53**
B				Stock, Storage & Insurance i.e 3% of A	1,662.23
C				**Sub Total (A+B)**	**57,069.76**
D				Contigency @ 3% of C	1,712.09
E				Tools & Plants @ 2% of C (Except HT Stay Set)	998.66
F				Transportation @ 7.5% of C	4,280.23
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,488.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**67,301.73**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**78,467.33**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**78,467.33**
O				CESS 1% of N	784.67
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**79,252.00**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.95

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	17	4,90,195.00
2	11 KV V cross Arm(GI)	EA	851.00	17	14,467.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	17	1,377.00
4	Danger Plate	EA	180.00	17	3,060.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	26.18	2,042.04
6	GI barbed wire anticlimbing device	KG	74.00	51.00	3,774.00
7	11 KV pin insulator polymer	EA	140.00	51	7,140.00
8	Earthing of Support (Coil Type)	EA	164.00	17	2,788.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.32	1,725.98
10	148 sq.mm AAA conductor	KM	1,16,360.00	2.94	3,41,574.78
11	Crimping type Midspan Compression Joint for 148 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	51	1,071.00
A1				**Total Cost of materials**	**8,69,214.80**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,56,458.66**
A				**Total landed Cost (A=A1 + A2)**	**10,25,673.46**
B				Stock, Storage & Insurance i.e 3% of A	30,770.20
C				**Sub Total (A+B)**	**10,56,443.66**
D				Contigency @ 3% of C	31,693.31
E				Tools & Plants @ 2% of C	21,128.87
F				Transportation @ 7.5% of C	79,233.27
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				29,789.15
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				46,066.07
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**12,64,354.34**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.65	50,863.70
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.91	12,715.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	17	14,212.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	17	4,816.78
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.95	9,946.50
K1				**Total Civil & Services**	**92,554.91**
K2				**Applicable Taxes to make it Landed Cost @18%**	**16,659.88**
K				**Total landed Cost (K=K1+ K2)**	**1,09,214.79**
L				**Total Material+Services (J+K)**	13,73,569.13
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**13,73,569.13**
O				CESS 1% of N	13,735.69
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**13,87,304.82**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP With AB Switch	10,42,236.72
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	68,585.93
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	79,252.00
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	13,87,304.82
Q	**Gross Total Material +Services**	**25,77,379.48**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**25,77,821.98**

PART C: Construction of 1 no. of 11 KV DP with Isolator with Earth Switch inside Balikuda PSS (Refer PSLD)

No. of DP required With Isolator with earth switch	1

MATERIALS OF DP With Isolator with earth switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (48 V)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,93,467.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**34,824.17**
A				**Total landed Cost (A=A1 + A2)**	**2,28,291.78**
B				Stock, Storage & Insurance i.e 3% of A	6,848.75
C				**Sub Total (A+B)**	**2,35,140.54**
D				Contigency @ 3% of C	7,054.22
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,354.14
F				Transportation @ 7.5% of C	17,635.54
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,761.47
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,82,450.51**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**3,12,727.18**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**3,12,727.18**
O				CESS 1% of N	3,127.27
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,15,854.45**

Part D:
1. Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 440 MTR Without Spare . (Refer Proposed SLD point A-B,E1-F, E2-H, D-E,I-J)
2. Installation of 01 No. of 11 kV 4-way RMU (LLVV) (refer PSLD)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***340***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***100***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	440	2,375.00	10,45,000.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	8,260.00	24,780.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	7	2,900.00	20,300.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	340.00	812.00	2,76,080.00
2	**Supply of 11kV RMU**				
a	***No. of 11kV 4WAY 630A LLVV WITH FRTU & AUXPT***	***EA***	***1***		
2.1	Supply of 11kV RMU 4WAY 630A LLVV WITH FRTU & AUXPT	EA	1	11,23,040.00	11,23,040.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**24,92,829.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	440	110.00	48,400.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	10	2,000.00	20,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	100	2,970.00	2,97,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	340.00	195.00	66,300.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 4WAY 630A LLVV WITH FRTU & AUXPT	EA	1	12,000.00	12,000.00
	Sub Total (Erection Portion) (in Rs.)				**4,43,700.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	284		
1.1.a	Earth work excavation of **soil**	M3	238.56	716.03	1,70,816.12
1.1.b	Earth work excavation of **hard rock**	M3	102.24	1,759.39	1,79,880.03
1.2	Back filling with excavated soil outside and above the trench	M3	340.8	220.00	74,976.00
1.3	Road Repair and restoration charges	KM	0.08	92,94,727.82	7,43,578.23
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46

6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	15	1,035.17	15,527.55
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.44	10,470.00	4,606.80
	Sub Total (Civil Portion) (in Rs.)				**14,44,026.49**
A1	**Sub Total (Supply Portion)**				**24,92,829.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**4,48,709.33**
A	**Total Landed Cost (A=A1 + A2)**				**29,41,538.93**
B	Stock, Storage & Insurance @ 3 % of A				88,246.17
C	**Sub Total (A+B)**				**30,29,785.10**
D	Contingency @ 3 % of C				90,893.55
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				2,27,233.88
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**33,48,062.70**
I1	Sub Total (Erection Portion + Civil Portion)				18,87,726.49
I2	**Applicable Taxes to make it Landed Cost @18%**				**3,39,790.77**
I	**Total landed Cost (I=I1+ I2)**				**22,27,517.25**
J	**Total Cost (H+I)**				**55,75,579.95**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**55,75,579.95**
M	CESS 1% of L				55,755.80
N	**Grand Total (L+M)**				**56,31,335.75**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**1,875.00**
T	GST @ 18% on Total Inspection Fees (S)				337.50
U	Total Inspection Fees including GST (S+T)				2,212.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**56,33,548.25**

PART E: Installation of 3 Nos of 11 kV line protecting guarding on single pole for road crossing(Refer PSLD)

No. of 11 KV Line Protecting Guarding	3
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	345.741	26,967.80
2	No-10 GI wire for lacing	KG	78.00	9.825	766.35
3	No-8 GI wire for guard wire	KG	78.00	46.08	3,594.24
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
A1				**Total Cost of materials**	**39,128.39**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,043.11**
A				**Total landed Cost (A=A1 + A2)**	**46,171.50**
B				Stock, Storage & Insurance i.e 3% of A	1,385.14
C				**Sub Total (A+B)**	**47,556.64**
D				Contigency @ 3% of C	1,426.70
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	761.53
F				Transportation @ 7.5% of C	3,566.75
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,807.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**57,119.27**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
K1				**Total Civil & Services**	**22,708.38**
K2				Applicable Taxes to make it Landed Cost @18%	4,087.51
K				**Total landed Cost (K=K1+ K2)**	**26,795.89**
L				**Total (J+K)**	83,915.16
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**83,915.16**
O				Total CESS @ 1% of (N)	839.15
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**84,754.31**

Part F: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3600	7.00	25,200.00

A1	**Sub Total (Civil Portion) (in Rs.)**	**25,200.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**4,536.00**
A	**Total landed Cost (A=A1+ A2)**	**29,736.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C	**Gross Total Estimated Cost i.e. (A+B)**	29,736.00
D	**CESS @ 1% of C**	297.36
E	**Grand Total (C+D)**	30,033.36

ANNEXURE-12.35		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	CHOUDWAR	
Name of the Section : -	CHOUDWAR-1	
Name of the Work :-	Proposal for refurbishment of 0.5 CKM O/H line of 11 kV choudwar local Fdr. along with construction of 0.68 CKM U/G line for reliability improvement & safety issue mitigation.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction New Line of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)	11,85,328.14
2	Part B: Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 680 MTR Without Spare . (Refer Proposed SLD point A-B,D-E)	54,58,618.12
3	PART C: Installation 02 Nos of 11 kV line protecting guarding on single pole for road crossing having span 20 Mtr. each (Refer PSLD)	56,502.88
4	Part D: Dismantling	38,614.32
5	**Total Amount**	**67,39,063.46**
	Total Amount (In Cr.)	**0.67**
Total estimated cost is Rs. 0.67 Crore. (On TPCODL Capex Scheme)		

PART A: Construction New Line of 0.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				(except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41

A1	**Total Cost of materials**	**1,23,811.07**
A2	**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A	**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B	Stock, Storage & Insurance i.e 3% of A	4,382.91
C	**Sub Total (A+B)**	**1,50,479.98**
D	Contigency @ 3% of C	4,514.40
E	Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F	Transportation @ 7.5% of C	11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**2,01,451.72**
O	CESS 1% of N				2,014.52
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,03,466.23**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	11 KV V cross Arm(GI)	EA	851.00	4	3,404.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	4	324.00
4	Danger Plate	EA	180.00	4	720.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	6.16	480.48
6	GI barbed wire anticlimbing device	KG	74.00	12.00	888.00
7	11 KV pin insulator polymer	EA	140.00	12	1,680.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
10	Earthing of Support (Coil Type)	EA	164.00	4	656.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.49	406.11
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	1545.00	2,02,395.00
A1	**Total Cost of materials**				**3,29,373.59**
A2	**Applicable Taxes to make it Landed Cost @18%**				**59,287.25**
A	**Total landed Cost (A=A1 + A2)**				**3,88,660.84**
B	Stock, Storage & Insurance i.e 3% of A				11,659.83
C	**Sub Total (A+B)**				**4,00,320.66**
D	Contigency @ 3% of C				12,009.62
E	Tools & Plants @ 2% of C				8,006.41
F	Transportation @ 7.5% of C				30,024.05
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				26,013.64
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,83,383.60**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.5	5,235.00
K1	**Total Civil & Services**				**24,672.27**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,441.01**
K	**Total landed Cost (K=K1+ K2)**				**29,113.28**
L	**Total Material+Services (J+K)**				5,12,496.88
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**5,12,496.88**
O	CESS 1% of N				5,124.97
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**5,17,621.85**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP With AB Switch	4,62,912.56
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	5,17,621.85
Q	**Gross Total Material +Services**	**11,84,000.64**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00

S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)	202.50
W	Total Inspection Fees including GST (U+V)	1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**11,85,328.14**

Part B:
Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 680 MTR Without Spare . (Refer Proposed SLD point A-B,D-E)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***400***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***280***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	680	2,375.00	16,15,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	15,950.00	31,900.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	400.00	812.00	3,24,800.00
	Sub Total (Supply Portion) (in Rs.)				**19,83,300.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	680	110.00	74,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	280	2,970.00	8,31,600.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	400.00	195.00	78,000.00
	Sub Total (Erection Portion) (in Rs.)				**9,96,400.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	368		
1.1.a	Earth work excavation of **soil**	M3	309.12	716.03	2,21,339.19
1.1.b	Earth work excavation of **hard rock**	M3	132.48	1,759.39	2,33,083.99
1.2	Back filling with excavated soil outside and above the trench	M3	441.6	220.00	97,152.00
1.3	Road Repair and restoration charges	KM	0.08	92,94,727.82	7,43,578.23
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	23	1,035.17	23,808.91
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.68	10,470.00	7,119.60
	Sub Total (Civil Portion) (in Rs.)				**13,26,081.92**

A1	**Sub Total (Supply Portion)**	**19,83,300.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**3,56,994.00**
A	**Total Landed Cost (A=A1 + A2)**	**23,40,294.00**
B	Stock, Storage & Insurance @ 3 % of A	70,208.82
C	**Sub Total (A+B)**	**24,10,502.82**
D	Contingency @ 3 % of C	72,315.08
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	1,80,787.71
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**26,63,605.62**
I1	Sub Total (Erection Portion + Civil Portion)	23,22,481.92
I2	**Applicable Taxes to make it Landed Cost @18%**	**4,18,046.74**
I	**Total landed Cost (I=I1+ I2)**	**27,40,528.66**
J	**Total Cost (H+I)**	**54,04,134.28**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**54,04,134.28**
M	CESS 1% of L	54,041.34
N	**Grand Total (L+M)**	**54,58,175.62**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00

P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**54,58,618.12**

PART C: Installation 02 Nos of 11 kV line protecting guarding on single pole for road crossing having span 20 Mtr. each (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			2		
Length of 11 KV Line Protecting Guarding in Mtr.			20		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**26,085.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,695.41**
A				**Total landed Cost (A=A1 + A2)**	**30,781.00**
B				Stock, Storage & Insurance i.e 3% of A	923.43
C				**Sub Total (A+B)**	**31,704.43**
D				Contigency @ 3% of C	951.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	507.69
F				Transportation @ 7.5% of C	2,377.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,538.43
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**38,079.52**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	55,943.44
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**55,943.44**
O				Total CESS @ 1% of (N)	559.43
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**56,502.88**

Part D: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	12	950.00	11,400.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3000	7.00	21,000.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**32,400.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**5,832.00**
A	**Total landed Cost (A=A1+ A2)**				**38,232.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				38,232.00
D	**CESS @ 1% of C**				382.32
E	**Grand Total (C+D)**				38,614.32

ANNEXURE-12.36		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	ORIKANTA	
Name of the Work :-	Proposal for augmentation of of 5 CKM O/H line of 11 kV Bilahata Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole (interposing).	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)	26,85,656.09
2	PART B: Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD)	39,14,580.12
3	PART C: Installation of 04 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	1,13,005.75
4	Part D: Dismantling	1,25,139.00
5	**Total Amount**	**68,38,380.96**
	Total Amount (In Cr.)	**0.68**
Total estimated cost is Rs. 0.68 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,01,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**1,20,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**1,23,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,46,718.30**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,71,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,71,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,73,279.01**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00

14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**55,820.04**
A2	**Applicable Taxes to make it Landed Cost @18%**				**10,047.61**
A	**Total landed Cost (A=A1 + A2)**				**65,867.65**
B	Stock, Storage & Insurance i.e 3% of A				1,976.03
C	**Sub Total (A+B)**				**67,843.68**
D	Contigency @ 3% of C				2,035.31
E	Tools & Plants @ 2% of C				1,285.51
F	Transportation @ 7.5% of C				5,088.28
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**80,927.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**89,377.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**89,377.79**
O	CESS 1% of N				893.78
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,271.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**61,465.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,063.80**
A	**Total landed Cost (A=A1 + A2)**				**72,529.33**
B	Stock, Storage & Insurance i.e 3% of A				2,175.88
C	**Sub Total (A+B)**				**74,705.21**
D	Contigency @ 3% of C				2,241.16
E	Tools & Plants @ 2% of C (Except HT Stay Set)				1,351.37
F	Transportation @ 7.5% of C				5,602.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**88,905.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98

3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**1,00,070.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**1,00,070.76**
O				CESS 1% of N	1,000.71
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**1,01,071.46**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		2		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	21	6,05,535.00
2	11 KV V cross Arm(GI)	EA	851.00	21	17,871.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	21	1,701.00
4	Danger Plate	EA	180.00	21	3,780.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	32.34	2,522.52
6	GI barbed wire anticlimbing device	KG	74.00	63.00	4,662.00
7	11 KV pin insulator polymer	EA	140.00	63	8,820.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	63	6,930.00
10	Earthing of Support (Coil Type)	EA	164.00	21	3,444.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	28.81	2,132.09
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6180.00	8,09,580.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**14,69,677.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,64,541.97**
A				**Total landed Cost (A=A1 + A2)**	**17,34,219.58**
B				Stock, Storage & Insurance i.e 3% of A	52,026.59
C				**Sub Total (A+B)**	**17,86,246.16**
D				Contigency @ 3% of C	53,587.38
E				Tools & Plants @ 2% of C	35,724.92
F				Transportation @ 7.5% of C	1,33,968.46
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				36,798.36
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,05,027.89
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,51,353.19**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.45	62,831.63
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.36	15,707.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	21	17,556.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	21	5,950.14
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1				**Total Civil & Services**	**1,22,985.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**22,137.42**
K				**Total landed Cost (K=K1+ K2)**	**1,45,123.10**
L				**Total Material+Services (J+K)**	22,96,476.29
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**22,96,476.29**
O				CESS 1% of N	22,964.76
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**23,19,441.06**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				1,73,279.01
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				90,271.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				1,01,071.46
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				23,19,441.06
Q				**Gross Total Material +Services**	**26,84,063.09**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				225.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,350.00**
V	GST @ 18% on Total Inspection Fees (U)				243.00
W	Total Inspection Fees including GST (U+V)				1,593.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**26,85,656.09**

PART B: Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**1,73,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**2,04,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**2,10,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,48,350.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**2,98,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**2,98,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,01,021.34**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00

12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,21,321.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**
A				**Total landed Cost (A=A1 + A2)**	**1,43,159.50**
B				Stock, Storage & Insurance i.e 3% of A	4,294.79
C				**Sub Total (A+B)**	**1,47,454.29**
D				Contigency @ 3% of C	4,423.63
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F				Transportation @ 7.5% of C	11,059.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,992.85
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,75,034.86**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,05,311.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,05,311.53**
O				CESS 1% of N	2,053.12
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,07,364.64**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
12	Earthing of Support (Coil Type)	EA	164.00	3	492.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	68	9,384.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,28,937.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,208.68**
A				**Total landed Cost (A=A1 + A2)**	**1,52,145.80**
B				Stock, Storage & Insurance i.e 3% of A	4,564.37
C				**Sub Total (A+B)**	**1,56,710.18**
D				Contigency @ 3% of C	4,701.31
E				Tools & Plants @ 2% of C	2,920.10
F				Transportation @ 7.5% of C	11,753.26
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,086.68
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,85,428.43**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,10,777.81**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,10,777.81**
O				CESS 1% of N	2,107.78
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**2,12,885.59**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
8	Earthing of Support (Coil Type)	EA	164.00	3	492.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	30	630.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,38,706.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,967.19**
A				**Total landed Cost (A=A1 + A2)**	**1,63,673.80**
B				Stock, Storage & Insurance i.e 3% of A	4,910.21
C				**Sub Total (A+B)**	**1,68,584.01**
D				Contigency @ 3% of C	5,057.52
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,943.47
F				Transportation @ 7.5% of C	12,643.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,203.53
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,98,689.25**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**2,32,186.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,32,186.03**
O				CESS 1% of N	2,321.86
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,34,507.89**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	3

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	36	10,38,060.00
2	11 KV V cross Arm(GI)	EA	851.00	36	30,636.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	36	2,916.00
4	Danger Plate	EA	180.00	36	6,480.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	55.44	4,324.32
6	GI barbed wire anticlimbing device	KG	74.00	108.00	7,992.00
7	11 KV pin insulator polymer	EA	140.00	108	15,120.00
8	Earthing of Support (Coil Type)	EA	164.00	36	5,904.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.39	3,655.01
10	100 sq.mm AAA conductor	M	78.41	9270.00	7,26,860.70
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	9	1,577.25
12	POLYCARBONATE BIRD GUARD	EA	21.00	108	2,268.00
A1				**Total Cost of materials**	**18,45,793.28**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,32,242.79**
A				**Total landed Cost (A=A1 + A2)**	**21,78,036.07**
B				Stock, Storage & Insurance i.e 3% of A	65,341.08
C				**Sub Total (A+B)**	**22,43,377.15**
D				Contigency @ 3% of C	67,301.31
E				Tools & Plants @ 2% of C	44,867.54
F				Transportation @ 7.5% of C	1,68,253.29
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				63,082.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				98,171.90
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**26,85,054.10**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	16.20	1,07,711.37
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.05	26,927.84
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	36	30,096.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	36	10,200.24
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**2,06,345.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**37,142.18**
K				**Total landed Cost (K=K1+ K2)**	**2,43,487.63**
L				**Total Material+Services (J+K)**	29,28,541.74
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**29,28,541.74**
O				CESS 1% of N	29,285.42
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**29,57,827.15**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				3,01,021.34
2	Gross Total Material +Services (N+O) for DP With AB Switch				2,07,364.64
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,12,885.59
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,34,507.89
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				29,57,827.15
Q				**Gross Total Material +Services**	**39,13,606.62**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				450.00
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**825.00**
V	GST @ 18% on Total Inspection Fees (U)				148.50
W	Total Inspection Fees including GST (U+V)				973.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**39,14,580.12**

PART C: Installation of 04 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)

No. of 11 KV Line Protecting Guarding	4
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	460.988	35,957.06
2	No-10 GI wire for lacing	KG	78.00	13.1	1,021.80
3	No-8 GI wire for guard wire	KG	78.00	61.44	4,792.32
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
A1				**Total Cost of materials**	**52,171.18**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,390.81**
A				**Total landed Cost (A=A1 + A2)**	**61,562.00**
B				Stock, Storage & Insurance i.e 3% of A	1,846.86
C				**Sub Total (A+B)**	**63,408.86**
D				Contigency @ 3% of C	1,902.27
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,015.37
F				Transportation @ 7.5% of C	4,755.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,076.87
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**76,159.03**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
K1				**Total Civil & Services**	**30,277.84**
K2				Applicable Taxes to make it Landed Cost @18%	5,450.01
K				**Total landed Cost (K=K1+ K2)**	**35,727.85**
L				**Total (J+K)**	1,11,886.88
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**1,11,886.88**
O				Total CESS @ 1% of (N)	1,118.87
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**1,13,005.75**

Part D: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	15000	7.00	1,05,000.00

A1	**Sub Total (Civil Portion) (in Rs.)**	**1,05,000.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**18,900.00**
A	**Total landed Cost (A=A1+ A2)**	**1,23,900.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C	**Gross Total Estimated Cost i.e. (A+B)**	1,23,900.00
D	**CESS @ 1% of C**	1,239.00
E	**Grand Total (C+D)**	1,25,139.00

ANNEXURE-12.37		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	AED	
Name of the Sub-Division : -	Narsinghpur	
Name of the Section : -	Narsinghpur	
Name of the Work :-	Proposal for interlinking line of 1.2 CKM between 11 kV Kamaladiha and Kamaladiha Old feeder for length reduction of length of 11 kV Kamaladiha Old Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole and100 Sq.mm. XLPE AAAC (Refer PSLD)	27,41,164.71
2	PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	56,502.88
	Total Amount	**27,97,667.58**
	Total Amount (In Cr.)	**0.28**
Total estimated cost is Rs. 0.28 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole and100 Sq.mm. XLPE AAAC (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,01,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**1,20,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**1,23,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,46,718.30**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,71,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,71,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,73,279.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	0	-
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	0	-
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00

13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,28,862.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,195.27**
A				**Total landed Cost (A=A1 + A2)**	**1,52,057.88**
B				Stock, Storage & Insurance i.e 3% of A	4,561.74
C				**Sub Total (A+B)**	**1,56,619.62**
D				Contigency @ 3% of C	4,698.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,846.92
F				Transportation @ 7.5% of C	11,746.47
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,225.38
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,86,641.59**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	0.00	-
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,088.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,255.97**
K				**Total landed Cost (K=K1+ K2)**	**21,344.71**
L				**Total (J+K)**	**2,07,986.30**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,07,986.30**
O				CESS 1% of N	2,079.86
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,10,066.16**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,11,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**1,31,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06
C				**Sub Total (A+B)**	**1,35,687.35**
D				Contigency @ 3% of C	4,070.62
E				Tools & Plants @ 2% of C	2,571.01
F				Transportation @ 7.5% of C	10,176.55
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,61,855.98**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,78,755.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,78,755.57**
O				CESS 1% of N	1,787.56
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,80,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,22,931.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,127.59**
A				**Total landed Cost (A=A1 + A2)**	**1,45,058.66**
B				Stock, Storage & Insurance i.e 3% of A	4,351.76
C				**Sub Total (A+B)**	**1,49,410.42**
D				Contigency @ 3% of C	4,482.31
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,702.74
F				Transportation @ 7.5% of C	11,205.78
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,504.46
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,77,810.33**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,00,141.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,00,141.51**
O				CESS 1% of N	2,001.42
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,02,142.93**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.2

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	24	6,92,040.00
2	11 KV V cross Arm(GI)	EA	851.00	24	20,424.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	24	1,944.00
4	Danger Plate	EA	180.00	24	4,320.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	36.96	2,882.88
6	GI barbed wire anticlimbing device	KG	74.00	72.00	5,328.00
7	11 KV pin insulator polymer	EA	140.00	72	10,080.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	72	7,920.00
10	Earthing of Support (Coil Type)	EA	164.00	24	3,936.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	32.93	2,436.67
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3708.00	4,85,748.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**12,38,409.55**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,22,913.72**
A				**Total landed Cost (A=A1 + A2)**	**14,61,323.27**
B				Stock, Storage & Insurance i.e 3% of A	43,839.70
C				**Sub Total (A+B)**	**15,05,162.97**
D				Contigency @ 3% of C	45,154.89
E				Tools & Plants @ 2% of C	30,103.26
F				Transportation @ 7.5% of C	1,12,887.22
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	42,055.27
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	66,405.76
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**18,01,769.37**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	10.80	71,807.58
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	24	20,064.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	24	6,800.16
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.2	12,564.00
K1				**Total Civil & Services**	**1,29,187.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,253.77**
K				**Total landed Cost (K=K1+ K2)**	**1,52,441.41**
L				**Total Material+Services (J+K)**	19,54,210.78
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**19,54,210.78**
O				CESS 1% of N	19,542.11
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**19,73,752.88**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	1,73,279.01
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,80,543.13
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,02,142.93
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	19,73,752.88
Q				**Gross Total Material +Services**	**27,39,784.11**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	45.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,170.00**
V				GST @ 18% on Total Inspection Fees (U)	210.60
W				Total Inspection Fees including GST (U+V)	1,380.60
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**27,41,164.71**

PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**26,085.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,695.41**
A				**Total landed Cost (A=A1 + A2)**	**30,781.00**
B				Stock, Storage & Insurance i.e 3% of A	923.43
C				**Sub Total (A+B)**	**31,704.43**
D				Contigency @ 3% of C	951.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	507.69
F				Transportation @ 7.5% of C	2,377.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,538.43
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**38,079.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	55,943.44
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**55,943.44**
O				Total CESS @ 1% of (N)	559.43
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**56,502.88**

Annexure-12.38			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**DED**		
Name of the Work :-	Construction of 1.4 CKM interlinking line between the 11 kV Naukiari Feeder and 11 kV Kalanga Feeder, connecting Alusingha to Sani Mandap and Kadalipal to CSC Centre, to improve network reliability and reduce the feeder length.		
Names of Schemes: -	***CAPEX 27-28***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.4ckm	₹ 35,30,335.13
2	B	Part-B Installation of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with One no. AB Switch and LA Set	₹ 8,08,936.90
		Total Amount	**₹ 43,39,272.03**
		Total Amount (In Cr)	**₹ 0.43**

Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.4ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**2,05,215.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,938.70**
A				**Total landed Cost (A=A1 + A2)**	**2,42,153.72**
B				Stock, Storage & Insurance i.e 3% of A	7,264.61
C				**Sub Total (A+B)**	**2,49,418.34**
D				Contigency @ 3% of C	7,482.55
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,576.49
F				Transportation @ 7.5% of C	18,706.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,864.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,96,057.00**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**3,45,747.15**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**3,45,747.15**
O				CESS 1% of N	3,457.47
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,49,204.62**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00

10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20
F				Transportation @ 7.5% of C	5,128.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,976.40

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**81,583.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**90,032.89**
O	CESS 1% of N				900.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,933.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**1,23,811.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,285.99**
A	**Total landed Cost (A=A1 + A2)**				**1,46,097.06**
B	Stock, Storage & Insurance i.e 3% of A				4,382.91
C	**Sub Total (A+B)**				**1,50,479.98**
D	Contigency @ 3% of C				4,514.40
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,724.13
F	Transportation @ 7.5% of C				11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**2,01,451.72**
O	CESS 1% of N				2,014.52
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,03,466.23**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			1.4	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	30	8,65,050.00
2	11 KV V cross Arm(GI)	EA	851.00	30	25,530.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	30	2,430.00
4	Danger Plate	EA	180.00	30	5,400.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	46.20	3,603.60
6	GI barbed wire anticlimbing device	KG	74.00	90.00	6,660.00
7	11 KV pin insulator polymer	EA	140.00	90	12,600.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	90	9,900.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	60	13,200.00
10	Earthing of Support (Coil Type)	EA	164.00	30	4,920.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	41.16	3,045.84
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4326.00	5,66,706.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**15,19,045.44**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,73,428.18**
A				**Total landed Cost (A=A1 + A2)**	**17,92,473.62**
B				Stock, Storage & Insurance i.e 3% of A	53,774.21
C				**Sub Total (A+B)**	**18,46,247.83**
D				Contigency @ 3% of C	55,387.43
E				Tools & Plants @ 2% of C	36,924.96
F				Transportation @ 7.5% of C	1,38,468.59
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				52,569.09
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				79,486.61
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**22,09,084.50**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.50	89,759.48
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.38	22,439.87
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	30	25,080.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.4	14,658.00
K1				**Total Civil & Services**	**1,60,437.54**
K2				**Applicable Taxes to make it Landed Cost @18%**	**28,878.76**
K				**Total landed Cost (K=K1+ K2)**	**1,89,316.30**
L				**Total Material+Services (J+K)**	23,98,400.80
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**23,98,400.80**
O				CESS 1% of N	23,984.01
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**24,22,384.81**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				3,49,204.62
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				90,933.22
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,03,466.23
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				24,22,384.81
Q				**Gross Total Material +Services**	**35,28,901.43**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				90.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,215.00**
V	GST @ 18% on Total Inspection Fees (U)				218.70
W	Total Inspection Fees including GST (U+V)				1,433.70
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**35,30,335.13**

Part-B Installation of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with One no. AB Switch and LA Set

No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)	2

MATERIALS OF 4 POLE

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate, 2 no's.	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
16	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
17	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	72.088	5,334.51
19	POLYCARBONATE BIRD GUARD	EA	21.00	42	882.00
A1				**Total Cost of materials**	**4,96,745.32**
A2				**Applicable Taxes to make it Landed Cost @18%**	**89,414.16**
A				**Total landed Cost (A=A1 + A2)**	**5,86,159.48**
B				Stock, Storage & Insurance i.e 3% of A	17,584.78
C				**Sub Total (A+B)**	**6,03,744.27**
D				Contigency @ 3% of C	18,112.33
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	11,377.54
F				Transportation @ 7.5% of C	45,280.82
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	28,850.84
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,21,384.22**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**67,409.67**
K2				Applicable Taxes to make it Landed Cost @18%	12,133.74
K				**Total landed Cost (K=K1+ K2)**	**79,543.40**
L				**Total (J+K)**	**8,00,927.62**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**8,00,927.62**
O				CESS 1% of N	8,009.28
P				**Gross Total Material +Services (N+O)**	**8,08,936.90**

Annexure-12.39			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**ANED**		
Name of the Work :-	Proposal for augmentation of the 11 kV Nakchi Feeder for a length of 4 CKM and construction of a 1.77 CKM interlinking line between the 11 kV Nakchi Feeder and 11 kV Handapa Feeder, to improve network reliability and reduce the feeder length.		
Names of Schemes: -	***CAPEX 27-28***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.7ckm	₹ 42,39,442.29
2	B	Part-B Augmentation of 11kV Nakchi Feeder from 34sqmm AAAC to 100sqmm XLPE covered conductor-4ckm	₹ 57,56,630.97
3	C	Part-C Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.07km	₹ 5,20,220.79
		Total Amount	**₹ 1,05,16,294.05**
		Total Amount (In Cr)	**₹ 1.05**

Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.7ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	3

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00

17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1	**Total Cost of materials**				**4,12,027.84**
A2	**Applicable Taxes to make it Landed Cost @18%**				**74,165.01**
A	**Total landed Cost (A=A1 + A2)**				**4,86,192.85**
B	Stock, Storage & Insurance i.e 3% of A				14,585.79
C	**Sub Total (A+B)**				**5,00,778.64**
D	Contigency @ 3% of C				15,023.36
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				8,969.55
F	Transportation @ 7.5% of C				37,558.40
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,513.82
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				23,820.12
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**5,96,663.88**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1	**Total Civil & Services**				**76,974.59**
K2	**Applicable Taxes to make it Landed Cost @18%**				**13,855.43**
K	**Total landed Cost (K=K1+ K2)**				**90,830.01**
L	**Total (J+K)**				**6,87,493.90**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**6,87,493.90**
O	CESS 1% of N				6,874.94
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**6,94,368.84**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**56,260.04**
A2	**Applicable Taxes to make it Landed Cost @18%**				**10,126.81**
A	**Total landed Cost (A=A1 + A2)**				**66,386.85**
B	Stock, Storage & Insurance i.e 3% of A				1,991.61
C	**Sub Total (A+B)**				**68,378.45**
D	Contigency @ 3% of C				2,051.35
E	Tools & Plants @ 2% of C				1,296.20
F	Transportation @ 7.5% of C				5,128.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,976.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**81,583.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**

L	**Total (J+K)**	**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N	**Sub-Total (L+M)**	**90,032.89**
O	CESS 1% of N	900.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**90,933.22**

No. of Cut Point with 90 Degree Angle ***(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)***	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**1,23,811.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,285.99**
A	**Total landed Cost (A=A1 + A2)**				**1,46,097.06**
B	Stock, Storage & Insurance i.e 3% of A				4,382.91
C	**Sub Total (A+B)**				**1,50,479.98**
D	Contigency @ 3% of C				4,514.40
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,724.13
F	Transportation @ 7.5% of C				11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**2,01,451.72**
O	CESS 1% of N				2,014.52
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,03,466.23**

11 Kv Line Length In KM with 40 Mtr. Span ***(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)***	1.7

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	39	11,24,565.00
2	11 KV V cross Arm(GI)	EA	851.00	39	33,189.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	39	3,159.00
4	Danger Plate	EA	180.00	39	7,020.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	60.06	4,684.68
6	GI barbed wire anticlimbing device	KG	74.00	117.00	8,658.00
7	11 KV pin insulator polymer	EA	140.00	117	16,380.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	117	12,870.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	78	17,160.00
10	Earthing of Support (Coil Type)	EA	164.00	39	6,396.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	53.51	3,959.59
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	5253.00	6,88,143.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1	**Total Cost of materials**				**19,26,184.27**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,46,713.17**
A	**Total landed Cost (A=A1 + A2)**				**22,72,897.44**

B	Stock, Storage & Insurance i.e 3% of A				68,186.92
C	**Sub Total (A+B)**				**23,41,084.36**
D	Contigency @ 3% of C				70,232.53
E	Tools & Plants @ 2% of C				46,821.69
F	Transportation @ 7.5% of C				1,75,581.33
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				68,339.82
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				97,428.81
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**27,99,488.53**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	17.55	1,16,687.32
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.39	29,171.83
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	39	32,604.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	39	11,050.26
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.7	17,799.00
K1	**Total Civil & Services**				**2,07,312.41**
K2	**Applicable Taxes to make it Landed Cost @18%**				**37,316.23**
K	**Total landed Cost (K=K1+ K2)**				**2,44,628.64**
L	**Total Material+Services (J+K)**				30,44,117.17
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**30,44,117.17**
O	CESS 1% of N				30,441.17
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**30,74,558.34**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				1,74,602.31
2	Gross Total Material +Services (N+O) for DP With AB Switch				6,94,368.84
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				90,933.22
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,03,466.23
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				30,74,558.34
Q	**Gross Total Material +Services**				**42,37,928.94**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				157.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,282.50**
V	GST @ 18% on Total Inspection Fees (U)				230.85
W	Total Inspection Fees including GST (U+V)				1,513.35
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**42,39,442.29**

Part-B Augmentation of 11kV Nakchi Feeder from 34sqmm AAAC to 100sqmm XLPE covered conductor-4ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**2,05,215.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,938.70**
A				**Total landed Cost (A=A1 + A2)**	**2,42,153.72**
B				Stock, Storage & Insurance i.e 3% of A	7,264.61
C				**Sub Total (A+B)**	**2,49,418.34**
D				Contigency @ 3% of C	7,482.55
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,576.49
F				Transportation @ 7.5% of C	18,706.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,864.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,96,057.00**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**3,45,747.15**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**3,45,747.15**
O				CESS 1% of N	3,457.47
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,49,204.62**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00

12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,952.80
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,63,166.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,80,065.77**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N				**Sub-Total (L+M)**	**1,80,065.77**
O				CESS 1% of N	1,800.66
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,81,866.43**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,23,811.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A				**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B				Stock, Storage & Insurance i.e 3% of A	4,382.91
C				**Sub Total (A+B)**	**1,50,479.98**
D				Contigency @ 3% of C	4,514.40
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F				Transportation @ 7.5% of C	11,286.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	6,611.42
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,01,451.72**
O				CESS 1% of N	2,014.52
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,03,466.23**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		4		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	49	14,12,915.00
2	11 KV V cross Arm(GI)	EA	851.00	49	41,699.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	49	3,969.00
4	Danger Plate	EA	180.00	49	8,820.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	75.46	5,885.88
6	GI barbed wire anticlimbing device	KG	74.00	147.00	10,878.00
7	11 KV pin insulator polymer	EA	140.00	147	20,580.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	147	16,170.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	98	21,560.00
10	Earthing of Support (Coil Type)	EA	164.00	49	8,036.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	67.23	4,974.87
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12360.00	16,19,160.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**31,74,647.75**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,71,436.60**
A				**Total landed Cost (A=A1 + A2)**	**37,46,084.35**
B				Stock, Storage & Insurance i.e 3% of A	1,12,382.53
C				**Sub Total (A+B)**	**38,58,466.88**
D				Contigency @ 3% of C	1,15,754.01
E				Tools & Plants @ 2% of C	77,169.34
F				Transportation @ 7.5% of C	2,89,385.02
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				85,862.84
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,14,121.00
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**46,40,759.08**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	22.05	1,46,607.14
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.51	36,651.79
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	49	40,964.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	49	13,883.66
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4	41,880.00
K1				**Total Civil & Services**	**2,79,986.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**50,397.59**
K				**Total landed Cost (K=K1+ K2)**	**3,30,384.17**
L				**Total Material+Services (J+K)**	49,71,143.25
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**49,71,143.25**
O				CESS 1% of N	49,711.43
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**50,20,854.69**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				3,49,204.62
2	Gross Total Material +Services (N+O) for DP With AB Switch				-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				1,81,866.43
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,03,466.23
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				50,20,854.69
Q				**Gross Total Material +Services**	**57,55,391.97**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				675.00
T	Inspection Fee of Drawing Checking and Approval				

U	**Total Inspection Fees (R+S+T)**	**1,050.00**
V	GST @ 18% on Total Inspection Fees (U)	189.00
W	Total Inspection Fees including GST (U+V)	1,239.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**57,56,630.97**

Part-C Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.07km

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***70***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	70	2,375.00	1,66,250.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.3	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	16.00	812.00	12,992.00
	Sub Total (Supply Portion) (in Rs.)				**1,85,042.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	70	110.00	7,700.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	70	2,970.00	2,07,900.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	16.00	195.00	3,120.00
	Sub Total (Erection Portion) (in Rs.)				**2,22,720.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
2	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.07	10,470.00	732.90
	Sub Total (Civil Portion) (in Rs.)				**2,803.24**

A1	**Sub Total (Supply Portion)**	**1,85,042.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**33,307.56**
A	**Total Landed Cost (A=A1 + A2)**	**2,18,349.56**
B	Stock, Storage & Insurance @ 3 % of A	6,550.49
C	**Sub Total (A+B)**	**2,24,900.05**
D	Contingency @ 3 % of C	6,747.00
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	16,867.50
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**2,48,514.55**
I1	Sub Total (Erection Portion + Civil Portion)	2,25,523.24
I2	**Applicable Taxes to make it Landed Cost @18%**	**40,594.18**
I	**Total landed Cost (I=I1+ I2)**	**2,66,117.42**
J	**Total Cost (H+I)**	**5,14,631.97**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**5,14,631.97**
M	CESS 1% of L	5,146.32
N	**Grand Total (L+M)**	**5,19,778.29**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**5,20,220.79**

Annexure-12.40			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**ANED**		
Name of the Work :-	Construction of a 2 CKM interlinking line between the 11 kV Raniakata Feeder and 11 kV Kadalimunda Feeder from Sanahula to Mundabeda, to improve network reliability and reduce the feeder length.		
Names of Schemes: -	***CAPEX 27-28***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Installation of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with One no. AB Switch and LA Set	₹ 8,08,936.90
2	B	Part-B Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-2ckm	₹ 50,19,636.47
		Total Amount	**₹ 58,28,573.37**
		Total Amount (In Cr)	**₹ 0.58**

Part-A Installation of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with One no. AB Switch and LA Set

No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)	2

MATERIALS OF 4 POLE

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate, 2 no's.	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
16	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
17	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	72.088	5,334.51
19	POLYCARBONATE BIRD GUARD	EA	21.00	42	882.00
A1				**Total Cost of materials**	**4,96,745.32**
A2				**Applicable Taxes to make it Landed Cost @18%**	**89,414.16**
A				**Total landed Cost (A=A1 + A2)**	**5,86,159.48**
B				Stock, Storage & Insurance i.e 3% of A	17,584.78
C				**Sub Total (A+B)**	**6,03,744.27**
D				Contigency @ 3% of C	18,112.33
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	11,377.54
F				Transportation @ 7.5% of C	45,280.82
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	28,850.84
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,21,384.22**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**67,409.67**
K2				Applicable Taxes to make it Landed Cost @18%	12,133.74
K				**Total landed Cost (K=K1+ K2)**	**79,543.40**
L				**Total (J+K)**	**8,00,927.62**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**8,00,927.62**
O				CESS 1% of N	8,009.28
P				**Gross Total Material +Services (N+O)**	**8,08,936.90**

Part-B Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-2ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00

11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**5,49,370.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**98,886.68**
A				**Total landed Cost (A=A1 + A2)**	**6,48,257.14**
B				Stock, Storage & Insurance i.e 3% of A	19,447.71
C				**Sub Total (A+B)**	**6,67,704.85**
D				Contigency @ 3% of C	20,031.15
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,959.40
F				Transportation @ 7.5% of C	50,077.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,760.16
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,95,551.85**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**9,16,658.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**9,16,658.53**
O				CESS 1% of N	9,166.59
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**9,25,825.12**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20
F				Transportation @ 7.5% of C	5,128.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,976.40
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**81,583.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**90,032.89**
O				CESS 1% of N	900.33
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**90,933.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,23,811.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A				**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B				Stock, Storage & Insurance i.e 3% of A	4,382.91
C				**Sub Total (A+B)**	**1,50,479.98**
D				Contigency @ 3% of C	4,514.40
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F				Transportation @ 7.5% of C	11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,01,451.72**
O				CESS 1% of N	2,014.52
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,03,466.23**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			2	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	46	13,26,410.00
2	11 KV V cross Arm(GI)	EA	851.00	46	39,146.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	46	3,726.00
4	Danger Plate	EA	180.00	46	8,280.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	70.84	5,525.52
6	GI barbed wire anticlimbing device	KG	74.00	138.00	10,212.00
7	11 KV pin insulator polymer	EA	140.00	138	19,320.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	138	15,180.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	92	20,240.00
10	Earthing of Support (Coil Type)	EA	164.00	46	7,544.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	63.11	4,670.29
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6180.00	8,09,580.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**22,69,833.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,08,570.09**
A				**Total landed Cost (A=A1 + A2)**	**26,78,403.89**
B				Stock, Storage & Insurance i.e 3% of A	80,352.12
C				**Sub Total (A+B)**	**27,58,756.01**
D				Contigency @ 3% of C	82,762.68
E				Tools & Plants @ 2% of C	55,175.12
F				Transportation @ 7.5% of C	2,06,906.70
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	80,605.94
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,14,663.73
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**32,98,870.18**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	20.70	1,37,631.20
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.18	34,407.80
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	46	38,456.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	46	13,033.64
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1				**Total Civil & Services**	**2,44,468.63**
K2				**Applicable Taxes to make it Landed Cost @18%**	**44,004.35**
K				**Total landed Cost (K=K1+ K2)**	**2,88,472.99**
L				**Total Material+Services (J+K)**	35,87,343.16
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**35,87,343.16**
O				CESS 1% of N	35,873.43
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**36,23,216.60**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	1,74,602.31
2				Gross Total Material +Services (N+O) for DP With AB Switch	9,25,825.12
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,933.22
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	36,23,216.60
Q				**Gross Total Material +Services**	**50,18,043.47**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	225.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,350.00**
V				GST @ 18% on Total Inspection Fees (U)	243.00
W				Total Inspection Fees including GST (U+V)	1,593.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**50,19,636.47**

Annexure-12.41			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**DED**		
Name of the Work :-	Proposal for refurbishment and augmentation of the 11 kV Bhapur Feeder for a length of 1 CKM from Sarakapatna Primary School to Chandrasekhar Prasad, to improve network reliability.		
Names of Schemes: -	***CAPEX 27-28***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Conversion of Bare to XLPE from 34sqmm AAAC to 100 SQ.MM. -XLPE AAA Covered Conductor-1 ckm.	₹ 14,88,025.73
		Total Amount	**₹ 14,88,025.73**
		Total Amount (In Cr)	**₹ 0.15**

Part-A Conversion of Bare to XLPE from 34sqmm AAAC to 100 SQ.MM. -XLPE AAA Covered Conductor-1 ckm.

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20
F				Transportation @ 7.5% of C	5,128.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,976.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**81,583.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**90,032.89**
O				CESS 1% of N	900.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,933.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00

13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**61,905.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**11,143.00**
A				**Total landed Cost (A=A1 + A2)**	**73,048.53**
B				Stock, Storage & Insurance i.e 3% of A	2,191.46
C				**Sub Total (A+B)**	**75,239.99**
D				Contigency @ 3% of C	2,257.20
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,362.06
F				Transportation @ 7.5% of C	5,643.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,305.71
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**89,560.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**1,00,725.86**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**1,00,725.86**
O				CESS 1% of N	1,007.26
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**1,01,733.12**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1	

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	13	3,74,855.00
2	11 KV V cross Arm(GI)	EA	851.00	13	11,063.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	13	1,053.00
4	Danger Plate	EA	180.00	13	2,340.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	20.02	1,561.56
6	GI barbed wire anticlimbing device	KG	74.00	39.00	2,886.00
7	11 KV pin insulator polymer	EA	140.00	39	5,460.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	39	4,290.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	26	5,720.00
10	Earthing of Support (Coil Type)	EA	164.00	13	2,132.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	17.84	1,319.86
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	4,04,790.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**8,17,470.42**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,47,144.68**
A				**Total landed Cost (A=A1 + A2)**	**9,64,615.10**
B				Stock, Storage & Insurance i.e 3% of A	28,938.45
C				**Sub Total (A+B)**	**9,93,553.55**
D				Contigency @ 3% of C	29,806.61
E				Tools & Plants @ 2% of C	19,871.07
F				Transportation @ 7.5% of C	74,516.52
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				22,779.94
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				53,795.48
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**11,94,323.16**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.85	38,895.77
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.46	9,723.94
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	13	10,868.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	13	3,683.42
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**73,641.14**

K2	**Applicable Taxes to make it Landed Cost @18%**	**13,255.40**
K	**Total landed Cost (K=K1+ K2)**	**86,896.54**
L	**Total Material+Services (J+K)**	12,81,219.70
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**12,81,219.70**
O	CESS 1% of N	12,812.20
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**12,94,031.90**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,933.22
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	1,01,733.12
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	12,94,031.90
Q	**Gross Total Material +Services**	**14,86,698.23**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)	202.50
W	Total Inspection Fees including GST (U+V)	1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**14,88,025.73**

Annexure-12.42			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**TED**		
Name of the Work :-	Construction of new interlinking of 1.5 CKM in between 11kV Sankhmur feeder and 11kV Odaus Feeder from Hotel Kalia to Eknatala for length reduction and improve reliability.		
Names of Schemes: -	***CAPEX 27-28***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.3ckm	₹ 34,60,704.59
2	B	Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare - 0.2KM	₹ 14,24,896.32
		Total Amount	**₹ 48,85,600.91**
		Total Amount (In Cr)	**₹ 0.49**

Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.3ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	3

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00

11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1				**Total Cost of materials**	**4,12,027.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**74,165.01**
A				**Total landed Cost (A=A1 + A2)**	**4,86,192.85**
B				Stock, Storage & Insurance i.e 3% of A	14,585.79
C				**Sub Total (A+B)**	**5,00,778.64**
D				Contigency @ 3% of C	15,023.36
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	8,969.55
F				Transportation @ 7.5% of C	37,558.40
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	23,820.12
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,96,663.88**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**76,974.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,855.43**
K				**Total landed Cost (K=K1+ K2)**	**90,830.01**
L				**Total (J+K)**	**6,87,493.90**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**6,87,493.90**
O				CESS 1% of N	6,874.94
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**6,94,368.84**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,952.80
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**1,63,166.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,80,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,80,065.77**
O				CESS 1% of N	1,800.66
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,81,866.43**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,23,811.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A				**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B				Stock, Storage & Insurance i.e 3% of A	4,382.91
C				**Sub Total (A+B)**	**1,50,479.98**
D				Contigency @ 3% of C	4,514.40
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F				Transportation @ 7.5% of C	11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,01,451.72**
O				CESS 1% of N	2,014.52
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,03,466.23**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				1.3	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	27	7,78,545.00
2	11 KV V cross Arm(GI)	EA	851.00	27	22,977.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	27	2,187.00
4	Danger Plate	EA	180.00	27	4,860.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	41.58	3,243.24
6	GI barbed wire anticlimbing device	KG	74.00	81.00	5,994.00
7	11 KV pin insulator polymer	EA	140.00	81	11,340.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	81	8,910.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	54	11,880.00
10	Earthing of Support (Coil Type)	EA	164.00	27	4,428.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.04	2,741.26
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4017.00	5,26,227.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**13,83,332.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,48,999.85**
A				**Total landed Cost (A=A1 + A2)**	**16,32,332.35**
B				Stock, Storage & Insurance i.e 3% of A	48,969.97
C				**Sub Total (A+B)**	**16,81,302.32**
D				Contigency @ 3% of C	50,439.07
E				Tools & Plants @ 2% of C	33,626.05
F				Transportation @ 7.5% of C	1,26,097.67
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	47,312.18
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	73,505.87
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**20,12,283.16**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	12.15	80,783.53
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.04	20,195.88
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	27	22,572.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	27	7,650.18
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.3	13,611.00
K1				**Total Civil & Services**	**1,44,812.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**26,066.27**
K				**Total landed Cost (K=K1+ K2)**	**1,70,878.86**
L				**Total Material+Services (J+K)**	21,83,162.01
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**21,83,162.01**
O				CESS 1% of N	21,831.62
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**22,04,993.63**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	1,74,602.31
2				Gross Total Material +Services (N+O) for DP With AB Switch	6,94,368.84
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,81,866.43
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	22,04,993.63
Q				**Gross Total Material +Services**	**34,59,297.44**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	67.50
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,192.50**
V				GST @ 18% on Total Inspection Fees (U)	214.65
W				Total Inspection Fees including GST (U+V)	1,407.15
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**34,60,704.59**

Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare - 0.2KM					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***200***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	200	2,375.00	4,75,000.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.3	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	16.00	812.00	12,992.00
	Sub Total (Supply Portion) (in Rs.)				**4,93,792.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	200	110.00	22,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	200	2,970.00	5,94,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	16.00	195.00	3,120.00
	Sub Total (Erection Portion) (in Rs.)				**6,23,120.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	7	1,035.17	7,246.19
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.2	10,470.00	2,094.00
	Sub Total (Civil Portion) (in Rs.)				**9,340.19**
A1	**Sub Total (Supply Portion)**				**4,93,792.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**88,882.56**
A	**Total Landed Cost (A=A1 + A2)**				**5,82,674.56**
B	Stock, Storage & Insurance @ 3 % of A				17,480.24
C	**Sub Total (A+B)**				**6,00,154.80**
D	Contingency @ 3 % of C				18,004.64
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				45,011.61
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**6,63,171.05**
I1	Sub Total (Erection Portion + Civil Portion)				6,32,460.19
I2	**Applicable Taxes to make it Landed Cost @18%**				**1,13,842.83**
I	**Total landed Cost (I=I1+ I2)**				**7,46,303.02**
J	**Total Cost (H+I)**				**14,09,474.07**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**14,09,474.07**
M	CESS 1% of L				14,094.74
N	**Grand Total (L+M)**				**14,23,568.82**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00

P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)	202.50
U	Total Inspection Fees including GST (S+T)	1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**14,24,896.32**

Annexure-12.43			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**TED**		
Name of the Work :-	Proposal for construction of a new 2.5 CKM interlinking line between the 11 kV Banrapal-hindol Feeder and 11 kV Phulapada Feeder from Kusuna to Santapur, to reduce feeder length and improve network reliability.		
Names of Schemes: -	***CAPEX 27-28***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-2.5ckm	₹ 54,70,861.24
		Total Amount	**₹ 54,70,861.24**
		Total Amount (In Cr)	**₹ 0.55**

Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-2.5ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**2,05,215.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,938.70**
A				**Total landed Cost (A=A1 + A2)**	**2,42,153.72**
B				Stock, Storage & Insurance i.e 3% of A	7,264.61
C				**Sub Total (A+B)**	**2,49,418.34**
D				Contigency @ 3% of C	7,482.55
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,576.49
F				Transportation @ 7.5% of C	18,706.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,864.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,96,057.00**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**3,45,747.15**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**3,45,747.15**
O				CESS 1% of N	3,457.47
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,49,204.62**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00

10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,37,342.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,721.67**
A				**Total landed Cost (A=A1 + A2)**	**1,62,064.28**
B				Stock, Storage & Insurance i.e 3% of A	4,861.93
C				**Sub Total (A+B)**	**1,66,926.21**
D				Contigency @ 3% of C	5,007.79
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,989.85
F				Transportation @ 7.5% of C	12,519.47
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,940.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,98,887.96**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,29,164.63**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,29,164.63**
O				CESS 1% of N	2,291.65
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,31,456.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,952.80

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,63,166.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**1,80,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**1,80,065.77**
O	CESS 1% of N				1,800.66
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**1,81,866.43**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**1,23,811.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,285.99**
A	**Total landed Cost (A=A1 + A2)**				**1,46,097.06**
B	Stock, Storage & Insurance i.e 3% of A				4,382.91
C	**Sub Total (A+B)**				**1,50,479.98**
D	Contigency @ 3% of C				4,514.40
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,724.13
F	Transportation @ 7.5% of C				11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**2,01,451.72**
O	CESS 1% of N				2,014.52
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,03,466.23**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			2.5	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	57	16,43,595.00
2	11 KV V cross Arm(GI)	EA	851.00	57	48,507.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	57	4,617.00
4	Danger Plate	EA	180.00	57	10,260.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	87.78	6,846.84
6	GI barbed wire anticlimbing device	KG	74.00	171.00	12,654.00
7	11 KV pin insulator polymer	EA	140.00	171	23,940.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	171	18,810.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	114	25,080.00
10	Earthing of Support (Coil Type)	EA	164.00	57	9,348.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	78.20	5,787.10
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	7725.00	10,11,975.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**28,21,419.94**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,07,855.59**
A				**Total landed Cost (A=A1 + A2)**	**33,29,275.52**
B				Stock, Storage & Insurance i.e 3% of A	99,878.27
C				**Sub Total (A+B)**	**34,29,153.79**
D				Contigency @ 3% of C	1,02,874.61
E				Tools & Plants @ 2% of C	68,583.08
F				Transportation @ 7.5% of C	2,57,186.53
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	99,881.27
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,43,152.84
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**41,00,832.12**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	25.65	1,70,543.00
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.41	42,635.75
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	57	47,652.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	57	16,150.38
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.5	26,175.00
K1				**Total Civil & Services**	**3,03,156.13**
K2				**Applicable Taxes to make it Landed Cost @18%**	**54,568.10**
K				**Total landed Cost (K=K1+ K2)**	**3,57,724.24**
L				**Total Material+Services (J+K)**	44,58,556.36
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**44,58,556.36**
O				CESS 1% of N	44,585.56
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**45,03,141.93**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	3,49,204.62
2				Gross Total Material +Services (N+O) for DP With AB Switch	2,31,456.28
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,81,866.43
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	45,03,141.93
Q				**Gross Total Material +Services**	**54,69,135.49**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	337.50
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,462.50**
V				GST @ 18% on Total Inspection Fees (U)	263.25
W				Total Inspection Fees including GST (U+V)	1,725.75
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**54,70,861.24**

ANNEXURE- 12.44		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Garadpur	
Name of the Work :-	Proposal for construction of 2.6 CKM 11 kV linking line between 11 kV Posal & Garadpur-I Fdr. for N-1 connectivity & reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 2.6 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAA Conductor.(Refer PSLD - B-B1)	6,831,343.16
2	PART B: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
	Total Amount	**6,924,258.76**
	Total Amount (In Cr.)	**0.69**
Total estimated cost is Rs. 0.69 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 2.6 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAA Conductor.(Refer PSLD - B-B1)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**259,759.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,756.72**
A				**Total landed Cost (A=A1 + A2)**	**306,516.25**
B				Stock, Storage & Insurance i.e 3% of A	9,195.49
C				**Sub Total (A+B)**	**315,711.73**
D				Contigency @ 3% of C	9,471.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,696.42
F				Transportation @ 7.5% of C	23,678.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,454.48
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**372,526.18**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**447,061.40**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**447,061.40**
O				CESS 1% of N	4,470.61
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**451,532.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66

A1	**Total Cost of materials**	**121,321.61**
A2	**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**
A	**Total landed Cost (A=A1 + A2)**	**143,159.50**
B	Stock, Storage & Insurance i.e 3% of A	4,294.79
C	**Sub Total (A+B)**	**147,454.29**
D	Contigency @ 3% of C	4,423.63
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F	Transportation @ 7.5% of C	11,059.07
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,992.85
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**175,034.86**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**205,311.53**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**205,311.53**
O	CESS 1% of N				2,053.12
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**207,364.64**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	102,700.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**126,388.08**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,749.85**
A	**Total landed Cost (A=A1 + A2)**				**149,137.93**
B	Stock, Storage & Insurance i.e 3% of A				4,474.14
C	**Sub Total (A+B)**				**153,612.07**
D	Contigency @ 3% of C				4,608.36
E	Tools & Plants @ 2% of C				2,929.50
F	Transportation @ 7.5% of C				11,520.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,165.37
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**181,077.29**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**197,976.88**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**197,976.88**
O	CESS 1% of N				1,979.77
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**199,956.65**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				3	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	3	154,050.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
8	Earthing of Support (Coil Type)	EA	164.00	3	492.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	30	630.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**206,251.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,125.29**
A				**Total landed Cost (A=A1 + A2)**	**243,376.90**
B				Stock, Storage & Insurance i.e 3% of A	7,301.31
C				**Sub Total (A+B)**	**250,678.20**
D				Contigency @ 3% of C	7,520.35
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,585.35
F				Transportation @ 7.5% of C	18,800.87
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	9,361.62
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,203.53
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**295,149.92**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**328,646.71**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**328,646.71**
O				CESS 1% of N	3,286.47
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**331,933.17**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				2.6	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	56	2,875,600.00
2	11 KV V cross Arm(GI)	EA	851.00	56	47,656.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	56	4,536.00
4	Danger Plate	EA	180.00	56	10,080.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	86.24	6,726.72
6	GI barbed wire anticlimbing device	KG	74.00	168.00	12,432.00
7	11 KV pin insulator polymer	EA	140.00	168	23,520.00
8	Earthing of Support (Coil Type)	EA	164.00	56	9,184.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	76.83	5,685.57
10	100 sq.mm AAA conductor	M	78.41	8034.00	629,945.94
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
12	POLYCARBONATE BIRD GUARD	EA	21.00	168	3,528.00
A1				**Total Cost of materials**	**3,629,945.73**
A2				**Applicable Taxes to make it Landed Cost @18%**	**653,390.23**
A				**Total landed Cost (A=A1 + A2)**	**4,283,335.96**
B				Stock, Storage & Insurance i.e 3% of A	128,500.08
C				**Sub Total (A+B)**	**4,411,836.04**
D				Contigency @ 3% of C	132,355.08
E				Tools & Plants @ 2% of C	88,236.72
F				Transportation @ 7.5% of C	330,887.70
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	174,750.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	91,683.18
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,229,748.93**
Civil & Services					

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	25.20	167,551.02
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.30	41,887.76
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	56	46,816.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	56	15,867.04
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.6	27,222.00
K1	**Total Civil & Services**				**299,343.82**
K2	**Applicable Taxes to make it Landed Cost @18%**				**53,881.89**
K	**Total landed Cost (K=K1+ K2)**				**353,225.70**
L	**Total Material+Services (J+K)**				5,582,974.64
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**5,582,974.64**
O	CESS 1% of N				55,829.75
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**5,638,804.38**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				451,532.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				207,364.64
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				199,956.65
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				331,933.17
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				5,638,804.38
Q	**Gross Total Material +Services**				**6,829,590.86**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				360.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,485.00**
V	GST @ 18% on Total Inspection Fees (U)				267.30
W	Total Inspection Fees including GST (U+V)				1,752.30
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**6,831,343.16**

PART B: Installation of 01 No. section boundary meter (refer PSLD)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**3 Phase Smart Meter**	EA			-
1.1	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	1	7,389.11	7,389.11
1.2	11 KV Metering Unit	EA	1	54,400.00	54,400.00
	Sub Total (in Rs.)				**61,789.11**
A1	**Sub Total (Supply Portion)**				**61,789.11**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,122.04**
A	**Total Landed Cost (A=A1 + A2)**				**72,911.15**
B	Stock, Storage & Insurance @ 3 % of A				2,187.33
C	**Sub Total (A+B)**				**75,098.48**
D	Contingency @ 3 % of C				2,252.95
E	Tools & Plants Charges @ 2% of C				1,501.97
F	Transportation @ 7.5% of C				5,632.39
G	Erection Charges @ 10% of C				7,509.85
H	**Total (C+D+E+F+G)**				**91,995.64**
I	Other Overhead /(including Supervision Charges) @ 6 % of H				
J	**Total Estimated Capital Cost i.e. (H+I)**				**91,995.64**
K	CESS 1% of J				919.96
L	**Grand Total (J+K)**				**92,915.60**

ANNEXURE-12.45		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Marsaghai	
Name of the Work :-	Proposal for diversion of existing O/H line of 11 kV Ortaghat Fdr. from Waterlogging area/dense forest area and construction of 2.3 CKM new 11 kV line to improve reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 1.9 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD C-D & E-F)	4,933,753.41
2	PART B: Construction of 0.4 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD J-K)	1,174,662.41
3	PART C: Installation of 3 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	88,032.94
4	PART D: Dismantling Portion	66,147.16
5	**Total Amount**	**6,262,595.92**
	Total Amount (In Cr.)	**0.63**
Total estimated cost is Rs. 0.63 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 1.9 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD C-D & E-F)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**173,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**204,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**210,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**248,350.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**298,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**298,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**301,021.34**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	102,700.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**126,388.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,749.85**
A				**Total landed Cost (A=A1 + A2)**	**149,137.93**
B				Stock, Storage & Insurance i.e 3% of A	4,474.14

C	**Sub Total (A+B)**	**153,612.07**
D	Contigency @ 3% of C	4,608.36
E	Tools & Plants @ 2% of C	2,929.50
F	Transportation @ 7.5% of C	11,520.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,165.37
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**181,077.29**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**197,976.88**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**197,976.88**
O				CESS 1% of N	1,979.77
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**199,956.65**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	102,700.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	20	420.00
11	H.T. Stay clamp	EA	260.00	4	1,040.00
12	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
13	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
14	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**137,501.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,750.19**
A				**Total landed Cost (A=A1 + A2)**	**162,251.26**
B	Stock, Storage & Insurance i.e 3% of A				4,867.54
C				**Sub Total (A+B)**	**167,118.80**
D	Contigency @ 3% of C				5,013.56
E	Tools & Plants @ 2% of C (Except HT Stay Set)				3,056.90
F	Transportation @ 7.5% of C				12,533.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,802.36
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**196,766.62**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**219,097.80**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**219,097.80**
O				CESS 1% of N	2,190.98
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**221,288.78**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.9

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	42	2,156,700.00
2	11 KV V cross Arm(GI)	EA	851.00	42	35,742.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	42	3,402.00
4	Danger Plate	EA	180.00	42	7,560.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	64.68	5,045.04
6	GI barbed wire anticlimbing device	KG	74.00	126.00	9,324.00
7	11 KV pin insulator polymer	EA	140.00	126	17,640.00
8	Earthing of Support (Coil Type)	EA	164.00	42	6,888.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	57.62	4,264.18
10	100 sq.mm AAA conductor	M	78.41	5871.00	460,345.11
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
12	POLYCARBONATE BIRD GUARD	EA	21.00	126	2,646.00
A1				**Total Cost of materials**	**2,710,082.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**487,814.77**
A				**Total landed Cost (A=A1 + A2)**	**3,197,896.85**
B				Stock, Storage & Insurance i.e 3% of A	95,936.91
C				**Sub Total (A+B)**	**3,293,833.76**
D				Contigency @ 3% of C	98,815.01
E				Tools & Plants @ 2% of C	65,876.68
F				Transportation @ 7.5% of C	247,037.53
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				131,062.66
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				67,258.06
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,903,883.69**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	18.90	125,663.27
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.73	31,415.82
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	42	35,112.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	42	11,900.28
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.9	19,893.00
K1				**Total Civil & Services**	**223,984.36**
K2				**Applicable Taxes to make it Landed Cost @18%**	**40,317.19**
K				**Total landed Cost (K=K1+ K2)**	**264,301.55**
L				**Total Material+Services (J+K)**	4,168,185.24
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**4,168,185.24**
O				CESS 1% of N	41,681.85
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**4,209,867.09**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				301,021.34
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				199,956.65
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				221,288.78
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				4,209,867.09
Q				**Gross Total Material +Services**	**4,932,133.86**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				247.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,372.50**
V	GST @ 18% on Total Inspection Fees (U)				247.05
W	Total Inspection Fees including GST (U+V)				1,619.55
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,933,753.41**

PART B: Construction of 0.4 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD J-K)

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**78,335.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,100.31**
A				**Total landed Cost (A=A1 + A2)**	**92,435.35**
B				Stock, Storage & Insurance i.e 3% of A	2,773.06
C				**Sub Total (A+B)**	**95,208.41**
D				Contigency @ 3% of C	2,856.25
E				Tools & Plants @ 2% of C	1,832.80
F				Transportation @ 7.5% of C	7,140.63
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**113,081.55**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**121,531.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**121,531.34**
O				CESS 1% of N	1,215.31
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**122,746.66**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**83,980.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,116.50**
A				**Total landed Cost (A=A1 + A2)**	**99,097.03**
B				Stock, Storage & Insurance i.e 3% of A	2,972.91
C				**Sub Total (A+B)**	**102,069.94**
D				Contigency @ 3% of C	3,062.10

E	Tools & Plants @ 2% of C (Except HT Stay Set)	1,898.66
F	Transportation @ 7.5% of C	7,655.25
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**121,058.72**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**132,224.32**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**132,224.32**
O	CESS 1% of N				1,322.24
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**133,546.56**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.4

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	8	410,800.00
3	11 KV V cross Arm(GI)	EA	851.00	8	6,808.00
4	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	8	648.00
5	Danger Plate	EA	180.00	8	1,440.00
6	Back Clamp for danger Plate and barbed wire	KG	78.00	12.32	960.96
7	GI barbed wire anticlimbing device	KG	74.00	24.00	1,776.00
8	11 KV pin insulator polymer	EA	140.00	24	3,360.00
9	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	24	2,640.00
10	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	10.98	812.22
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	1236.00	161,916.00
A1	**Total Cost of materials**				**592,473.18**
A2	**Applicable Taxes to make it Landed Cost @18%**				**106,645.17**
A	**Total landed Cost (A=A1 + A2)**				**699,118.36**
B	Stock, Storage & Insurance i.e 3% of A				20,973.55
C	**Sub Total (A+B)**				**720,091.91**
D	Contigency @ 3% of C				21,602.76
E	Tools & Plants @ 2% of C				14,401.84
F	Transportation @ 7.5% of C				54,006.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				24,964.32
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				22,080.56
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**857,148.27**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.4	4,188.00
K1	**Total Civil & Services**				**43,062.55**
K2	**Applicable Taxes to make it Landed Cost @18%**				**7,751.26**
K	**Total landed Cost (K=K1+ K2)**				**50,813.80**
L	**Total Material+Services (J+K)**				907,962.07
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**907,962.07**
O	CESS 1% of N				9,079.62
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**917,041.69**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	122,746.66
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	133,546.56
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	917,041.69
Q	**Gross Total Material +Services**	**1,173,334.91**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)	202.50
W	Total Inspection Fees including GST (U+V)	1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,174,662.41**

PART C: Installation of 3 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)

No. of 11 KV Line Protecting Guarding	3
Length of 11 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	345.741	26,967.80
2	No-10 GI wire for lacing	KG	78.00	14.7375	1,149.53
3	No-8 GI wire for guard wire	KG	78.00	69.12	5,391.36
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
A1				**Total Cost of materials**	**41,308.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,435.56**
A				**Total landed Cost (A=A1 + A2)**	**48,744.25**
B				Stock, Storage & Insurance i.e 3% of A	1,462.33
C				**Sub Total (A+B)**	**50,206.57**
D				Contigency @ 3% of C	1,506.20
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	814.53
F				Transportation @ 7.5% of C	3,765.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,072.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**60,365.44**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
K1				**Total Civil & Services**	**22,708.38**
K2				Applicable Taxes to make it Landed Cost @18%	4,087.51
K				**Total landed Cost (K=K1+ K2)**	**26,795.89**
L				**Total (J+K)**	87,161.33
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**87,161.33**
O				Total CESS @ 1% of (N)	871.61
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**88,032.94**

PART D: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	13	1,380.92	17,951.90
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	13	950.00	12,350.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3600	7.00	25,200.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**55,501.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,990.34**
A				**Total landed Cost (A=A1+ A2)**	**65,492.24**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	65,492.24
D				**CESS @ 1% of C**	654.92
E				**Grand Total (C+D)**	66,147.16

ANNEXURE- 12.46

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	KED-2
Name of the Sub-Division : -	MARSHAGHAI
Name of the Section : -	MARSHAGHAI
Name of the Work :-	Proposal for Augmentation of 3 CKM line of 11 Kv Angulai Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 2.5 CKM linking line for N-1 reliability with 11 kV Kurtanga Fdr.
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD A-C)	1,735,610.97
2	PART-B : 1.Construction of the 2.5 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor (refer to PSLD E-B1 and G-J) 2. Augmentation of the 2 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor (refer to PSLD D-E)	5,789,965.32
3	PART-C: Installation of 11 KV line protecting guarding of 2 Nos having span 30 Mtr. Each (Refer PSLD)	58,688.63
4	PART D: Dismantling Portion	192,219.11
	Total Amount	**7,776,484.03**
	Total Amount (In Cr.)	**0.78**

Total estimated cost is Rs. 0.78 Crore. (On TPCODL Capex Scheme)

PART A: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD A-C)					
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)				1	
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
13	Earthing of Support (Coil Type)	EA	164.00	1	164.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**55,820.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,047.61**
A				**Total landed Cost (A=A1 + A2)**	**65,867.65**
B				Stock, Storage & Insurance i.e 3% of A	1,976.03
C				**Sub Total (A+B)**	**67,843.68**
D				Contigency @ 3% of C	2,035.31
E				Tools & Plants @ 2% of C	1,285.51
F				Transportation @ 7.5% of C	5,088.28
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**80,927.99**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**89,377.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**89,377.79**
O				CESS 1% of N	893.78
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,271.56**
No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				1	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**61,465.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**11,063.80**
A				**Total landed Cost (A=A1 + A2)**	**72,529.33**
B				Stock, Storage & Insurance i.e 3% of A	2,175.88
C				**Sub Total (A+B)**	**74,705.21**
D				Contigency @ 3% of C	2,241.16
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,351.37

F	Transportation @ 7.5% of C	5,602.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**88,905.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**100,070.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**100,070.76**
O	CESS 1% of N				1,000.71
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**101,071.46**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	18	519,030.00
2	11 KV V cross Arm(GI)	EA	851.00	18	15,318.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	18	1,458.00
4	Danger Plate	EA	180.00	18	3,240.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	27.72	2,162.16
6	GI barbed wire anticlimbing device	KG	74.00	54.00	3,996.00
7	11 KV pin insulator polymer	EA	140.00	54	7,560.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	54	5,940.00
9	Earthing of Support (Coil Type)	EA	164.00	18	2,952.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	24.70	1,827.50
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	404,790.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1	**Total Cost of materials**				**969,623.66**
A2	**Applicable Taxes to make it Landed Cost @18%**				**174,532.26**
A	**Total landed Cost (A=A1 + A2)**				**1,144,155.92**
B	Stock, Storage & Insurance i.e 3% of A				34,324.68
C	**Sub Total (A+B)**				**1,178,480.60**
D	Contigency @ 3% of C				35,354.42
E	Tools & Plants @ 2% of C				23,569.61
F	Transportation @ 7.5% of C				88,386.05
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				31,541.45
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				54,765.15
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,412,097.28**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.10	53,855.69
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.03	13,463.92
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	18	15,048.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	18	5,100.12
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	**Total Civil & Services**				**97,937.73**
K2	**Applicable Taxes to make it Landed Cost @18%**				**17,628.79**
K	**Total landed Cost (K=K1+ K2)**				**115,566.52**
L	**Total Material+Services (J+K)**				1,527,663.80
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**1,527,663.80**
O	CESS 1% of N				15,276.64
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**1,542,940.44**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,271.56
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	101,071.46
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	1,542,940.44
Q	**Gross Total Material +Services**	**1,734,283.47**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)	202.50
W	Total Inspection Fees including GST (U+V)	1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,735,610.97**

PART-B :

1.Construction of the 2.5 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor (refer to PSLD E-B1 and G-J)

2. Augmentation of the 2 CKM 11 kV O/H line using 11 m WPB poles (interposing) and 100 sq. mm AAA conductor (refer to PSLD D-E)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	5

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	10	288,350.00
2	GI Channel, angle & flat of different size	KG	78.00	895.845	69,875.91
3	Danger Plate	EA	180.00	10	1,800.00
4	H.T. Stay clamp	EA	260.00	10	2,600.00
5	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
6	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
7	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
9	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
10	11 KV pin insulator polymer	EA	140.00	15	2,100.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	57.86	4,281.64
A1				**Total Cost of materials**	**432,932.55**
A2				**Applicable Taxes to make it Landed Cost @18%**	**77,927.86**
A				**Total landed Cost (A=A1 + A2)**	**510,860.41**
B				Stock, Storage & Insurance i.e 3% of A	15,325.81
C				**Sub Total (A+B)**	**526,186.22**
D				Contigency @ 3% of C	15,785.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	9,494.04
F				Transportation @ 7.5% of C	39,463.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,424.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**620,876.97**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**105,275.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,949.63**
K				**Total landed Cost (K=K1+ K2)**	**124,225.36**
L				**Total (J+K)**	**745,102.33**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**745,102.33**
O				CESS 1% of N	7,451.02
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**752,553.36**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**163,291.56**

A2	**Applicable Taxes to make it Landed Cost @18%**	**29,392.48**
A	**Total landed Cost (A=A1 + A2)**	**192,684.05**
B	Stock, Storage & Insurance i.e 3% of A	5,780.52
C	**Sub Total (A+B)**	**198,464.57**
D	Contigency @ 3% of C	5,953.94
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,620.62
F	Transportation @ 7.5% of C	14,884.84
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,093.88
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**237,522.44**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**267,799.12**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**267,799.12**
O	CESS 1% of N				2,677.99
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**270,477.11**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
12	Earthing of Support (Coil Type)	EA	164.00	4	656.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1	**Total Cost of materials**				**162,716.16**
A2	**Applicable Taxes to make it Landed Cost @18%**				**29,288.91**
A	**Total landed Cost (A=A1 + A2)**				**192,005.07**
B	Stock, Storage & Insurance i.e 3% of A				5,760.15
C	**Sub Total (A+B)**				**197,765.22**
D	Contigency @ 3% of C				5,932.96
E	Tools & Plants @ 2% of C				3,669.83
F	Transportation @ 7.5% of C				14,832.39
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,330.73
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**233,540.34**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**28,643.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,155.81**
K	**Total landed Cost (K=K1+ K2)**				**33,799.18**
L	**Total (J+K)**				**267,339.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**267,339.52**
O	CESS 1% of N				2,673.40
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**270,012.92**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	4

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	269.376	21,011.33
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00
5	11 KV pin insulator polymer	EA	140.00	16	2,240.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
8	Earthing of Support (Coil Type)	EA	164.00	4	656.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	40	840.00
11	H.T. Stay clamp	EA	260.00	8	2,080.00
12	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
13	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
14	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**184,942.14**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,289.59**
A				**Total landed Cost (A=A1 + A2)**	**218,231.73**
B				Stock, Storage & Insurance i.e 3% of A	6,546.95
C				**Sub Total (A+B)**	**224,778.68**
D				Contigency @ 3% of C	6,743.36
E				Tools & Plants @ 2% of C (Except HT Stay Set)	3,924.63
F				Transportation @ 7.5% of C	16,858.40
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,604.71
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**264,919.00**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**37,849.47**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,812.91**
K				**Total landed Cost (K=K1+ K2)**	**44,662.38**
L				**Total (J+K)**	**309,581.37**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**309,581.37**
O				CESS 1% of N	3,095.81
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**312,677.19**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	4.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	49	1,412,915.00
2	11 KV V cross Arm(GI)	EA	851.00	49	41,699.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	49	3,969.00
4	Danger Plate	EA	180.00	49	8,820.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	75.46	5,885.88
6	GI barbed wire anticlimbing device	KG	74.00	147.00	10,878.00
7	11 KV pin insulator polymer	EA	140.00	147	20,580.00
8	Earthing of Support (Coil Type)	EA	164.00	49	8,036.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	67.23	4,974.87
10	100 sq.mm AAA conductor	M	78.41	13905.00	1,090,291.05
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	12	2,103.00
12	POLYCARBONATE BIRD GUARD	EA	21.00	147	3,087.00
A1				**Total Cost of materials**	**2,613,238.80**
A2				**Applicable Taxes to make it Landed Cost @18%**	**470,382.98**
A				**Total landed Cost (A=A1 + A2)**	**3,083,621.79**
B				Stock, Storage & Insurance i.e 3% of A	92,508.65
C				**Sub Total (A+B)**	**3,176,130.44**
D				Contigency @ 3% of C	95,283.91
E				Tools & Plants @ 2% of C	63,522.61
F				Transportation @ 7.5% of C	238,209.78
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	85,862.84
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	145,887.35
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,804,896.94**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	22.05	146,607.14
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.51	36,651.79

3	GIS Mapping, indexing/numbering of Poles	EA	836.00	49	40,964.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	49	13,883.66
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.5	47,115.00
K1	**Total Civil & Services**				**285,221.59**
K2	**Applicable Taxes to make it Landed Cost @18%**				**51,339.89**
K	**Total landed Cost (K=K1+ K2)**				**336,561.47**
L	**Total Material+Services (J+K)**				4,141,458.42
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**4,141,458.42**
O	CESS 1% of N				41,414.58
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**4,182,873.00**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				752,553.36
2	Gross Total Material +Services (N+O) for DP With AB Switch				270,477.11
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				270,012.92
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				312,677.19
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				4,182,873.00
Q	**Gross Total Material +Services**				**5,788,593.57**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				787.50
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**1,162.50**
V	GST @ 18% on Total Inspection Fees (U)				209.25
W	Total Inspection Fees including GST (U+V)				1,371.75
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**5,789,965.32**

PART-C: Installation of 11 KV line protecting guarding of 2 Nos having span 30 Mtr. Each (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			2		
Length of 11 KV Line Protecting Guarding in Mtr.			30		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	9.825	766.35
3	No-8 GI wire for guard wire	KG	78.00	46.08	3,594.24
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**27,539.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,957.04**
A				**Total landed Cost (A=A1 + A2)**	**32,496.16**
B				Stock, Storage & Insurance i.e 3% of A	974.88
C				**Sub Total (A+B)**	**33,471.05**
D				Contigency @ 3% of C	1,004.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	543.02
F				Transportation @ 7.5% of C	2,510.33
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,715.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**40,243.63**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	58,107.55
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**58,107.55**
O				Total CESS @ 1% of (N)	581.08
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**58,688.63**

PART D: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	27	1,380.92	37,284.71
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	20	950.00	19,000.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	15000	7.00	105,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**161,284.71**
A2				**Applicable Taxes to make it Landed Cost @18%**	**29,031.25**
A				**Total landed Cost (A=A1+ A2)**	**190,315.95**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	190,315.95
D				**CESS @ 1% of C**	1,903.16
E				**Grand Total (C+D)**	192,219.11

ANNEXURE-12.47		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Mahakalpada	
Name of the Section : -	Mahakalpada	
Name of the Work :-	Proposal for construction of 0.9 CKM 11 KV line using 100 Sq.mm AAA Conductor for N-1 connectivity between 11 kV Jamboo & Marine Fdr. for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.9 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAAC (Refer PSLD)	2,466,126.18
2	PART B: 1. Installation of 01 No. of 4-Pole without AB Switch (Refer PSLD) 2. Installation of 01 No. of 4-Pole with 01 No. of AB Switch (Refer PSLD)	792,437.71
3	PART C: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
	Total Amount	**3,351,479.49**
	Total Amount (In Cr.)	**0.34**
Total estimated cost is Rs. 0.34 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 0.9 CKM 11 kV O/H line using 11 Mtr. H-Pole & 100 Sq.mm. AAAC (Refer PSLD)					
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)			1		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**121,321.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**
A				**Total landed Cost (A=A1 + A2)**	**143,159.50**
B				Stock, Storage & Insurance i.e 3% of A	4,294.79
C				**Sub Total (A+B)**	**147,454.29**
D				Contigency @ 3% of C	4,423.63
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F				Transportation @ 7.5% of C	11,059.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,992.85
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**175,034.86**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**205,311.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**205,311.53**
O				CESS 1% of N	2,053.12
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**207,364.64**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)			2		
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	102,700.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**126,388.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,749.85**
A				**Total landed Cost (A=A1 + A2)**	**149,137.93**

B	Stock, Storage & Insurance i.e 3% of A	4,474.14
C	**Sub Total (A+B)**	**153,612.07**
D	Contigency @ 3% of C	4,608.36
E	Tools & Plants @ 2% of C	2,929.50
F	Transportation @ 7.5% of C	11,520.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,165.37
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**181,077.29**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**197,976.88**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**197,976.88**
O	CESS 1% of N				1,979.77
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**199,956.65**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	102,700.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	20	420.00
11	H.T. Stay clamp	EA	260.00	4	1,040.00
12	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
13	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
14	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**137,501.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**24,750.19**
A	**Total landed Cost (A=A1 + A2)**				**162,251.26**
B	Stock, Storage & Insurance i.e 3% of A				4,867.54
C	**Sub Total (A+B)**				**167,118.80**
D	Contigency @ 3% of C				5,013.56
E	Tools & Plants @ 2% of C (Except HT Stay Set)				3,056.90
F	Transportation @ 7.5% of C				12,533.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,802.36
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**196,766.62**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**219,097.80**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**219,097.80**
O	CESS 1% of N				2,190.98
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**221,288.78**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.9

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	18	924,300.00
2	11 KV V cross Arm(GI)	EA	851.00	18	15,318.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	18	1,458.00
4	Danger Plate	EA	180.00	18	3,240.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	27.72	2,162.16
6	GI barbed wire anticlimbing device	KG	74.00	54.00	3,996.00
7	11 KV pin insulator polymer	EA	140.00	54	7,560.00
8	Earthing of Support (Coil Type)	EA	164.00	18	2,952.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	24.70	1,827.50
10	100 sq.mm AAA conductor	M	78.41	2781.00	218,058.21
11	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00
A1				**Total Cost of materials**	**1,182,005.87**
A2				**Applicable Taxes to make it Landed Cost @18%**	**212,761.06**
A				**Total landed Cost (A=A1 + A2)**	**1,394,766.93**
B				Stock, Storage & Insurance i.e 3% of A	41,843.01
C				**Sub Total (A+B)**	**1,436,609.94**
D				Contigency @ 3% of C	43,098.30
E				Tools & Plants @ 2% of C	28,732.20
F				Transportation @ 7.5% of C	107,745.75
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	56,169.71
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,321.57
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,703,677.46**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.10	53,855.69
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.03	13,463.92
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	18	15,048.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	18	5,100.12
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.9	9,423.00
K1				**Total Civil & Services**	**96,890.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**17,440.33**
K				**Total landed Cost (K=K1+ K2)**	**114,331.06**
L				**Total Material+Services (J+K)**	1,818,008.52
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**1,818,008.52**
O				CESS 1% of N	18,180.09
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,836,188.61**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP With AB Switch	207,364.64
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	199,956.65
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	221,288.78
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	1,836,188.61
Q				**Gross Total Material +Services**	**2,464,798.68**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V				GST @ 18% on Total Inspection Fees (U)	202.50
W				Total Inspection Fees including GST (U+V)	1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,466,126.18**

PART B:
1. Installation of 01 No. of 4-Pole without AB Switch (Refer PSLD)
2. Installation of 01 No. of 4-Pole with 01 No. of AB Switch (Refer PSLD)

No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)	2

MATERIALS OF 4 POLE

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	8	230,680.00
2	GI Channel, angle & flat of different size	KG	78.00	2082.054	162,400.21
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate, 2 no's.	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
16	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
17	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	72.088	5,334.51
19	POLYCARBONATE BIRD GUARD	EA	21.00	42	882.00
A1				**Total Cost of materials**	**485,773.32**
A2				**Applicable Taxes to make it Landed Cost @18%**	**87,439.20**
A				**Total landed Cost (A=A1 + A2)**	**573,212.52**
B				Stock, Storage & Insurance i.e 3% of A	17,196.38
C				**Sub Total (A+B)**	**590,408.90**
D				Contigency @ 3% of C	17,712.27
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	11,110.83
F				Transportation @ 7.5% of C	44,280.67
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	27,517.30
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**705,048.39**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**67,409.67**
K2				Applicable Taxes to make it Landed Cost @18%	12,133.74
K				**Total landed Cost (K=K1+ K2)**	**79,543.40**
L				**Total (J+K)**	**784,591.79**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**784,591.79**
O				CESS 1% of N	7,845.92
P				**Gross Total Material +Services (N+O)**	**792,437.71**

PART C: Installation of 01 No. section boundary meter (refer PSLD)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**3 Phase Smart Meter**	EA			-
1.1	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	1	7,389.11	7,389.11
1.2	11 KV Metering Unit	EA	1	54,400.00	54,400.00
	Sub Total (in Rs.)				**61,789.11**
A1	**Sub Total (Supply Portion)**				**61,789.11**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,122.04**
A	**Total Landed Cost (A=A1 + A2)**				**72,911.15**
B	Stock, Storage & Insurance @ 3 % of A				2,187.33
C	**Sub Total (A+B)**				**75,098.48**
D	Contingency @ 3 % of C				2,252.95
E	Tools & Plants Charges @ 2% of C				1,501.97
F	Transportation @ 7.5% of C				5,632.39
G	Erection Charges @ 10% of C				7,509.85
H	**Total (C+D+E+F+G)**				**91,995.64**
I	Other Overhead /(including Supervision Charges) @ 6 % of H				
J	**Total Estimated Capital Cost i.e. (H+I)**				**91,995.64**
K	CESS 1% of J				919.96
L	**Grand Total (J+K)**				**92,915.60**

ANNEXURE-12.48		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Aul	
Name of the Section : -	Rajkanika	
Name of the Work :-	Proposal for refurbishment of 6 CKM O/H line of 11 kV Jaynagar Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD BC, EF, GH & IJ)	8,780,295.38
2	PART B: Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	117,377.25
3	PART C: Dismantling Portion	298,675.98
4	**Total Amount**	**9,196,348.62**
	Total Amount (In Cr.)	**0.92**
Total estimated cost is Rs. 0.92 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD BC, EF, GH & IJ)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**259,759.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,756.72**
A				**Total landed Cost (A=A1 + A2)**	**306,516.25**
B				Stock, Storage & Insurance i.e 3% of A	9,195.49
C				**Sub Total (A+B)**	**315,711.73**
D				Contigency @ 3% of C	9,471.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,696.42
F				Transportation @ 7.5% of C	23,678.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,454.48
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**372,526.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**447,061.40**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**447,061.40**
O				CESS 1% of N	4,470.61
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**451,532.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**242,643.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**43,675.78**

A	**Total landed Cost (A=A1 + A2)**	**286,319.01**
B	Stock, Storage & Insurance i.e 3% of A	8,589.57
C	**Sub Total (A+B)**	**294,908.58**
D	Contigency @ 3% of C	8,847.26
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,200.82
F	Transportation @ 7.5% of C	22,118.14
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,985.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**350,069.71**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**51,316.39**
K2	**Applicable Taxes to make it Landed Cost @18%**				**9,236.95**
K	**Total landed Cost (K=K1+ K2)**				**60,553.34**
L	**Total (J+K)**				**410,623.05**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**410,623.05**
O	CESS 1% of N				4,106.23
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**414,729.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	144,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
12	Earthing of Support (Coil Type)	EA	164.00	5	820.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1	**Total Cost of materials**				**203,395.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**36,611.14**
A	**Total landed Cost (A=A1 + A2)**				**240,006.34**
B	Stock, Storage & Insurance i.e 3% of A				7,200.19
C	**Sub Total (A+B)**				**247,206.53**
D	Contigency @ 3% of C				7,416.20
E	Tools & Plants @ 2% of C				4,587.29
F	Transportation @ 7.5% of C				18,540.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,413.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**291,925.43**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1	**Total Civil & Services**				**35,804.22**
K2	**Applicable Taxes to make it Landed Cost @18%**				**6,444.76**
K	**Total landed Cost (K=K1+ K2)**				**42,248.97**
L	**Total (J+K)**				**334,174.41**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**334,174.41**
O	CESS 1% of N				3,341.74
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**337,516.15**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				5	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	144,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
8	Earthing of Support (Coil Type)	EA	164.00	5	820.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	50	1,050.00
11	H.T. Stay clamp	EA	260.00	10	2,600.00
12	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
13	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
14	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**231,177.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,611.98**
A				**Total landed Cost (A=A1 + A2)**	**272,789.66**
B				Stock, Storage & Insurance i.e 3% of A	8,183.69
C				**Sub Total (A+B)**	**280,973.35**
D				Contigency @ 3% of C	8,429.20
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,905.78
F				Transportation @ 7.5% of C	21,073.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,005.89
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**331,148.74**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**386,976.72**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**386,976.72**
O				CESS 1% of N	3,869.77
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**390,846.48**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				6	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	97	2,796,995.00
2	11 KV V cross Arm(GI)	EA	851.00	97	82,547.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	97	7,857.00
4	Danger Plate	EA	180.00	97	17,460.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	149.38	11,651.64
6	GI barbed wire anticlimbing device	KG	74.00	291.00	21,534.00
7	11 KV pin insulator polymer	EA	140.00	291	40,740.00
8	Earthing of Support (Coil Type)	EA	164.00	97	15,908.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	133.08	9,848.22
10	100 sq.mm AAA conductor	M	78.41	18540.00	1,453,721.40
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	18	3,154.50
12	POLYCARBONATE BIRD GUARD	EA	21.00	291	6,111.00
A1				**Total Cost of materials**	**4,467,527.76**
A2				**Applicable Taxes to make it Landed Cost @18%**	**804,155.00**
A				**Total landed Cost (A=A1 + A2)**	**5,271,682.75**
B				Stock, Storage & Insurance i.e 3% of A	158,150.48
C				**Sub Total (A+B)**	**5,429,833.23**
D				Contigency @ 3% of C	162,895.00
E				Tools & Plants @ 2% of C	108,596.66
F				Transportation @ 7.5% of C	407,237.49
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	169,973.39
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	203,036.55
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,481,572.33**

	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	43.65	290,222.30
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	10.91	72,555.58
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	97	81,092.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	97	27,483.98
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	6	62,820.00
K1				**Total Civil & Services**	**534,173.86**
K2				**Applicable Taxes to make it Landed Cost @18%**	**96,151.29**
K				**Total landed Cost (K=K1+ K2)**	**630,325.15**
L				**Total Material+Services (J+K)**	7,111,897.48
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**7,111,897.48**
O				CESS 1% of N	71,118.97
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**7,183,016.45**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				451,532.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				414,729.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				337,516.15
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				390,846.48
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				7,183,016.45
Q				**Gross Total Material +Services**	**8,777,640.38**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				1,125.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**2,250.00**
V	GST @ 18% on Total Inspection Fees (U)				405.00
W	Total Inspection Fees including GST (U+V)				2,655.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**8,780,295.38**

PART B: Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			4		
Length of 11 KV Line Protecting Guarding in Mtr.			30		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	460.988	35,957.06
2	No-10 GI wire for lacing	KG	78.00	19.65	1,532.70
3	No-8 GI wire for guard wire	KG	78.00	92.16	7,188.48
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
A1				**Total Cost of materials**	**55,078.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,914.08**
A				**Total landed Cost (A=A1 + A2)**	**64,992.33**
B				Stock, Storage & Insurance i.e 3% of A	1,949.77
C				**Sub Total (A+B)**	**66,942.10**
D				Contigency @ 3% of C	2,008.26
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,086.04
F				Transportation @ 7.5% of C	5,020.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,430.19
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**80,487.25**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
K1				**Total Civil & Services**	**30,277.84**
K2				Applicable Taxes to make it Landed Cost @18%	5,450.01
K				**Total landed Cost (K=K1+ K2)**	**35,727.85**
L				**Total (J+K)**	116,215.10
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**116,215.10**
O				Total CESS @ 1% of (N)	1,162.15
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**117,377.25**

PART C: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	10	1,380.92	13,809.15
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	110	950.00	104,500.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	18900	7.00	132,300.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**250,609.15**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,109.65**
A				**Total landed Cost (A=A1+ A2)**	**295,718.80**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	295,718.80
D				**CESS @ 1% of C**	2,957.19
E				**Grand Total (C+D)**	298,675.98

ANNEXURE-12.49		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Kendrapara	
Name of the Section : -	Indupur	
Name of the Work :-	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Bairi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Construction of 3.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD CD & EF) 2. Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole (interposing) (Refer PSLD A-B-C) 3. Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC(Pole is not required) (Refer PSLD G-H) 4. Installation of 10 Nos interposing pole in existing line (refer PSLD F-G)	8,721,642.86
2	PART B: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD DE)	1,652,525.03
3	PART C: Installation of 02 Nos of 4-Pole without AB Switch (Refer PSLD)	775,938.53
4	PART D: Installation of 05 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	146,721.57
5	PART E: Dismantling Portion	312,251.60
	Total Amount	**11,609,079.59**
	Total Amount (In Cr.)	**1.16**
Total estimated cost is Rs. 1.16 Crore. (On TPCODL Capex Scheme)		

PART A:

1. Construction of 3.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD CD & EF)

2. Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole (interposing) (Refer PSLD A-B-C)

3. Augmentation of 1.5 CKM 11 kV O/H line using 100 Sq.mm. AAAC(Pole is not required) (Refer PSLD G-H)

4. Installation of 10 Nos interposing pole in existing line (refer PSLD F-G)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**259,759.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,756.72**
A				**Total landed Cost (A=A1 + A2)**	**306,516.25**
B				Stock, Storage & Insurance i.e 3% of A	9,195.49
C				**Sub Total (A+B)**	**315,711.73**
D				Contigency @ 3% of C	9,471.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,696.42
F				Transportation @ 7.5% of C	23,678.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,454.48
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**372,526.18**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**447,061.40**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**447,061.40**
O				CESS 1% of N	4,470.61
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**451,532.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00

17	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**242,643.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**43,675.78**
A				**Total landed Cost (A=A1 + A2)**	**286,319.01**
B				Stock, Storage & Insurance i.e 3% of A	8,589.57
C				**Sub Total (A+B)**	**294,908.58**
D				Contigency @ 3% of C	8,847.26
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,200.82
F				Transportation @ 7.5% of C	22,118.14
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,985.69
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**350,069.71**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**410,623.05**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**410,623.05**
O				CESS 1% of N	4,106.23
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**414,729.28**

No. of Cut Point with 180 Degree Angle	4
(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
12	Earthing of Support (Coil Type)	EA	164.00	4	656.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**162,716.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**29,288.91**
A				**Total landed Cost (A=A1 + A2)**	**192,005.07**
B				Stock, Storage & Insurance i.e 3% of A	5,760.15
C				**Sub Total (A+B)**	**197,765.22**
D				Contigency @ 3% of C	5,932.96
E				Tools & Plants @ 2% of C	3,669.83
F				Transportation @ 7.5% of C	14,832.39
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,330.73
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**233,540.34**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**28,643.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,155.81**
K				**Total landed Cost (K=K1+ K2)**	**33,799.18**
L				**Total (J+K)**	**267,339.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**267,339.52**

O				CESS 1% of N	2,673.40
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**270,012.92**
	No. of Cut Point with 90 Degree Angle		4		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				
	MATERIALS FOR 11 KV Cut Point with 90 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	269.376	21,011.33
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00
5	11 KV pin insulator polymer	EA	140.00	16	2,240.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
8	Earthing of Support (Coil Type)	EA	164.00	4	656.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	40	840.00
11	H.T. Stay clamp	EA	260.00	8	2,080.00
12	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
13	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
14	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**184,942.14**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,289.59**
A				**Total landed Cost (A=A1 + A2)**	**218,231.73**
B				Stock, Storage & Insurance i.e 3% of A	6,546.95
C				**Sub Total (A+B)**	**224,778.68**
D				Contigency @ 3% of C	6,743.36
E				Tools & Plants @ 2% of C (Except HT Stay Set)	3,924.63
F				Transportation @ 7.5% of C	16,858.40
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,604.71
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**264,919.00**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**37,849.47**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,812.91**
K				**Total landed Cost (K=K1+ K2)**	**44,662.38**
L				**Total (J+K)**	**309,581.37**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**309,581.37**
O				CESS 1% of N	3,095.81
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**312,677.19**
	11 Kv Line Length In KM with 40 Mtr. Span		6.5		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	95	2,739,325.00
2	11 KV V cross Arm(GI)	EA	851.00	95	80,845.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	95	7,695.00
4	Danger Plate	EA	180.00	95	17,100.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	146.30	11,411.40
6	GI barbed wire anticlimbing device	KG	74.00	285.00	21,090.00
7	11 KV pin insulator polymer	EA	140.00	285	39,900.00
8	Earthing of Support (Coil Type)	EA	164.00	95	15,580.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	130.34	9,645.16
10	100 sq.mm AAA conductor	M	78.41	20085.00	1,574,864.85
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	18	3,154.50
12	POLYCARBONATE BIRD GUARD	EA	21.00	285	5,985.00
A1				**Total Cost of materials**	**4,526,595.91**
A2				**Applicable Taxes to make it Landed Cost @18%**	**814,787.26**
A				**Total landed Cost (A=A1 + A2)**	**5,341,383.17**
B				Stock, Storage & Insurance i.e 3% of A	160,241.50
C				**Sub Total (A+B)**	**5,501,624.67**
D				Contigency @ 3% of C	165,048.74
E				Tools & Plants @ 2% of C	110,032.49
F				Transportation @ 7.5% of C	412,621.85
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				166,468.78

H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				217,224.91
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**6,573,021.44**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	42.75	284,238.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	10.69	71,059.58
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	95	79,420.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	95	26,917.30
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	6.5	68,055.00
K1				**Total Civil & Services**	**529,690.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**95,344.24**
K				**Total landed Cost (K=K1+ K2)**	**625,034.46**
L				**Total Material+Services (J+K)**	7,198,055.90
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**7,198,055.90**
O				CESS 1% of N	71,980.56
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**7,270,036.46**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				451,532.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				414,729.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				270,012.92
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				312,677.19
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				7,270,036.46
Q				**Gross Total Material +Services**	**8,718,987.86**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				1,125.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**2,250.00**
V	GST @ 18% on Total Inspection Fees (U)				405.00
W	Total Inspection Fees including GST (U+V)				2,655.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**8,721,642.86**

PART B: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD DE)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**55,820.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,047.61**
A				**Total landed Cost (A=A1 + A2)**	**65,867.65**
B				Stock, Storage & Insurance i.e 3% of A	1,976.03
C				**Sub Total (A+B)**	**67,843.68**

D	Contigency @ 3% of C	2,035.31
E	Tools & Plants @ 2% of C	1,285.51
F	Transportation @ 7.5% of C	5,088.28
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**80,927.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**89,377.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**89,377.79**
O	CESS 1% of N				893.78
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,271.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**61,465.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,063.80**
A	**Total landed Cost (A=A1 + A2)**				**72,529.33**
B	Stock, Storage & Insurance i.e 3% of A				2,175.88
C	**Sub Total (A+B)**				**74,705.21**
D	Contigency @ 3% of C				2,241.16
E	Tools & Plants @ 2% of C (Except HT Stay Set)				1,351.37
F	Transportation @ 7.5% of C				5,602.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**88,905.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**100,070.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**100,070.76**
O	CESS 1% of N				1,000.71
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**101,071.46**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	13	374,855.00
2	11 KV V cross Arm(GI)	EA	851.00	13	11,063.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	13	1,053.00
4	Danger Plate	EA	180.00	13	2,340.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	20.02	1,561.56
6	GI barbed wire anticlimbing device	KG	74.00	39.00	2,886.00
7	11 KV pin insulator polymer	EA	140.00	39	5,460.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	39	4,290.00
9	Earthing of Support (Coil Type)	EA	164.00	13	2,132.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	17.84	1,319.86
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	404,790.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**813,100.42**
A2				**Applicable Taxes to make it Landed Cost @18%**	**146,358.08**
A				**Total landed Cost (A=A1 + A2)**	**959,458.50**
B				Stock, Storage & Insurance i.e 3% of A	28,783.76
C				**Sub Total (A+B)**	**988,242.26**
D				Contigency @ 3% of C	29,647.27
E				Tools & Plants @ 2% of C	19,764.85
F				Transportation @ 7.5% of C	74,118.17
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	22,779.94
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	53,264.35
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,187,816.82**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.85	38,895.77
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.46	9,723.94
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	13	10,868.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	13	3,683.42
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**73,641.14**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,255.40**
K				**Total landed Cost (K=K1+ K2)**	**86,896.54**
L				**Total Material+Services (J+K)**	1,274,713.36
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**1,274,713.36**
O				CESS 1% of N	12,747.13
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,287,460.50**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	173,279.01
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,271.56
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	101,071.46
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	1,287,460.50
Q				**Gross Total Material +Services**	**1,652,082.53**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,652,525.03**

PART C: Installation of 02 Nos of 4-Pole without AB Switch (Refer PSLD)					
No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)				2	
MATERIALS OF 4 POLE					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	8	230,680.00
2	GI Channel, angle & flat of different size	KG	78.00	2082.054	162,400.21
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate, 2 no's.	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	11 KV pin insulator polymer	EA	140.00	6	840.00
13	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
15	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
16	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	72.088	5,334.51
18	POLYCARBONATE BIRD GUARD	EA	21.00	42	882.00
A1				**Total Cost of materials**	**474,801.32**
A2				**Applicable Taxes to make it Landed Cost @18%**	**85,464.24**
A				**Total landed Cost (A=A1 + A2)**	**560,265.56**
B				Stock, Storage & Insurance i.e 3% of A	16,807.97
C				**Sub Total (A+B)**	**577,073.53**
D				Contigency @ 3% of C	17,312.21
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	10,844.12
F				Transportation @ 7.5% of C	43,280.51
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	26,183.77
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**688,712.56**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**67,409.67**
K2				Applicable Taxes to make it Landed Cost @18%	12,133.74
K				**Total landed Cost (K=K1+ K2)**	**79,543.40**
L				**Total (J+K)**	**768,255.97**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**768,255.97**
O				CESS 1% of N	7,682.56
P				**Gross Total Material +Services (N+O)**	**775,938.53**

PART D: Installation of 05 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			5		
Length of 11 KV Line Protecting Guarding in Mtr.			30		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	576.235	44,946.33
2	No-10 GI wire for lacing	KG	78.00	24.5625	1,915.88
3	No-8 GI wire for guard wire	KG	78.00	115.2	8,985.60
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
A1				**Total Cost of materials**	**68,847.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**12,392.60**
A				**Total landed Cost (A=A1 + A2)**	**81,240.41**
B				Stock, Storage & Insurance i.e 3% of A	2,437.21
C				**Sub Total (A+B)**	**83,677.62**
D				Contigency @ 3% of C	2,510.33
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,357.55
F				Transportation @ 7.5% of C	6,275.82
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,787.74
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**100,609.06**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
K1				**Total Civil & Services**	**37,847.30**
K2				Applicable Taxes to make it Landed Cost @18%	6,812.51
K				**Total landed Cost (K=K1+ K2)**	**44,659.81**
L				**Total (J+K)**	145,268.88
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**145,268.88**
O				Total CESS @ 1% of (N)	1,452.69
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**146,721.57**

PART E: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	110	950.00	104,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	22500	7.00	157,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**262,000.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**47,160.00**
A				**Total landed Cost (A=A1+ A2)**	**309,160.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	309,160.00
D				**CESS @ 1% of C**	3,091.60
E				**Grand Total (C+D)**	312,251.60

Annexure-12.50		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Khandagiri
Name of the Section : -		Khandagiri
Name of the Feeder: -		11kV Asian Plaza
Name of the Work :-		Proposal for Bifurcation of existing 11kV Asian Plaza feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 2. Installation of 1 No. of RMU in MS Nagar T-Off in Asian Plaza Feeder for Linking with 11kV Urbanyx Feeder.	44,72,530.56
2	Part-B:-Augmentation of 11kV Asian Plaza feeder of length 1.5CKM.	27,36,985.77
3	Part-C Dismantling.	72,634.25
4	**Total Gross**	**72,82,150.58**
Total estimated cost is Rs. 0.73Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

2. Installation of 1 No. of RMU in MS Nagar T-Off in Asian Plaza Feeder for Linking with 11kV Urbanyx Feeder.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***200***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	200	2,375.00	4,75,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA		15,950.00	-
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	8,260.00	24,780.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	2,900.00	8,700.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	200.00	812.00	1,62,400.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**19,37,156.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	200	110.00	22,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	200.00	195.00	39,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	0	12,000.00	-
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	0.0	6,755.00	-
	Sub Total (Erection Portion) (in Rs.)				**88,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				

1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	176		
1.1.a	Earth work excavation of **soil**	M3	147.84	716.03	1,05,857.88
1.1.b	Earth work excavation of **hard rock**	M3	63.36	1,759.39	1,11,474.95
1.2	Back filling with excavated soil outside and above the trench	M3	211.2	220.00	46,464.00
1.3	Road Repair and restoration charges	KM	0.1	92,94,727.82	9,29,472.78
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	7	1,035.17	7,246.19
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.2	10,470.00	2,094.00
	Sub Total (Civil Portion) (in Rs.)				**14,57,251.56**
A1	**Sub Total (Supply Portion)**				**19,37,156.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,48,688.19**
A	**Total Landed Cost (A=A1 + A2)**				**22,85,844.79**
B	Stock, Storage & Insurance @ 3 % of A				68,575.34
C	**Sub Total (A+B)**				**23,54,420.13**
D	Contingency @ 3 % of C				70,632.60
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				1,76,581.51
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**26,01,784.41**
I1	Sub Total (Erection Portion + Civil Portion)				15,45,251.56
I2	**Applicable Taxes to make it Landed Cost @18%**				**2,78,145.28**
I	**Total landed Cost (I=I1+ I2)**				**18,23,396.84**
J	**Total Cost (H+I)**				**44,25,181.25**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**44,25,181.25**
M	CESS 1% of L				44,251.81
N	**Grand Total (L+M)**				**44,69,433.06**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,625.00**
T	GST @ 18% on Total Inspection Fees (S)				472.50
U	Total Inspection Fees including GST (S+T)				3,097.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**44,72,530.56**

Part-B:-Augmentation of 11kV Asian Plaza feeder of length 1.5CKM.

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,09,527.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,714.98**
A				**Total landed Cost (A=A1 + A2)**	**3,65,242.66**
B				Stock, Storage & Insurance i.e 3% of A	10,957.28
C				**Sub Total (A+B)**	**3,76,199.94**
D				Contigency @ 3% of C	11,286.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	6,810.32
F				Transportation @ 7.5% of C	28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,03,629.29**
O				CESS 1% of N	5,036.29
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**5,08,665.58**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	25	7,20,875.00
2	11 KV V cross Arm(GI)	EA	851.00	25	21,275.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	25	2,025.00
4	Danger Plate	EA	180.00	25	4,500.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	38.50	3,003.00
6	GI barbed wire anticlimbing device	KG	74.00	75.00	5,550.00
7	11 KV pin insulator polymer	EA	140.00	75	10,500.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	75	8,250.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	50	11,000.00
10	Earthing of Support (Coil Type)	EA	164.00	25	4,100.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.30	2,538.20
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4635.00	6,07,185.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**14,02,151.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,52,387.22**
A				**Total landed Cost (A=A1 + A2)**	**16,54,538.42**
B				Stock, Storage & Insurance i.e 3% of A	49,636.15
C				**Sub Total (A+B)**	**17,04,174.57**
D				Contigency @ 3% of C	51,125.24
E				Tools & Plants @ 2% of C	34,083.49
F				Transportation @ 7.5% of C	1,27,813.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				43,807.57
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				82,802.31
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-

J				**Sum of (C to I)**	**20,43,806.27**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.81	18,699.89
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	25	20,900.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	25	7,083.50
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.5	15,705.00
K1				**Total Civil & Services**	**1,37,187.95**
K2				**Applicable Taxes to make it Landed Cost @18%**	**24,693.83**
K				**Total landed Cost (K=K1+ K2)**	**1,61,881.78**
L				**Total Material+Services (J+K)**	22,05,688.06
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**22,05,688.06**
O				CESS 1% of N	22,056.88
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**22,27,744.94**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				22,27,744.94
Q				**Gross Total Material +Services**	**27,36,410.52**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				112.50
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**487.50**
V	GST @ 18% on Total Inspection Fees (U)				87.75
W	Total Inspection Fees including GST (U+V)				575.25
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**27,36,985.77**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
3	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	30	950.00	28,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	4635	7.00	32,445.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**60,945.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,970.10**
A				**Total landed Cost (A=A1+ A2)**	**71,915.10**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	71,915.10
D				**CESS @ 1% of C**	719.15
E				**Grand Total (C+D)**	72,634.25

ANNEXURE-12.51

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	KED-I
Name of the Sub-Division : -	Kendrapara
Name of the Section : -	Chhata
Name of the Work :-	Proposal for construction of 1.1 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Thakurpatna & Chhata Fdr.
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: 1. Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD AB) 2. Installation of 10 Nos of 11 Mtr. WPB Pole (interposing) in 11 kV Chhata Fdr.	4,142,866.07
2	PART B: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
	Total Amount	**4,235,781.67**
	Total Amount (In Cr.)	**0.42**

Total estimated cost is Rs. 0.42 Crore. (On TPCODL Capex Scheme)

PART A:

1. Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD AB)

2. Installation of 10 Nos of 11 Mtr. WPB Pole (interposing) in 11 kV Chhata Fdr.

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	3

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99

A1	**Total Cost of materials**	**409,387.84**
A2	**Applicable Taxes to make it Landed Cost @18%**	**73,689.81**
A	**Total landed Cost (A=A1 + A2)**	**483,077.65**
B	Stock, Storage & Insurance i.e 3% of A	14,492.33
C	**Sub Total (A+B)**	**497,569.98**
D	Contigency @ 3% of C	14,927.10
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	8,905.38
F	Transportation @ 7.5% of C	37,317.75
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	23,499.25
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**592,733.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1	**Total Civil & Services**				**76,974.59**
K2	**Applicable Taxes to make it Landed Cost @18%**				**13,855.43**
K	**Total landed Cost (K=K1+ K2)**				**90,830.01**
L	**Total (J+K)**				**683,563.30**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**683,563.30**
O	CESS 1% of N				6,835.63
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**690,398.93**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**78,335.04**
A2	**Applicable Taxes to make it Landed Cost @18%**				**14,100.31**
A	**Total landed Cost (A=A1 + A2)**				**92,435.35**
B	Stock, Storage & Insurance i.e 3% of A				2,773.06
C	**Sub Total (A+B)**				**95,208.41**
D	Contigency @ 3% of C				2,856.25
E	Tools & Plants @ 2% of C				1,832.80
F	Transportation @ 7.5% of C				7,140.63
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**113,081.55**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**121,531.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**121,531.34**
O	CESS 1% of N				1,215.31
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**122,746.66**

	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)			1	
	MATERIALS FOR 11 KV Cut Point with 90 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**83,980.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,116.50**
A				**Total landed Cost (A=A1 + A2)**	**99,097.03**
B				Stock, Storage & Insurance i.e 3% of A	2,972.91
C				**Sub Total (A+B)**	**102,069.94**
D				Contigency @ 3% of C	3,062.10
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,898.66
F				Transportation @ 7.5% of C	7,655.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,120.54
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,252.23
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**121,058.72**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**132,224.32**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**132,224.32**
O				CESS 1% of N	1,322.24
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**133,546.56**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			1.1	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	22	1,129,700.00
2	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	288,350.00
3	11 KV V cross Arm(GI)	EA	851.00	32	27,232.00
4	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	32	2,592.00
5	Danger Plate	EA	180.00	32	5,760.00
6	Back Clamp for danger Plate and barbed wire	KG	78.00	49.28	3,843.84
7	GI barbed wire anticlimbing device	KG	74.00	96.00	7,104.00
8	11 KV pin insulator polymer	EA	140.00	96	13,440.00
9	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	96	10,560.00
10	Earthing of Support (Coil Type)	EA	164.00	32	5,248.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	43.90	3,248.90
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3399.00	445,269.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**1,943,697.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**349,865.59**
A				**Total landed Cost (A=A1 + A2)**	**2,293,563.33**
B				Stock, Storage & Insurance i.e 3% of A	68,806.90
C				**Sub Total (A+B)**	**2,362,370.23**
D				Contigency @ 3% of C	70,871.11
E				Tools & Plants @ 2% of C	47,247.40
F				Transportation @ 7.5% of C	177,177.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	86,174.90

H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				63,887.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**2,807,728.63**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	14.40	95,743.44
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	22	18,392.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	22	6,233.48
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.1	11,517.00
K1	**Total Civil & Services**				**155,821.78**
K2	**Applicable Taxes to make it Landed Cost @18%**				**28,047.92**
K	**Total landed Cost (K=K1+ K2)**				**183,869.70**
L	**Total Material+Services (J+K)**				2,991,598.33
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**2,991,598.33**
O	CESS 1% of N				29,915.98
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**3,021,514.31**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				173,279.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				690,398.93
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				122,746.66
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				133,546.56
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				3,021,514.31
Q	**Gross Total Material +Services**				**4,141,485.47**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				45.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,170.00**
V	GST @ 18% on Total Inspection Fees (U)				210.60
W	Total Inspection Fees including GST (U+V)				1,380.60
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**4,142,866.07**

PART B: Installation of 01 No. section boundary meter (refer PSLD)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**3 Phase Smart Meter**	EA			-
1.1	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	1	7,389.11	7,389.11
1.2	11 KV Metering Unit	EA	1	54,400.00	54,400.00
	Sub Total (in Rs.)				**61,789.11**
A1	**Sub Total (Supply Portion)**				**61,789.11**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,122.04**
A	**Total Landed Cost (A=A1 + A2)**				**72,911.15**
B	Stock, Storage & Insurance @ 3 % of A				2,187.33
C	**Sub Total (A+B)**				**75,098.48**
D	Contingency @ 3 % of C				2,252.95
E	Tools & Plants Charges @ 2% of C				1,501.97
F	Transportation @ 7.5% of C				5,632.39
G	Erection Charges @ 10% of C				7,509.85
H	**Total (C+D+E+F+G)**				**91,995.64**
I	Other Overhead /(including Supervision Charges) @ 6 % of H				
J	**Total Estimated Capital Cost i.e. (H+I)**				**91,995.64**
K	CESS 1% of J				919.96
L	**Grand Total (J+K)**				**92,915.60**

ANNEXURE-12.52		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Rajnagar	
Name of the Section : -	Rajnagar-II	
Name of the Work :-	Proposal for construction of 2 CKM 11 kV new line for N-1 connectivity between 11 kV Rajnagar & Balarampur Fdr. along with installation of 01 No. of 11 kV 4-way RMU (LVVV) at Kurundi for improvement of reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Construction of 2 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD) 2. Installation of 15 Nos 11 Mtr. WPB Pole (interposing) (Refer PSLD)	6,624,115.63
2	PART B: 1. Supply & laying of 0.13 kM 11 kV 3CX400 Sq.mm. XLPE U/G cable with one run spare	3,543,545.14
3	PART C: Installation of 02 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)	60,874.38
	Total Amount	**10,228,535.15**
	Total Amount (In Cr.)	**1.02**
Total estimated cost is Rs. 1.02 Crore. (On TPCODL Capex Scheme)		

PART A:

1. Construction of 2 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD)

2. Installation of 15 Nos 11 Mtr. WPB Pole (interposing) (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**173,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**204,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**210,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**248,350.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**298,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**298,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**301,021.34**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	6

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	12	346,020.00
2	GI Channel, angle & flat of different size	KG	78.00	1932.15	150,707.70
3	DMC Insulator for LA (70/10)	EA	113.50	48	5,448.00
4	Danger Plate	EA	180.00	12	2,160.00
5	H.T. Stay clamp	EA	260.00	24	6,240.00
6	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
7	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
8	7/10 SWG Stay Wire	KG	77.00	360	27,720.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00
10	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	18	35,280.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	6	65,832.00
13	11 KV pin insulator polymer	EA	140.00	18	2,520.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	36	4,968.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00

18	GI Nut , Bolt & Washer of different sizes	KG	74.00	66.216	4,899.98
A1	**Total Cost of materials**				**727,929.68**
A2	**Applicable Taxes to make it Landed Cost @18%**				**131,027.34**
A	**Total landed Cost (A=A1 + A2)**				**858,957.03**
B	Stock, Storage & Insurance i.e 3% of A				25,768.71
C	**Sub Total (A+B)**				**884,725.74**
D	Contigency @ 3% of C				26,541.77
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				15,602.47
F	Transportation @ 7.5% of C				66,354.43
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				21,027.64
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				35,957.08
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,050,209.13**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.40	35,903.79
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12.00	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6.00	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12.00	3,400.08
K1	**Total Civil & Services**				**153,949.18**
K2	**Applicable Taxes to make it Landed Cost @18%**				**27,710.85**
K	**Total landed Cost (K=K1+ K2)**				**181,660.03**
L	**Total (J+K)**				**1,231,869.16**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**1,231,869.16**
O	CESS 1% of N				12,318.69
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**1,244,187.85**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	102,700.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**126,388.08**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,749.85**
A	**Total landed Cost (A=A1 + A2)**				**149,137.93**
B	Stock, Storage & Insurance i.e 3% of A				4,474.14
C	**Sub Total (A+B)**				**153,612.07**
D	Contigency @ 3% of C				4,608.36
E	Tools & Plants @ 2% of C				2,929.50
F	Transportation @ 7.5% of C				11,520.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,165.37
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**181,077.29**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**197,976.88**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**197,976.88**
O	CESS 1% of N				1,979.77

P	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				199,956.65
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		2		
	MATERIALS FOR 11 KV Cut Point with 90 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	102,700.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	20	420.00
11	H.T. Stay clamp	EA	260.00	4	1,040.00
12	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
13	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
14	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**137,501.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,750.19**
A				**Total landed Cost (A=A1 + A2)**	**162,251.26**
B				Stock, Storage & Insurance i.e 3% of A	4,867.54
C				**Sub Total (A+B)**	**167,118.80**
D				Contigency @ 3% of C	5,013.56
E				Tools & Plants @ 2% of C (Except HT Stay Set)	3,056.90
F				Transportation @ 7.5% of C	12,533.91
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,802.36
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**196,766.62**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**219,097.80**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**219,097.80**
O				CESS 1% of N	2,190.98
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**221,288.78**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		2		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	38	1,951,300.00
2	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	15	432,525.00
3	11 KV V cross Arm(GI)	EA	851.00	53	45,103.00
4	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	53	4,293.00
5	Danger Plate	EA	180.00	53	9,540.00
6	Back Clamp for danger Plate and barbed wire	KG	78.00	81.62	6,366.36
7	GI barbed wire anticlimbing device	KG	74.00	159.00	11,766.00
8	11 KV pin insulator polymer	EA	140.00	159	22,260.00
9	Earthing of Support (Coil Type)	EA	164.00	53	8,692.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	72.72	5,380.98
11	100 sq.mm AAA conductor	M	78.41	6180.00	484,573.80
12	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
13	POLYCARBONATE BIRD GUARD	EA	21.00	159	3,339.00
A1				**Total Cost of materials**	**2,986,190.64**
A2				**Applicable Taxes to make it Landed Cost @18%**	**537,514.32**
A				**Total landed Cost (A=A1 + A2)**	**3,523,704.96**
B				Stock, Storage & Insurance i.e 3% of A	105,711.15
C				**Sub Total (A+B)**	**3,629,416.11**
D				Contigency @ 3% of C	108,882.48
E				Tools & Plants @ 2% of C	72,588.32
F				Transportation @ 7.5% of C	272,206.21
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				144,865.05

H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				73,211.52
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,301,169.69**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	23.85	158,575.07
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.96	39,643.77
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	38	31,768.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	38	10,766.92
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1				**Total Civil & Services**	**261,693.76**
K2				**Applicable Taxes to make it Landed Cost @18%**	**47,104.88**
K				**Total landed Cost (K=K1+ K2)**	**308,798.64**
L				**Total Material+Services (J+K)**	4,609,968.33
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**4,609,968.33**
O				CESS 1% of N	46,099.68
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**4,656,068.01**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				301,021.34
2	Gross Total Material +Services (N+O) for DP With AB Switch				1,244,187.85
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				199,956.65
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				221,288.78
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				4,656,068.01
Q				**Gross Total Material +Services**	**6,622,522.63**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				225.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,350.00**
V	GST @ 18% on Total Inspection Fees (U)				243.00
W	Total Inspection Fees including GST (U+V)				1,593.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**6,624,115.63**

PART B:
1. Supply & laying of 0.13 kM 11 kV 3CX400 Sq.mm. XLPE U/G cable with one run spare in Open Trench method (refer PSLD)
2. Installation of 01 No. 11 kV 4-way RMU (LVVV) (Refer PSLD)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***130***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	260	2,375.00	617,500.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	8,260.00	66,080.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	2,900.00	23,200.00
1.4	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	260.00	812.00	211,120.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.1	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	1,262,647.00	1,262,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**2,184,176.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	260	110.00	28,600.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	16	2,000.00	32,000.00
1.3	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	260.00	195.00	50,700.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**126,300.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	66		
1.1.a	Earth work excavation of **soil**	M3	55.44	716.03	39,696.70
1.1.b	Earth work excavation of **hard rock**	M3	23.76	1,759.39	41,803.11
1.2	Back filling with excavated soil outside and above the trench	M3	79.2	220.00	17,424.00
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	171,056.00	171,056.00

4	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	4	1,035.17	4,140.68
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.13	10,470.00	1,361.10
	Sub Total (Civil Portion) (in Rs.)				**359,067.35**
A1	**Sub Total (Supply Portion)**				**2,184,176.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**393,151.79**
A	**Total Landed Cost (A=A1 + A2)**				**2,577,328.39**
B	Stock, Storage & Insurance @ 3 % of A				77,319.85
C	**Sub Total (A+B)**				**2,654,648.24**
D	Contingency @ 3 % of C				79,639.45
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				199,098.62
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**2,933,536.47**
I1	Sub Total (Erection Portion + Civil Portion)				485,367.35
I2	**Applicable Taxes to make it Landed Cost @18%**				**87,366.12**
I	**Total landed Cost (I=I1+ I2)**				**572,733.47**
J	**Total Cost (H+I)**				**3,506,269.94**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**3,506,269.94**
M	CESS 1% of L				35,062.70
N	**Grand Total (L+M)**				**3,541,332.64**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**1,875.00**
T	GST @ 18% on Total Inspection Fees (S)				337.50
U	Total Inspection Fees including GST (S+T)				2,212.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**3,543,545.14**

PART C: Installation of 02 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	40

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	13.1	1,021.80
3	No-8 GI wire for guard wire	KG	78.00	61.44	4,792.32
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**28,992.65**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,218.68**
A				**Total landed Cost (A=A1 + A2)**	**34,211.33**
B				Stock, Storage & Insurance i.e 3% of A	1,026.34
C				**Sub Total (A+B)**	**35,237.67**
D				Contigency @ 3% of C	1,057.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	578.35
F				Transportation @ 7.5% of C	2,642.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,891.76
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**42,407.74**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	60,271.66
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**60,271.66**
O				Total CESS @ 1% of (N)	602.72
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**60,874.38**

ANNEXURE- 12.53		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	Kujanga	
Name of the Section : -	Chatua	
Name of the Work :-	Proposal for Augmentation of 4.1 CKM O/H line of 11 kV Sandhakuda Fdr. from 80 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC along with shifting of 1 CKM 11 kV line from water logging area and reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 4.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD B-D,F-G)	6,722,502.79
2	PART B: Construction of 1 CKM 11 kV O/H line using 11 Mtr. H- Pole & 100 Sq.mm. XLPE AAA Conductor (Refer D-E PSLD)	2,891,791.19
3	PART-C: Installation of 11 KV line protecting guarding of 2 Nos having span 30 Mtr. Each (Refer PSLD)	58,688.63
4	PART D: Dismantling Portion	274,471.38
	Total Amount	**9,947,453.99**
	Total Amount (In Cr.)	**0.99**
Total estimated cost is Rs. 0.99 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 4.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD B-D,F-G)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**203,455.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,621.90**
A				**Total landed Cost (A=A1 + A2)**	**240,076.92**
B				Stock, Storage & Insurance i.e 3% of A	7,202.31
C				**Sub Total (A+B)**	**247,279.23**
D				Contigency @ 3% of C	7,418.38
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,533.71
F				Transportation @ 7.5% of C	18,545.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,650.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**293,436.60**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**343,126.74**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**343,126.74**
O				CESS 1% of N	3,431.27
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**346,558.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**136,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**161,025.88**

B	Stock, Storage & Insurance i.e 3% of A	4,830.78
C	**Sub Total (A+B)**	**165,856.66**
D	Contigency @ 3% of C	4,975.70
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F	Transportation @ 7.5% of C	12,439.25
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**197,577.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**227,854.43**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**227,854.43**
O	CESS 1% of N				2,278.54
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**230,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
14	Earthing of Support (Coil Type)	EA	164.00	3	492.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1	**Total Cost of materials**				**167,460.12**
A2	**Applicable Taxes to make it Landed Cost @18%**				**30,142.82**
A	**Total landed Cost (A=A1 + A2)**				**197,602.94**
B	Stock, Storage & Insurance i.e 3% of A				5,928.09
C	**Sub Total (A+B)**				**203,531.03**
D	Contigency @ 3% of C				6,105.93
E	Tools & Plants @ 2% of C				3,856.52
F	Transportation @ 7.5% of C				15,264.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,768.76
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**242,783.97**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1	**Total Civil & Services**				**21,482.53**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,866.86**
K	**Total landed Cost (K=K1+ K2)**				**25,349.38**
L	**Total (J+K)**				**268,133.36**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**268,133.36**
O	CESS 1% of N				2,681.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**270,814.69**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
10	Earthing of Support (Coil Type)	EA	164.00	3	492.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**184,396.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,191.39**
A				**Total landed Cost (A=A1 + A2)**	**217,588.00**
B				Stock, Storage & Insurance i.e 3% of A	6,527.64
C				**Sub Total (A+B)**	**224,115.64**
D				Contigency @ 3% of C	6,723.47
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,054.10
F				Transportation @ 7.5% of C	16,808.67
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,756.70
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**266,715.49**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**300,212.27**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**300,212.27**
O				CESS 1% of N	3,002.12
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**303,214.39**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	4.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	59	1,701,265.00
2	11 KV V cross Arm(GI)	EA	851.00	59	50,209.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	59	4,779.00
4	Danger Plate	EA	180.00	59	10,620.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	90.86	7,087.08
6	GI barbed wire anticlimbing device	KG	74.00	177.00	13,098.00
7	11 KV pin insulator polymer	EA	140.00	177	24,780.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	177	19,470.00
9	Earthing of Support (Coil Type)	EA	164.00	59	9,676.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	80.95	5,990.15
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12669.00	1,659,639.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	12	5,400.00
A1				**Total Cost of materials**	**3,512,013.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**632,162.38**
A				**Total landed Cost (A=A1 + A2)**	**4,144,175.61**
B				Stock, Storage & Insurance i.e 3% of A	124,325.27
C				**Sub Total (A+B)**	**4,268,500.88**
D				Contigency @ 3% of C	128,055.03
E				Tools & Plants @ 2% of C	85,370.02
F				Transportation @ 7.5% of C	320,137.57
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				103,385.87
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				220,078.34
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**5,125,527.71**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	26.55	176,526.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.64	44,131.74
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	59	49,324.00

4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	59	16,717.06
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.1	42,927.00
K1	**Total Civil & Services**				**329,626.77**
K2	**Applicable Taxes to make it Landed Cost @18%**				**59,332.82**
K	**Total landed Cost (K=K1+ K2)**				**388,959.59**
L	**Total Material+Services (J+K)**				5,514,487.29
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**5,514,487.29**
O	CESS 1% of N				55,144.87
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**5,569,632.17**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				346,558.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				230,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				270,814.69
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				303,214.39
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				5,569,632.17
Q	**Gross Total Material +Services**				**6,720,352.24**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				697.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,822.50**
V	GST @ 18% on Total Inspection Fees (U)				328.05
W	Total Inspection Fees including GST (U+V)				2,150.55
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**6,722,502.79**

PART B: Construction of 1 CKM 11 kV O/H line using 11 Mtr. H- Pole & 100 Sq.mm. XLPE AAA Conductor (Refer D-E PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**78,335.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,100.31**
A				**Total landed Cost (A=A1 + A2)**	**92,435.35**
B				Stock, Storage & Insurance i.e 3% of A	2,773.06
C				**Sub Total (A+B)**	**95,208.41**
D				Contigency @ 3% of C	2,856.25
E				Tools & Plants @ 2% of C	1,832.80

F	Transportation @ 7.5% of C	7,140.63
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**113,081.55**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**121,531.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**121,531.34**
O	CESS 1% of N				1,215.31
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**122,746.66**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**83,980.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**15,116.50**
A	**Total landed Cost (A=A1 + A2)**				**99,097.03**
B	Stock, Storage & Insurance i.e 3% of A				2,972.91
C	**Sub Total (A+B)**				**102,069.94**
D	Contigency @ 3% of C				3,062.10
E	Tools & Plants @ 2% of C (Except HT Stay Set)				1,898.66
F	Transportation @ 7.5% of C				7,655.25
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**121,058.72**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**132,224.32**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**132,224.32**
O	CESS 1% of N				1,322.24
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**133,546.56**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	22	1,129,700.00
2	11 KV V cross Arm(GI)	EA	851.00	22	18,722.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	22	1,782.00

4	Danger Plate	EA	180.00	22	3,960.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	33.88	2,642.64
6	GI barbed wire anticlimbing device	KG	74.00	66.00	4,884.00
7	11 KV pin insulator polymer	EA	140.00	66	9,240.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	66	7,260.00
9	Earthing of Support (Coil Type)	EA	164.00	22	3,608.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	30.18	2,233.62
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	404,790.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**1,590,172.26**
A2				**Applicable Taxes to make it Landed Cost @18%**	**286,231.01**
A				**Total landed Cost (A=A1 + A2)**	**1,876,403.26**
B				Stock, Storage & Insurance i.e 3% of A	56,292.10
C				**Sub Total (A+B)**	**1,932,695.36**
D				Contigency @ 3% of C	57,980.86
E				Tools & Plants @ 2% of C	38,653.91
F				Transportation @ 7.5% of C	144,952.15
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				68,651.87
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				55,965.80
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,298,899.95**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.90	65,823.62
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.48	16,455.90
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	22	18,392.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	22	6,233.48
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**117,375.00**
K2				**Applicable Taxes to make it Landed Cost @18%**	**21,127.50**
K				**Total landed Cost (K=K1+ K2)**	**138,502.50**
L				**Total Material+Services (J+K)**	2,437,402.45
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**2,437,402.45**
O				CESS 1% of N	24,374.02
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**2,461,776.47**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				173,279.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				122,746.66
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				133,546.56
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				2,461,776.47
Q				**Gross Total Material +Services**	**2,891,348.69**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)				67.50
W	Total Inspection Fees including GST (U+V)				442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,891,791.19**

PART-C: Installation of 11 KV line protecting guarding of 2 Nos having span 30 Mtr. Each (Refer PSLD)

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	9.825	766.35
3	No-8 GI wire for guard wire	KG	78.00	46.08	3,594.24
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**27,539.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,957.04**
A				**Total landed Cost (A=A1 + A2)**	**32,496.16**
B				Stock, Storage & Insurance i.e 3% of A	974.88
C				**Sub Total (A+B)**	**33,471.05**
D				Contigency @ 3% of C	1,004.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	543.02
F				Transportation @ 7.5% of C	2,510.33
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,715.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**40,243.63**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	58,107.55
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**58,107.55**
O				Total CESS @ 1% of (N)	581.08
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**58,688.63**

PART D: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	23	1,380.92	31,761.05
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	52	950.00	49,400.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	16200	9.21	149,138.82
A1				**Sub Total (Civil Portion) (in Rs.)**	**230,299.87**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,453.98**
A				**Total landed Cost (A=A1+ A2)**	**271,753.84**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	271,753.84
D				**CESS @ 1% of C**	2,717.54
E				**Grand Total (C+D)**	274,471.38

ANNEXURE- 12.54		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	KUJANGA	
Name of the Section : -	KUJANGA	
Name of the Work :-	Proposal for conversion of 11 kV O/H line to U/G line using 3CX400 Sq.mm. XLPE U/G cable for the length of 0.57 kM for unsafe to safe.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A: Supply and laying of 11 kV 3C × 400 sq. mm XLPE U/G cable for 0.57 KM without spare run in HDD Method (refer to Point D–E)	4,353,491.23
2	PART B: Construction of 0.04 CKM 11 kV O/H line using 11 mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor.(Refer PSLD - E-F)	489,074.54
3	PART C: Dismantling Portion	18,106.71
	Total Amount	**4,860,672.49**
	Total Amount (In Cr.)	**0.49**
Total estimated cost is Rs. 0.49 Crore. (On TPCODL Capex Scheme)		

PART-A: Supply and laying of 11 kV 3C × 400 sq. mm XLPE U/G cable for 0.57 KM without spare run in HDD Method (refer to Point D–E)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***570***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	570	2,375.00	1,353,750.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	15,950.00	31,900.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
	Sub Total (Supply Portion) (in Rs.)				**1,391,450.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	570	110.00	62,700.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	4	2,000.00	8,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	570	2,970.00	1,692,900.00
	Sub Total (Erection Portion) (in Rs.)				**1,763,600.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Road Repair and restoration charges	KM	0.03	9,294,727.82	278,841.83
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	19	1,035.17	19,668.23
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.57	10,470.00	5,967.90
	Sub Total (Civil Portion) (in Rs.)				**304,477.96**

A1	**Sub Total (Supply Portion)**	**1,391,450.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**250,461.00**
A	**Total Landed Cost (A=A1 + A2)**	**1,641,911.00**
B	Stock, Storage & Insurance @ 3 % of A	49,257.33
C	**Sub Total (A+B)**	**1,691,168.33**
D	Contingency @ 3 % of C	50,735.05
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	126,837.62
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**1,868,741.00**
I1	Sub Total (Erection Portion + Civil Portion)	2,068,077.96
I2	**Applicable Taxes to make it Landed Cost @18%**	**372,254.03**
I	**Total landed Cost (I=I1+ I2)**	**2,440,332.00**
J	**Total Cost (H+I)**	**4,309,073.00**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**4,309,073.00**
M	CESS 1% of L	43,090.73
N	**Grand Total (L+M)**	**4,352,163.73**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)	202.50
U	Total Inspection Fees including GST (S+T)	1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**4,353,491.23**

PART B: Construction of 0.04 CKM 11 kV O/H line using 11 mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor.(Refer PSLD - E-F)					
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	674.05	52,575.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**275,265.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,547.74**
A				**Total landed Cost (A=A1 + A2)**	**324,812.97**
B				Stock, Storage & Insurance i.e 3% of A	9,744.39
C				**Sub Total (A+B)**	**334,557.36**
D				Contigency @ 3% of C	10,036.72
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,993.80
F				Transportation @ 7.5% of C	25,091.80
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,950.57
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**398,639.46**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**459,192.81**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**459,192.81**
O				CESS 1% of N	4,591.93
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**463,784.74**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				0.04	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	123.60	16,191.60
A1				**Total Cost of materials**	**16,191.60**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,914.49**
A				**Total landed Cost (A=A1 + A2)**	**19,106.09**
B				Stock, Storage & Insurance i.e 3% of A	573.18
C				**Sub Total (A+B)**	**19,679.27**
D				Contigency @ 3% of C	590.38
E				Tools & Plants @ 2% of C	393.59
F				Transportation @ 7.5% of C	1,475.95
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,967.93
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**24,107.11**
Civil & Services					
1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.04	418.80
K1				**Total Civil & Services**	**418.80**
K2				**Applicable Taxes to make it Landed Cost @18%**	**75.38**
K				**Total landed Cost (K=K1+ K2)**	**494.18**
L				**Total Material+Services (J+K)**	24,601.29
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	

N	**Sub-Total (L+M)**	**24,601.29**
O	CESS 1% of N	246.01
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**24,847.30**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP With AB Switch	463,784.74
2	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	24,847.30
Q	**Gross Total Material +Services**	**488,632.04**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**489,074.54**

PART C: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	3	1,380.92	4,142.75
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	5	950.00	4,750.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	900	7.00	6,300.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**15,192.75**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,734.69**
A				**Total landed Cost (A=A1+ A2)**	**17,927.44**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	17,927.44
D				**CESS @ 1% of C**	179.27
E				**Grand Total (C+D)**	18,106.71

ANNEXURE- 12.55		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	PARADEEP	
Name of the Section : -	PARADEEP	
Name of the Work :-	Proposal for Augmentation of 1 CKM line of 11 kV Rangiagarh Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD B-C-D)	1,748,319.07
2	PART-B: Installation of 11 KV line protecting guarding of 1 No span having span 40 Mtr. (Refer PSLD)	30,437.19
3	PART C: Dismantling Portion	38,614.32
	Total Amount	**1,817,370.58**
	Total Amount (In Cr.)	**0.18**
Total estimated cost is Rs. 0.18 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD B-C-D)					
	No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)			1	
	MATERIALS OF DP With AB Switch				
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**136,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**161,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**165,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**197,577.76**
	Civil & Services				
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**227,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**227,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**230,132.98**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)			2	
	MATERIALS FOR 11 KV Cut Point with 180 Degree Angle				
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
14	Earthing of Support (Coil Type)	EA	164.00	2	328.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**111,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**131,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06

C	**Sub Total (A+B)**	**135,687.35**
D	Contigency @ 3% of C	4,070.62
E	Tools & Plants @ 2% of C	2,571.01
F	Transportation @ 7.5% of C	10,176.55
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**161,855.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**178,755.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**178,755.57**
O				CESS 1% of N	1,787.56
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**180,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
10	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**122,931.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,127.59**
A				**Total landed Cost (A=A1 + A2)**	**145,058.66**
B	Stock, Storage & Insurance i.e 3% of A				4,351.76
C				**Sub Total (A+B)**	**149,410.42**
D	Contigency @ 3% of C				4,482.31
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,702.74
F	Transportation @ 7.5% of C				11,205.78
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,504.46
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**177,810.33**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**200,141.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**200,141.51**
O				CESS 1% of N	2,001.42
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**202,142.93**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	288,350.00
2	11 KV V cross Arm(GI)	EA	851.00	10	8,510.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	10	810.00
4	Danger Plate	EA	180.00	10	1,800.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	15.40	1,201.20
6	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
7	11 KV pin insulator polymer	EA	140.00	30	4,200.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	30	3,300.00
9	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	13.72	1,015.28
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	404,790.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**719,186.48**
A2				**Applicable Taxes to make it Landed Cost @18%**	**129,453.57**
A				**Total landed Cost (A=A1 + A2)**	**848,640.05**
B				Stock, Storage & Insurance i.e 3% of A	25,459.20
C				**Sub Total (A+B)**	**874,099.25**
D				Contigency @ 3% of C	26,222.98
E				Tools & Plants @ 2% of C	17,481.98
F				Transportation @ 7.5% of C	65,557.44
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	52,363.87
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,053,248.55**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**59,063.18**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,631.37**
K				**Total landed Cost (K=K1+ K2)**	**69,694.55**
L				**Total Material+Services (J+K)**	1,122,943.10
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**1,122,943.10**
O				CESS 1% of N	11,229.43
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,134,172.53**
	Gross Total Summary				
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	180,543.13
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	202,142.93
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	1,134,172.53
Q				**Gross Total Material +Services**	**1,746,991.57**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V				GST @ 18% on Total Inspection Fees (U)	202.50
W				Total Inspection Fees including GST (U+V)	1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,748,319.07**

PART-B: Installation of 11 KV line protecting guarding of 1 No span having span 40 Mtr. (Refer PSLD)

No. of 11 KV Line Protecting Guarding	1
Length of 11 KV Line Protecting Guarding in Mtr.	40

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	115.247	8,989.27
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1				**Total Cost of materials**	**14,496.33**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,609.34**
A				**Total landed Cost (A=A1 + A2)**	**17,105.66**
B				Stock, Storage & Insurance i.e 3% of A	513.17
C				**Sub Total (A+B)**	**17,618.83**
D				Contigency @ 3% of C	528.57
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	289.18
F				Transportation @ 7.5% of C	1,321.41
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,445.88
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,203.87**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1				**Total Civil & Services**	**7,569.46**
K2				Applicable Taxes to make it Landed Cost @18%	1,362.50
K				**Total landed Cost (K=K1+ K2)**	**8,931.96**
L				**Total (J+K)**	30,135.83
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**30,135.83**
O				Total CESS @ 1% of (N)	301.36
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**30,437.19**

PART C: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	12	950.00	11,400.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3000	7.00	21,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**32,400.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,832.00**
A				**Total landed Cost (A=A1+ A2)**	**38,232.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	38,232.00
D				**CESS @ 1% of C**	382.32
E				**Grand Total (C+D)**	38,614.32

ANNEXURE- 12.56		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	TIRTOL	
Name of the Section : -	ERASAMA	
Name of the Work :-	Proposal for refurbishment of 1.2 CKM line of 11 kV Erasama Bazar Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Augmentation of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD A-B,D-E) 2. Installation of 02 Nos. of 13 mtr. WPB pole for providing proper insulation at the 11 kV line crossing.	2,380,782.05
2	PART-B: Installation of 11 KV line protecting guarding of 1 Nos span (40 Mtr. each) (Refer PSLD)	30,437.19
3	PART C: Dismantling Portion	30,284.46
	Total Amount	**2,441,503.70**
	Total Amount (In Cr.)	**0.24**
Total estimated cost is Rs. 0.24 Crore. (On TPCODL Capex Scheme)		

PART A:

1. Augmentation of 1.2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) & 100 Sq.mm. XLPE AAA Conductor (Refer PSLD A-B,D-E)

2. Installation of 02 Nos. of 13 mtr. WPB pole for providing proper insulation at the 11 kV line crossing.

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**136,462.61**

A2	**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A	**Total landed Cost (A=A1 + A2)**	**161,025.88**
B	Stock, Storage & Insurance i.e 3% of A	4,830.78
C	**Sub Total (A+B)**	**165,856.66**
D	Contigency @ 3% of C	4,975.70
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F	Transportation @ 7.5% of C	12,439.25
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**197,577.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**227,854.43**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**227,854.43**
O	CESS 1% of N				2,278.54
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**230,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**55,820.04**
A2	**Applicable Taxes to make it Landed Cost @18%**				**10,047.61**
A	**Total landed Cost (A=A1 + A2)**				**65,867.65**
B	Stock, Storage & Insurance i.e 3% of A				1,976.03
C	**Sub Total (A+B)**				**67,843.68**
D	Contigency @ 3% of C				2,035.31
E	Tools & Plants @ 2% of C				1,285.51
F	Transportation @ 7.5% of C				5,088.28
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**80,927.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**89,377.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**89,377.79**
O	CESS 1% of N				893.78
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,271.56**

No. of Cut Point with 90 Degree Angle				2	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	2	67,940.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
10	Earthing of Support (Coil Type)	EA	164.00	2	328.00
11	H.T. Stay clamp	EA	260.00	4	1,040.00
12	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
13	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
14	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**133,201.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,976.19**
A				**Total landed Cost (A=A1 + A2)**	**157,177.26**
B				Stock, Storage & Insurance i.e 3% of A	4,715.32
C				**Sub Total (A+B)**	**161,892.58**
D				Contigency @ 3% of C	4,856.78
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,952.38
F				Transportation @ 7.5% of C	12,141.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	6,504.46
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**192,476.86**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**20,254.51**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,645.81**
K				**Total landed Cost (K=K1+ K2)**	**23,900.32**
L				**Total (J+K)**	**216,377.18**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**216,377.18**
O				CESS 1% of N	2,163.77
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**218,540.95**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				1.2	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	18	519,030.00
2	11 KV V cross Arm(GI)	EA	851.00	18	15,318.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	18	1,458.00
4	Danger Plate	EA	180.00	18	3,240.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	27.72	2,162.16
6	GI barbed wire anticlimbing device	KG	74.00	54.00	3,996.00
7	11 KV pin insulator polymer	EA	140.00	54	7,560.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	54	5,940.00
9	Earthing of Support (Coil Type)	EA	164.00	18	2,952.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	24.70	1,827.50
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3708.00	485,748.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**1,050,581.66**
A2				**Applicable Taxes to make it Landed Cost @18%**	**189,104.70**
A				**Total landed Cost (A=A1 + A2)**	**1,239,686.36**
B				Stock, Storage & Insurance i.e 3% of A	37,190.59
C				**Sub Total (A+B)**	**1,276,876.95**
D				Contigency @ 3% of C	38,306.31
E				Tools & Plants @ 2% of C	25,537.54
F				Transportation @ 7.5% of C	95,765.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	31,541.45
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	64,604.79
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,532,632.82**
Civil & Services					

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.10	53,855.69
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.03	13,463.92
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	18	15,048.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	18	5,100.12
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.2	12,564.00
K1	**Total Civil & Services**				**100,031.73**
K2	**Applicable Taxes to make it Landed Cost @18%**				**18,005.71**
K	**Total landed Cost (K=K1+ K2)**				**118,037.44**
L	**Total Material+Services (J+K)**				1,650,670.25
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**1,650,670.25**
O	CESS 1% of N				16,506.70
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**1,667,176.96**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				173,279.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				230,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				90,271.56
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				218,540.95
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,667,176.96
Q	**Gross Total Material +Services**				**2,379,401.45**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				45.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,170.00**
V	GST @ 18% on Total Inspection Fees (U)				210.60
W	Total Inspection Fees including GST (U+V)				1,380.60
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**2,380,782.05**

PART-B: Installation of 11 KV line protecting guarding of 1 Nos span (40 Mtr. each) (Refer PSLD)

No. of 11 KV Line Protecting Guarding	1
Length of 11 KV Line Protecting Guarding in Mtr.	40

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	115.247	8,989.27
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1				**Total Cost of materials**	**14,496.33**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,609.34**
A				**Total landed Cost (A=A1 + A2)**	**17,105.66**
B				Stock, Storage & Insurance i.e 3% of A	513.17
C				**Sub Total (A+B)**	**17,618.83**
D				Contigency @ 3% of C	528.57
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	289.18
F				Transportation @ 7.5% of C	1,321.41
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,445.88
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,203.87**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1				**Total Civil & Services**	**7,569.46**
K2				Applicable Taxes to make it Landed Cost @18%	1,362.50
K				**Total landed Cost (K=K1+ K2)**	**8,931.96**
L				**Total (J+K)**	30,135.83
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**30,135.83**
O				Total CESS @ 1% of (N)	301.36
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**30,437.19**

PART C: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
2	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	6	1,380.92	8,285.49
3	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	18	950.00	17,100.00
15	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3.6	7.00	25.20
A1				**Sub Total (Civil Portion) (in Rs.)**	**25,410.69**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,573.92**
A				**Total landed Cost (A=A1+ A2)**	**29,984.61**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	29,984.61
D				**CESS @ 1% of C**	299.85
E				**Grand Total (C+D)**	30,284.46

ANNEXURE-12.57		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Balikuda	
Name of the Section : -	Balikuda-I	
Name of the Work :-	Proposal for refurbishment of 11.5 CKM O/H line of 11 kV Dengapola Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC along with construction of 1.5 CKM 11 kV line for N-1 connectivity between 11 kV Govindpur and Dengapola Fdr. for improvement of reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 1.5 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C1-Y)	4,672,656.02
2	PART B: 1. Augmentation of 7.5 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC & installation of interposing pole (Refer PSLD) 2. Installation of 67 Nos interposing pole in existing line (refer PSLD) 3. Installation of 03 Nos DP with AB Switch for Doluisahi, Amanipatna & Bhagawanpur DSS (Refer PSLD)	13,129,989.28
3	PART C: Augmentation of 4 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC & installation of interposing pole (Refer PSLD)	4,905,337.50
4	PART D: Renovation of existing 4-Pole	169,752.57
5	PART E: Installation of 7 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	205,410.19
6	PART F: Dismantling Portion	473,058.13
7	PART G: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
8	**Total Amount**	**23,649,119.29**
	Total Amount (In Cr.)	**2.36**
Total estimated cost is Rs. 2.36 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 1.5 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C1-Y)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**203,455.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,621.90**
A				**Total landed Cost (A=A1 + A2)**	**240,076.92**
B				Stock, Storage & Insurance i.e 3% of A	7,202.31
C				**Sub Total (A+B)**	**247,279.23**
D				Contigency @ 3% of C	7,418.38
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,533.71
F				Transportation @ 7.5% of C	18,545.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,650.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**293,436.60**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**343,126.74**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**343,126.74**
O				CESS 1% of N	3,431.27
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**346,558.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**272,925.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,126.54**

A	**Total landed Cost (A=A1 + A2)**	**322,051.77**
B	Stock, Storage & Insurance i.e 3% of A	9,661.55
C	**Sub Total (A+B)**	**331,713.32**
D	Contigency @ 3% of C	9,951.40
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,936.92
F	Transportation @ 7.5% of C	24,878.50
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,666.17
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**395,155.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**51,316.39**
K2	**Applicable Taxes to make it Landed Cost @18%**				**9,236.95**
K	**Total landed Cost (K=K1+ K2)**				**60,553.34**
L	**Total (J+K)**				**455,708.86**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**455,708.86**
O	CESS 1% of N				4,557.09
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**460,265.95**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**78,335.04**
A2	**Applicable Taxes to make it Landed Cost @18%**				**14,100.31**
A	**Total landed Cost (A=A1 + A2)**				**92,435.35**
B	Stock, Storage & Insurance i.e 3% of A				2,773.06
C	**Sub Total (A+B)**				**95,208.41**
D	Contigency @ 3% of C				2,856.25
E	Tools & Plants @ 2% of C				1,832.80
F	Transportation @ 7.5% of C				7,140.63
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**113,081.55**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**121,531.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**121,531.34**
O	CESS 1% of N				1,215.31
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**122,746.66**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				1	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**83,980.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,116.50**
A				**Total landed Cost (A=A1 + A2)**	**99,097.03**
B				Stock, Storage & Insurance i.e 3% of A	2,972.91
C				**Sub Total (A+B)**	**102,069.94**
D				Contigency @ 3% of C	3,062.10
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,898.66
F				Transportation @ 7.5% of C	7,655.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,120.54
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,252.23
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**121,058.72**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**132,224.32**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**132,224.32**
O				CESS 1% of N	1,322.24
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**133,546.56**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				1.5	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	32	1,643,200.00
3	11 KV V cross Arm(GI)	EA	851.00	32	27,232.00
4	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	32	2,592.00
5	Danger Plate	EA	180.00	32	5,760.00
6	Back Clamp for danger Plate and barbed wire	KG	78.00	49.28	3,843.84
7	GI barbed wire anticlimbing device	KG	74.00	96.00	7,104.00
8	11 KV pin insulator polymer	EA	140.00	96	13,440.00
9	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	96	10,560.00
10	Earthing of Support (Coil Type)	EA	164.00	32	5,248.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	43.90	3,248.90
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4635.00	607,185.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**2,330,763.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**419,537.47**
A				**Total landed Cost (A=A1 + A2)**	**2,750,301.21**
B				Stock, Storage & Insurance i.e 3% of A	82,509.04
C				**Sub Total (A+B)**	**2,832,810.24**
D				Contigency @ 3% of C	84,984.31
E				Tools & Plants @ 2% of C	56,656.20
F				Transportation @ 7.5% of C	212,460.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	99,857.26
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	83,566.50
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,370,335.29**

	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	14.40	95,743.44
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	32	26,752.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	32	9,066.88
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.5	15,705.00
K1				**Total Civil & Services**	**171,203.18**
K2				**Applicable Taxes to make it Landed Cost @18%**	**30,816.57**
K				**Total landed Cost (K=K1+ K2)**	**202,019.75**
L				**Total Material+Services (J+K)**	3,572,355.04
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**3,572,355.04**
O				CESS 1% of N	35,723.55
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**3,608,078.59**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				346,558.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				460,265.95
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				122,746.66
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				133,546.56
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				3,608,078.59
Q				**Gross Total Material +Services**	**4,671,195.77**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				112.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,237.50**
V	GST @ 18% on Total Inspection Fees (U)				222.75
W	Total Inspection Fees including GST (U+V)				1,460.25
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,672,656.02**

PART B:

1. Augmentation of 7.5 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC & installation of interposing pole (Refer PSLD)

2. Installation of 67 Nos interposing pole in existing line (refer PSLD)

3. Installation of 03 Nos DP with AB Switch for Doluisahi, Amanipatna & Bhagawanpur DSS (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	8

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	16	461,360.00
2	GI Channel, angle & flat of different size	KG	78.00	1433.352	111,801.46
3	Danger Plate	EA	180.00	16	2,880.00
4	H.T. Stay clamp	EA	260.00	16	4,160.00
5	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	16	20,800.00
9	GI barbed wire anticlimbing device	KG	74.00	48	3,552.00
10	11 KV pin insulator polymer	EA	140.00	24	3,360.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	48	19,776.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	48	7,200.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	48	6,624.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	92.576	6,850.62
A1				**Total Cost of materials**	**692,692.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**124,684.57**
A				**Total landed Cost (A=A1 + A2)**	**817,376.65**
B				Stock, Storage & Insurance i.e 3% of A	24,521.30
C				**Sub Total (A+B)**	**841,897.95**
D				Contigency @ 3% of C	25,256.94
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	15,190.46
F				Transportation @ 7.5% of C	63,142.35
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	28,036.85
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	19,878.61
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**993,403.15**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.20	47,871.72
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	16	60,555.68
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	16	4,533.44
K1				**Total Civil & Services**	**168,441.17**
K2				**Applicable Taxes to make it Landed Cost @18%**	**30,319.41**
K				**Total landed Cost (K=K1+ K2)**	**198,760.58**
L				**Total (J+K)**	**1,192,163.73**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,192,163.73**
O				CESS 1% of N	11,921.64
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,204,085.37**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	230,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	100,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00

18	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**485,286.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**87,351.56**
A				**Total landed Cost (A=A1 + A2)**	**572,638.02**
B				Stock, Storage & Insurance i.e 3% of A	17,179.14
C				**Sub Total (A+B)**	**589,817.16**
D				Contigency @ 3% of C	17,694.51
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	10,401.65
F				Transportation @ 7.5% of C	44,236.29
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				23,971.39
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**700,139.42**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**102,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**121,106.69**
L				**Total (J+K)**	**821,246.11**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**821,246.11**
O				CESS 1% of N	8,212.46
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**829,458.57**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	8

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	8	230,680.00
2	GI Channel, angle & flat of different size	KG	78.00	286.5	22,346.69
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
8	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
9	11 KV pin insulator polymer	EA	140.00	24	3,360.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	48	19,776.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	48	7,200.00
12	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	48	6,624.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
A1				**Total Cost of materials**	**325,432.32**
A2				**Applicable Taxes to make it Landed Cost @18%**	**58,577.82**
A				**Total landed Cost (A=A1 + A2)**	**384,010.14**
B				Stock, Storage & Insurance i.e 3% of A	11,520.30
C				**Sub Total (A+B)**	**395,530.44**
D				Contigency @ 3% of C	11,865.91
E				Tools & Plants @ 2% of C	7,339.66
F				Transportation @ 7.5% of C	29,664.78
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,661.47
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**467,080.69**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8.00	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**57,286.75**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,311.61**
K				**Total landed Cost (K=K1+ K2)**	**67,598.36**
L				**Total (J+K)**	**534,679.05**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**534,679.05**
O				CESS 1% of N	5,346.79

P	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				540,025.84
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		8		
	MATERIALS FOR 11 KV Cut Point with 90 Degree Angle				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	8	230,680.00
2	GI Channel, angle & flat of different size	KG	78.00	538.752	42,022.66
3	Danger Plate	EA	180.00	8	1,440.00
4	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
5	11 KV pin insulator polymer	EA	140.00	32	4,480.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	48	19,776.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	48	7,200.00
8	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	48	6,624.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	80	1,680.00
11	H.T. Stay clamp	EA	260.00	16	4,160.00
12	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
13	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
14	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
A1				**Total Cost of materials**	**369,884.29**
A2				**Applicable Taxes to make it Landed Cost @18%**	**66,579.17**
A				**Total landed Cost (A=A1 + A2)**	**436,463.46**
B				Stock, Storage & Insurance i.e 3% of A	13,093.90
C				**Sub Total (A+B)**	**449,557.36**
D				Contigency @ 3% of C	13,486.72
E				Tools & Plants @ 2% of C (Except HT Stay Set)	7,849.25
F				Transportation @ 7.5% of C	33,716.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,018.42
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,209.43
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**529,837.99**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8.00	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**75,698.95**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,625.81**
K				**Total landed Cost (K=K1+ K2)**	**89,324.76**
L				**Total (J+K)**	**619,162.75**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**619,162.75**
O				CESS 1% of N	6,191.63
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**625,354.37**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		7.5		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	140	4,036,900.00
2	11 KV V cross Arm(GI)	EA	851.00	140	119,140.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	140	11,340.00
4	Danger Plate	EA	180.00	140	25,200.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	215.60	16,816.80
6	GI barbed wire anticlimbing device	KG	74.00	420.00	31,080.00
7	11 KV pin insulator polymer	EA	140.00	420	58,800.00
8	Earthing of Support (Coil Type)	EA	164.00	140	22,960.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	192.08	14,213.92
10	100 sq.mm AAA conductor	M	78.41	23175.00	1,817,151.75
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	21	3,680.25
12	POLYCARBONATE BIRD GUARD	EA	21.00	420	8,820.00
A1				**Total Cost of materials**	**6,166,102.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,109,898.49**
A				**Total landed Cost (A=A1 + A2)**	**7,276,001.21**
B				Stock, Storage & Insurance i.e 3% of A	218,280.04
C				**Sub Total (A+B)**	**7,494,281.25**
D				Contigency @ 3% of C	224,828.44
E				Tools & Plants @ 2% of C	149,885.62
F				Transportation @ 7.5% of C	562,071.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				245,322.41
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				258,783.30

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**8,935,172.11**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	63.00	418,877.55
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	15.75	104,719.39
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	140	117,040.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	140	39,667.60
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7.5	78,525.00
K1				**Total Civil & Services**	**758,829.54**
K2				**Applicable Taxes to make it Landed Cost @18%**	**136,589.32**
K				**Total landed Cost (K=K1+ K2)**	**895,418.85**
L				**Total Material+Services (J+K)**	9,830,590.97
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**9,830,590.97**
O				CESS 1% of N	98,305.91
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**9,928,896.88**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				1,204,085.37
2	Gross Total Material +Services (N+O) for DP With AB Switch				829,458.57
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				540,025.84
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				625,354.37
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				9,928,896.88
Q				**Gross Total Material +Services**	**13,127,821.03**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				1,462.50
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**1,837.50**
V	GST @ 18% on Total Inspection Fees (U)				330.75
W	Total Inspection Fees including GST (U+V)				2,168.25
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**13,129,989.28**

PART C: Augmentation of 4 CKM 11 kV O/H line from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC & installation of interposing pole (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	5

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	10	288,350.00
2	GI Channel, angle & flat of different size	KG	78.00	895.845	69,875.91
3	Danger Plate	EA	180.00	10	1,800.00
4	H.T. Stay clamp	EA	260.00	10	2,600.00
5	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
6	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
7	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
9	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
10	11 KV pin insulator polymer	EA	140.00	15	2,100.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	57.86	4,281.64
A1				**Total Cost of materials**	**508,637.55**
A2				**Applicable Taxes to make it Landed Cost @18%**	**91,554.76**
A				**Total landed Cost (A=A1 + A2)**	**600,192.31**
B				Stock, Storage & Insurance i.e 3% of A	18,005.77
C				**Sub Total (A+B)**	**618,198.08**
D				Contigency @ 3% of C	18,545.94
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,334.27
F				Transportation @ 7.5% of C	46,364.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	21,625.31
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**733,591.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**105,275.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,949.63**
K				**Total landed Cost (K=K1+ K2)**	**124,225.36**
L				**Total (J+K)**	**857,816.86**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**857,816.86**
O				CESS 1% of N	8,578.17
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**866,395.03**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
14	Earthing of Support (Coil Type)	EA	164.00	3	492.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**167,460.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,142.82**
A				**Total landed Cost (A=A1 + A2)**	**197,602.94**
B				Stock, Storage & Insurance i.e 3% of A	5,928.09
C				**Sub Total (A+B)**	**203,531.03**

D	Contigency @ 3% of C	6,105.93
E	Tools & Plants @ 2% of C	3,856.52
F	Transportation @ 7.5% of C	15,264.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,768.76
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**242,783.97**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**268,133.36**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**268,133.36**
O				CESS 1% of N	2,681.33
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**270,814.69**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
10	Earthing of Support (Coil Type)	EA	164.00	3	492.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**184,396.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,191.39**
A				**Total landed Cost (A=A1 + A2)**	**217,588.00**
B				Stock, Storage & Insurance i.e 3% of A	6,527.64
C				**Sub Total (A+B)**	**224,115.64**
D				Contigency @ 3% of C	6,723.47
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,054.10
F				Transportation @ 7.5% of C	16,808.67
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,756.70
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**266,715.49**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**300,212.27**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**300,212.27**
O				CESS 1% of N	3,002.12
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**303,214.39**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	4

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	19	547,865.00
2	11 KV V cross Arm(GI)	EA	851.00	19	16,169.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	19	1,539.00
4	Danger Plate	EA	180.00	19	3,420.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	29.26	2,282.28
6	GI barbed wire anticlimbing device	KG	74.00	57.00	4,218.00
7	11 KV pin insulator polymer	EA	140.00	57	7,980.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	57	6,270.00
9	Earthing of Support (Coil Type)	EA	164.00	19	3,116.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	26.07	1,929.03
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12360.00	1,619,160.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	12	5,400.00
A1				**Total Cost of materials**	**2,219,348.31**
A2				**Applicable Taxes to make it Landed Cost @18%**	**399,482.70**
A				**Total landed Cost (A=A1 + A2)**	**2,618,831.01**
B				Stock, Storage & Insurance i.e 3% of A	78,564.93
C				**Sub Total (A+B)**	**2,697,395.94**
D				Contigency @ 3% of C	80,921.88
E				Tools & Plants @ 2% of C	53,947.92
F				Transportation @ 7.5% of C	202,304.70
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				33,293.76
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				203,152.08
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,271,016.27**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.55	56,847.67
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.14	14,211.92
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	19	15,884.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	19	5,383.46
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4	41,880.00
K1				**Total Civil & Services**	**134,207.04**
K2				**Applicable Taxes to make it Landed Cost @18%**	**24,157.27**
K				**Total landed Cost (K=K1+ K2)**	**158,364.31**
L				**Total Material+Services (J+K)**	3,429,380.58
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**3,429,380.58**
O				CESS 1% of N	34,293.81
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**3,463,674.39**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				866,395.03
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				270,814.69
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				303,214.39
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				3,463,674.39
Q				**Gross Total Material +Services**	**4,904,098.50**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				675.00
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**1,050.00**
V	GST @ 18% on Total Inspection Fees (U)				189.00
W	Total Inspection Fees including GST (U+V)				1,239.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,905,337.50**

PART D: Renovation of existing 4-Pole					
No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)				1	
MATERIALS OF 4 POLE					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	GI Channel, angle & flat of different size	KG	78.00	1041.027	81,200.11
2	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
3	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
4	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
5	11 KV pin insulator polymer	EA	140.00	3	420.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
8	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	18	2,484.00
9	100 sq.mm AAA conductor	M	78.41	30.00	2,352.30
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	10	740.00
11	POLYCARBONATE BIRD GUARD	EA	21.00	21	441.00
A1				**Total Cost of materials**	**107,141.41**
A2				**Applicable Taxes to make it Landed Cost @18%**	**19,285.45**
A				**Total landed Cost (A=A1 + A2)**	**126,426.86**
B				Stock, Storage & Insurance i.e 3% of A	3,792.81
C				**Sub Total (A+B)**	**130,219.66**
D				Contigency @ 3% of C	3,906.59
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	2,541.19
F				Transportation @ 7.5% of C	9,766.47
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,705.96
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**159,139.88**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1				**Total Civil & Services**	**7,569.46**
K2				Applicable Taxes to make it Landed Cost @18%	1,362.50
K				**Total landed Cost (K=K1+ K2)**	**8,931.96**
L				**Total (J+K)**	**168,071.85**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**168,071.85**
O				CESS 1% of N	1,680.72
P				**Gross Total Material +Services (N+O)**	**169,752.57**

PART E: Installation of 7 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			7		
Length of 11 KV Line Protecting Guarding in Mtr.			30		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	806.729	62,924.86
2	No-10 GI wire for lacing	KG	78.00	34.3875	2,682.23
3	No-8 GI wire for guard wire	KG	78.00	161.28	12,579.84
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	14	18,200.00
A1				**Total Cost of materials**	**96,386.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**17,349.65**
A				**Total landed Cost (A=A1 + A2)**	**113,736.57**
B				Stock, Storage & Insurance i.e 3% of A	3,412.10
C				**Sub Total (A+B)**	**117,148.67**
D				Contigency @ 3% of C	3,514.46
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,900.57
F				Transportation @ 7.5% of C	8,786.15
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,502.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**140,852.69**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	14	52,986.22
K1				**Total Civil & Services**	**52,986.22**
K2				Applicable Taxes to make it Landed Cost @18%	9,537.52
K				**Total landed Cost (K=K1+ K2)**	**62,523.74**
L				**Total (J+K)**	203,376.43
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**203,376.43**
O				Total CESS @ 1% of (N)	2,033.76
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**205,410.19**

PART F: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	30	1,380.92	41,427.45
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	120	950.00	114,000.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	34500	7.00	241,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**396,927.45**
A2				**Applicable Taxes to make it Landed Cost @18%**	**71,446.94**
A				**Total landed Cost (A=A1+ A2)**	**468,374.39**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	468,374.39
D				**CESS @ 1% of C**	4,683.74
E				**Grand Total (C+D)**	473,058.13

PART G: Installation of 01 No. section boundary meter (refer PSLD)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**3 Phase Smart Meter**	EA			-
1.1	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	1	7,389.11	7,389.11
1.2	11 KV Metering Unit	EA	1	54,400.00	54,400.00
	Sub Total (in Rs.)				**61,789.11**
A1	**Sub Total (Supply Portion)**				**61,789.11**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,122.04**
A	**Total Landed Cost (A=A1 + A2)**				**72,911.15**
B	Stock, Storage & Insurance @ 3 % of A				2,187.33
C	**Sub Total (A+B)**				**75,098.48**
D	Contingency @ 3 % of C				2,252.95
E	Tools & Plants Charges @ 2% of C				1,501.97
F	Transportation @ 7.5% of C				5,632.39
G	Erection Charges @ 10% of C				7,509.85
H	**Total (C+D+E+F+G)**				**91,995.64**
I	Other Overhead /(including Supervision Charges) @ 6 % of H				
J	**Total Estimated Capital Cost i.e. (H+I)**				**91,995.64**
K	CESS 1% of J				919.96
L	**Grand Total (J+K)**				**92,915.60**

ANNEXURE- 12.58		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	JAGATSINGHPUR	
Name of the Section : -	JAGATSINGHPUR NO-2	
Name of the Work :-	Proposal for refurbishment of 6.1 CKM line of 11 kV Chhapada Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.1 CKM 11 kV O/H line using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD)	352,020.51
2	PART B: Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD C-D,E-F)	9,000,609.53
3	PART-C: Installation of 11 KV line protecting guarding of 4 Nos having span 30 Mtr. Each (Refer PSLD)	117,377.25
4	PART D: Dismantling Portion	262,943.79
	Total Amount	**9,732,951.09**
	Total Amount (In Cr.)	**0.97**
Total estimated cost is Rs. 0.97 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 0.1 CKM 11 kV O/H line using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD)					
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)				2	
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	2	131,140.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
14	Earthing of Support (Coil Type)	EA	164.00	2	328.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**185,110.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,319.81**
A				**Total landed Cost (A=A1 + A2)**	**218,429.89**
B				Stock, Storage & Insurance i.e 3% of A	6,552.90
C				**Sub Total (A+B)**	**224,982.79**
D				Contigency @ 3% of C	6,749.48
E				Tools & Plants @ 2% of C	4,356.92
F				Transportation @ 7.5% of C	16,873.71
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,969.38
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,845.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**266,778.12**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.16	7,712.67
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**16,050.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,889.07**
K				**Total landed Cost (K=K1+ K2)**	**18,939.46**
L				**Total (J+K)**	**285,717.58**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**285,717.58**
O				CESS 1% of N	2,857.18
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**288,574.75**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				0.1	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	309.00	40,479.00
A1				**Total Cost of materials**	**40,479.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,286.22**
A				**Total landed Cost (A=A1 + A2)**	**47,765.22**
B				Stock, Storage & Insurance i.e 3% of A	1,432.96
C				**Sub Total (A+B)**	**49,198.18**
D				Contigency @ 3% of C	1,475.95
E				Tools & Plants @ 2% of C	983.96
F				Transportation @ 7.5% of C	3,689.86
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,919.82
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**60,267.77**
Civil & Services					
1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**1,047.00**
K2				**Applicable Taxes to make it Landed Cost @18%**	**188.46**
K				**Total landed Cost (K=K1+ K2)**	**1,235.46**
L				**Total Material+Services (J+K)**	61,503.23
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**61,503.23**
O				CESS 1% of N	615.03

P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**62,118.26**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	288,574.75
2	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	62,118.26
Q	**Gross Total Material +Services**	**350,693.01**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)	202.50
W	Total Inspection Fees including GST (U+V)	1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**352,020.51**

PART B: Augmentation of 6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD C-D,E-F)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	7

MATERIALS OF DP Without AB Switch

Sl. No.	Description of Materials	Unit	Quantity for 1 No's Dp	No. of DP Requirment	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	2	7	28,835.00	14	403,690.00
2	GI Channel, angle & flat of different size	KG	179.17	7	78.00	1254.183	97,826.27
3	Danger Plate	EA	2	7	180.00	14	2,520.00
4	H.T. Stay clamp	EA	2	7	260.00	14	3,640.00
5	H.T. Stay set (Complete)	SET	2	7	1,434.00	14	20,076.00
6	H.T. Stay Insulator Type-C	EA	2	7	87.00	14	1,218.00
7	7/10 SWG Stay Wire	KG	30	7	77.00	210	16,170.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	2	7	1,300.00	14	18,200.00
9	GI barbed wire anticlimbing device	KG	6	7	74.00	42	3,108.00
10	11 KV pin insulator polymer	EA	3	7	140.00	21	2,940.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	6	7	412.00	42	17,304.00
12	Disc insulator (B&S) 70 KN polymer	EA	6	7	150.00	42	6,300.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	6	7	138.00	42	5,796.00
14	POLYCARBONATE BIRD GUARD	EA	9	7	21.00	63	1,323.00
15	GI Nut , Bolt & Washer of different sizes	KG	11.57	7	74.00	81.004	5,994.30
A1						**Total Cost of materials**	**606,105.57**
A2						**Applicable Taxes to make it Landed Cost @18%**	**109,099.00**
A						**Total landed Cost (A=A1 + A2)**	**715,204.57**
B						Stock, Storage & Insurance i.e 3% of A	21,456.14
C						**Sub Total (A+B)**	**736,660.71**
D						Contigency @ 3% of C	22,099.82
E						Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	13,291.65
F						Transportation @ 7.5% of C	55,249.55
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,532.24
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,393.78
I						Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J						**Sum of (C to I)**	**869,227.76**

Civil & Services

Sl. No.	Description of Materials	Unit	Quantity for 1 No's Dp	No. of DP Requirment	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2	7	2,301.53	14	32,221.35
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.90	7	6,648.85	6.30	41,887.76
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.23	7	6,648.85	1.58	10,471.94
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	7	3,784.73	14	52,986.22
5	GIS Mapping, indexing/numbering of Poles	EA	1	7	836.00	7	5,852.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	2	7	283.34	14	3,966.76
K1						**Total Civil & Services**	**147,386.02**
K2						**Applicable Taxes to make it Landed Cost @18%**	**26,529.48**
K						**Total landed Cost (K=K1+ K2)**	**173,915.51**
L						**Total (J+K)**	**1,043,143.27**
M						Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N						**Sub-Total (L+M)**	**1,043,143.27**
O						CESS 1% of N	10,431.43
P						**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,053,574.70**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Quantity for 1 No's CP	No. of Cut Point Requirment	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	1	4	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	35.81	4	78.00	143.2	11,173.34
3	Danger Plate	EA	1	4	180.00	4	720.00
4	H.T. Stay clamp	EA	1	4	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1	4	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	1	4	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	15	4	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	3	4	74.00	12	888.00
9	11 KV pin insulator polymer	EA	3	4	140.00	12	1,680.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	6	4	412.00	24	9,888.00
11	Disc insulator (B&S) 70 KN polymer	EA	6	4	150.00	24	3,600.00
12	Earthing of Support (Coil Type)	EA	1	4	164.00	4	656.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	6	4	138.00	24	3,312.00
14	POLYCARBONATE BIRD GUARD	EA	9	4	21.00	36	756.00
15	GI Nut , Bolt & Washer of different sizes	KG	10.00	4	74.00	39.984	2,958.82
A1						**Total Cost of materials**	**162,716.16**
A2						**Applicable Taxes to make it Landed Cost @18%**	**29,288.91**
A						**Total landed Cost (A=A1 + A2)**	**192,005.07**
B						Stock, Storage & Insurance i.e 3% of A	5,760.15
C						**Sub Total (A+B)**	**197,765.22**
D						Contigency @ 3% of C	5,932.96
E						Tools & Plants @ 2% of C	3,669.83
F						Transportation @ 7.5% of C	14,832.39
G						Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H						Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,330.73
I						Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J						**Sum of (C to I)**	**233,540.34**

Civil & Services

Sl. No.	Description of Materials	Unit	Quantity for 1 No's CP	No. of Cut Point Requirment	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.4500	4	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.1125	4	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	1	4	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	1.000	4	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	1.000	4	283.34	4.00	1,133.36
K1						**Total Civil & Services**	**28,643.37**
K2						**Applicable Taxes to make it Landed Cost @18%**	**5,155.81**

K	**Total landed Cost (K=K1+ K2)**	**33,799.18**
L	**Total (J+K)**	**267,339.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)	
N	**Sub-Total (L+M)**	**267,339.52**
O	CESS 1% of N	2,673.40
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**270,012.92**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Quantity for 1 No's CP*	*No. of Cut Point Requirment*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	1	5	28,835.00	5	144,175.00
2	GI Channel, angle & flat of different size	KG	67.34	5	78.00	336.72	26,264.16
3	Danger Plate	EA	1	5	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	3	5	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	4	5	140.00	20	2,800.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	6	5	412.00	30	12,360.00
7	Disc insulator (B&S) 70 KN polymer	EA	6	5	150.00	30	4,500.00
8	Earthing of Support (Coil Type)	EA	1	5	164.00	5	820.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	6	5	138.00	30	4,140.00
10	POLYCARBONATE BIRD GUARD	EA	10	5	21.00	50	1,050.00
11	H.T. Stay clamp	EA	2	5	260.00	10	2,600.00
12	H.T. Stay set (Complete)	SET	2	5	1,434.00	10	14,340.00
13	H.T. Stay Insulator Type-C	EA	2	5	87.00	10	870.00
14	7/10 SWG Stay Wire	KG	30	5	77.00	150	11,550.00
15	GI Nut , Bolt & Washer of different sizes	KG	10.00	5	74.00	49.98	3,698.52
A1	**Total Cost of materials**						**231,177.68**
A2	**Applicable Taxes to make it Landed Cost @18%**						**41,611.98**
A	**Total landed Cost (A=A1 + A2)**						**272,789.66**
B	Stock, Storage & Insurance i.e 3% of A						8,183.69
C	**Sub Total (A+B)**						**280,973.35**
D	Contigency @ 3% of C						8,429.20
E	Tools & Plants @ 2% of C (Except HT Stay Set)						4,905.78
F	Transportation @ 7.5% of C						21,073.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)						8,761.51
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)						7,005.89
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)						-
J	**Sum of (C to I)**						**331,148.74**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Quantity for 1 No's CP*	*No. of Cut Point Requirment*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2	5	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.45	5	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.11	5	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	1.000	5	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	1.000	5	283.34	5.00	1,416.70
K1	**Total Civil & Services**						**47,311.84**
K2	**Applicable Taxes to make it Landed Cost @18%**						**8,516.13**
K	**Total landed Cost (K=K1+ K2)**						**55,827.97**
L	**Total (J+K)**						**386,976.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)						
N	**Sub-Total (L+M)**						**386,976.72**
O	CESS 1% of N						3,869.77
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**						**390,846.48**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	6

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Quantity for 1 KM Line*	*For Circuit Km*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	21	6.0	28,835.00	99	2,854,665.00
2	11 KV V cross Arm(GI)	EA	21	6.0	851.00	99	84,249.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	21	6.0	81.00	99	8,019.00
4	Danger Plate	EA	21	6.0	180.00	99	17,820.00
5	Back Clamp for danger Plate and barbed wire	KG	32.38	6.00	78.00	152.46	11,891.88
6	GI barbed wire anticlimbing device	KG	63	6.0	74.00	297.00	21,978.00
7	11 KV pin insulator polymer	EA	63	6.0	140.00	297	41,580.00
8	Earthing of Support (Coil Type)	EA	21	6.0	164.00	99	16,236.00
9	GI Nut , Bolt & Washer of different sizes	KG	29	6.0	74.00	135.83	10,051.27
10	100 sq.mm AAA conductor	M	3090.00	6.0	78.41	18540.00	1,453,721.40
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	3	6.0	175.25	18	3,154.50
12	POLYCARBONATE BIRD GUARD	EA	63	6.0	21.00	297	6,237.00
A1	**Total Cost of materials**						**4,529,603.05**
A2	**Applicable Taxes to make it Landed Cost @18%**						**815,328.55**
A	**Total landed Cost (A=A1 + A2)**						**5,344,931.60**
B	Stock, Storage & Insurance i.e 3% of A						160,347.95
C	**Sub Total (A+B)**						**5,505,279.55**
D	Contigency @ 3% of C						165,158.39
E	Tools & Plants @ 2% of C						110,105.59
F	Transportation @ 7.5% of C						412,895.97
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)						173,477.99
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)						203,571.97
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)						-
J	**Sum of (C to I)**						**6,570,489.46**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	9.45	6	6,648.85	44.55	296,206.27
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	2.36	6	6,648.85	11.14	74,051.57
3	GIS Mapping, indexing/numbering of Poles	EA	21	6	836.00	99	82,764.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	21	6	283.34	99	28,050.66
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	6	10,470.00	6	62,820.00
K1	**Total Civil & Services**						**543,892.49**
K2	**Applicable Taxes to make it Landed Cost @18%**						**97,900.65**
K	**Total landed Cost (K=K1+ K2)**						**641,793.14**
L	**Total Material+Services (J+K)**						7,212,282.60

M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**7,212,282.60**
O	CESS 1% of N	72,122.83
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**7,284,405.43**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	1,053,574.70
2	Gross Total Material +Services (N+O) for DP With AB Switch	-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	270,012.92
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	390,846.48
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	7,284,405.43
Q	**Gross Total Material +Services**	**8,998,839.53**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	1,125.00
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**1,500.00**
V	GST @ 18% on Total Inspection Fees (U)	270.00
W	Total Inspection Fees including GST (U+V)	1,770.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**9,000,609.53**

PART-C: Installation of 11 KV line protecting guarding of 4 Nos having span 30 Mtr. Each (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			4		
Length of 11 KV Line Protecting Guarding in Mtr.			30		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	460.988	35,957.06
2	No-10 GI wire for lacing	KG	78.00	19.65	1,532.70
3	No-8 GI wire for guard wire	KG	78.00	92.16	7,188.48
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
A1				**Total Cost of materials**	**55,078.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,914.08**
A				**Total landed Cost (A=A1 + A2)**	**64,992.33**
B				Stock, Storage & Insurance i.e 3% of A	1,949.77
C				**Sub Total (A+B)**	**66,942.10**
D				Contigency @ 3% of C	2,008.26
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,086.04
F				Transportation @ 7.5% of C	5,020.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,430.19
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**80,487.25**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
K1				**Total Civil & Services**	**30,277.84**
K2				Applicable Taxes to make it Landed Cost @18%	5,450.01
K				**Total landed Cost (K=K1+ K2)**	**35,727.85**
L				**Total (J+K)**	116,215.10
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**116,215.10**
O				Total CESS @ 1% of (N)	1,162.15
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**117,377.25**

PART D: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	30	1,380.92	41,427.45
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	56	950.00	53,200.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	18000	7.00	126,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**220,627.45**
A2				**Applicable Taxes to make it Landed Cost @18%**	**39,712.94**
A				**Total landed Cost (A=A1+ A2)**	**260,340.39**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	260,340.39
D				**CESS @ 1% of C**	2,603.40
E				**Grand Total (C+D)**	262,943.79

ANNEXURE-12.59		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Balikuda	
Name of the Section : -	Balikuda-II	
Name of the Work :-	Proposal for refurbishment of 6.12 CKM O/H line of 11 kV Machegaon Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. AAAC for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 5.12 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD DE, FG, GI & GH)	6,817,847.19
2	PART B: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD BC)	1,632,533.99
3	PART C: 1. Installation of 01 No. 4-Pole with 02 Nos AB Switch (Refer PSLD) 2. Installation of 02 Nos AB Switch in existing 4-Pole (refer PSLD)	499,135.43
4	PART D: Installation of 5 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	146,721.57
5	PART E: Dismantling Portion	260,204.68
6	**Total Amount**	**9,356,442.85**
	Total Amount (In Cr.)	**0.94**
Total estimated cost is Rs. 0.94 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 5.12 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD DE, FG, GI & GH)					
No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)				2	
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**173,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**204,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**210,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**248,350.79**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**298,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**298,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**301,021.34**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)				5	
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	144,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
12	Earthing of Support (Coil Type)	EA	164.00	5	820.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**203,395.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,611.14**
A				**Total landed Cost (A=A1 + A2)**	**240,006.34**
B				Stock, Storage & Insurance i.e 3% of A	7,200.19
C				**Sub Total (A+B)**	**247,206.53**

D	Contigency @ 3% of C	7,416.20
E	Tools & Plants @ 2% of C	4,587.29
F	Transportation @ 7.5% of C	18,540.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,413.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**291,925.43**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**35,804.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,444.76**
K				**Total landed Cost (K=K1+ K2)**	**42,248.97**
L				**Total (J+K)**	**334,174.41**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**334,174.41**
O				CESS 1% of N	3,341.74
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**337,516.15**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	144,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	30	12,360.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
8	Earthing of Support (Coil Type)	EA	164.00	5	820.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	30	4,140.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	50	1,050.00
11	H.T. Stay clamp	EA	260.00	10	2,600.00
12	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
13	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
14	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**231,177.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,611.98**
A				**Total landed Cost (A=A1 + A2)**	**272,789.66**
B				Stock, Storage & Insurance i.e 3% of A	8,183.69
C				**Sub Total (A+B)**	**280,973.35**
D				Contigency @ 3% of C	8,429.20
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,905.78
F				Transportation @ 7.5% of C	21,073.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,005.89
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**331,148.74**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**386,976.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**386,976.72**
O				CESS 1% of N	3,869.77
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**390,846.48**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	5.12

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	76	2,191,460.00
2	11 KV V cross Arm(GI)	EA	851.00	76	64,676.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	76	6,156.00
4	Danger Plate	EA	180.00	76	13,680.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	117.04	9,129.12
6	GI barbed wire anticlimbing device	KG	74.00	228.00	16,872.00
7	11 KV pin insulator polymer	EA	140.00	228	31,920.00
8	Earthing of Support (Coil Type)	EA	164.00	76	12,464.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	104.27	7,716.13
10	100 sq.mm AAA conductor	M	78.41	15820.80	1,240,508.93
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	15	2,628.75
12	POLYCARBONATE BIRD GUARD	EA	21.00	228	4,788.00
A1				**Total Cost of materials**	**3,601,998.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**648,359.81**
A				**Total landed Cost (A=A1 + A2)**	**4,250,358.73**
B				Stock, Storage & Insurance i.e 3% of A	127,510.76
C				**Sub Total (A+B)**	**4,377,869.49**
D				Contigency @ 3% of C	131,336.08
E				Tools & Plants @ 2% of C	87,557.39
F				Transportation @ 7.5% of C	328,340.21
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				133,175.02
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				171,436.90
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**5,229,715.11**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	34.20	227,390.67
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.55	56,847.67
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	76	63,536.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	76	21,533.84
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	5.12	53,606.40
K1				**Total Civil & Services**	**422,914.58**
K2				**Applicable Taxes to make it Landed Cost @18%**	**76,124.62**
K				**Total landed Cost (K=K1+ K2)**	**499,039.20**
L				**Total Material+Services (J+K)**	5,728,754.31
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**5,728,754.31**
O				CESS 1% of N	57,287.54
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**5,786,041.85**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	301,021.34
2				Gross Total Material +Services (N+O) for DP With AB Switch	-
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	337,516.15
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	390,846.48
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	5,786,041.85
Q				**Gross Total Material +Services**	**6,815,425.83**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	927.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**2,052.00**
V				GST @ 18% on Total Inspection Fees (U)	369.36
W				Total Inspection Fees including GST (U+V)	2,421.36
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**6,817,847.19**

PART B: Augmentation of 1 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAAC (Refer PSLD BC)

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**55,820.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,047.61**
A				**Total landed Cost (A=A1 + A2)**	**65,867.65**
B				Stock, Storage & Insurance i.e 3% of A	1,976.03
C				**Sub Total (A+B)**	**67,843.68**
D				Contigency @ 3% of C	2,035.31
E				Tools & Plants @ 2% of C	1,285.51
F				Transportation @ 7.5% of C	5,088.28
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**80,927.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**89,377.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**89,377.79**
O				CESS 1% of N	893.78
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**90,271.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**61,465.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**11,063.80**
A				**Total landed Cost (A=A1 + A2)**	**72,529.33**
B				Stock, Storage & Insurance i.e 3% of A	2,175.88
C				**Sub Total (A+B)**	**74,705.21**
D				Contigency @ 3% of C	2,241.16
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,351.37
F				Transportation @ 7.5% of C	5,602.89

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**88,905.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**100,070.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**100,070.76**
O	CESS 1% of N				1,000.71
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**101,071.46**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	16	461,360.00
2	11 KV V cross Arm(GI)	EA	851.00	16	13,616.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	16	1,296.00
4	Danger Plate	EA	180.00	16	2,880.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	24.64	1,921.92
6	GI barbed wire anticlimbing device	KG	74.00	48.00	3,552.00
7	11 KV pin insulator polymer	EA	140.00	48	6,720.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	48	5,280.00
9	Earthing of Support (Coil Type)	EA	164.00	16	2,624.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	21.95	1,624.45
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	404,790.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1	**Total Cost of materials**				**907,014.37**
A2	**Applicable Taxes to make it Landed Cost @18%**				**163,262.59**
A	**Total landed Cost (A=A1 + A2)**				**1,070,276.95**
B	Stock, Storage & Insurance i.e 3% of A				32,108.31
C	**Sub Total (A+B)**				**1,102,385.26**
D	Contigency @ 3% of C				33,071.56
E	Tools & Plants @ 2% of C				22,047.71
F	Transportation @ 7.5% of C				82,678.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				28,036.85
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				54,164.83
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,322,385.10**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.20	47,871.72
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	16	13,376.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	16	4,533.44
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1	**Total Civil & Services**				**88,219.09**
K2	**Applicable Taxes to make it Landed Cost @18%**				**15,879.44**
K	**Total landed Cost (K=K1+ K2)**				**104,098.53**
L	**Total Material+Services (J+K)**				1,426,483.63
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**1,426,483.63**
O	CESS 1% of N				14,264.84
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**1,440,748.46**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,271.56
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	101,071.46
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	1,440,748.46
Q	**Gross Total Material +Services**	**1,632,091.49**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,632,533.99**

PART C:
1. Installation of 01 No. 4-Pole with 02 Nos AB Switch (Refer PSLD)
2. Installation of 02 Nos AB Switch in existing 4-Pole (refer PSLD)

No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)	1

MATERIALS OF 4 POLE

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	1041.027	81,200.11
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate, 2 no's.	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
16	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
17	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	36.044	2,667.26
19	POLYCARBONATE BIRD GUARD	EA	21.00	42	882.00
A1				**Total Cost of materials**	**305,581.96**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,004.75**
A				**Total landed Cost (A=A1 + A2)**	**360,586.72**
B				Stock, Storage & Insurance i.e 3% of A	10,817.60
C				**Sub Total (A+B)**	**371,404.32**
D				Contigency @ 3% of C	11,142.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	7,016.21
F				Transportation @ 7.5% of C	27,855.32
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	21,062.63
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**445,489.83**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**41,274.29**
K2				Applicable Taxes to make it Landed Cost @18%	7,429.37
K				**Total landed Cost (K=K1+ K2)**	**48,703.67**
L				**Total (J+K)**	**494,193.49**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**494,193.49**
O				CESS 1% of N	4,941.93
P				**Gross Total Material +Services (N+O)**	**499,135.43**

PART D: Installation of 5 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			5		
Length of 11 KV Line Protecting Guarding in Mtr.			30		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	576.235	44,946.33
2	No-10 GI wire for lacing	KG	78.00	24.5625	1,915.88
3	No-8 GI wire for guard wire	KG	78.00	115.2	8,985.60
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
A1				**Total Cost of materials**	**68,847.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**12,392.60**
A				**Total landed Cost (A=A1 + A2)**	**81,240.41**
B				Stock, Storage & Insurance i.e 3% of A	2,437.21
C				**Sub Total (A+B)**	**83,677.62**
D				Contigency @ 3% of C	2,510.33
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,357.55
F				Transportation @ 7.5% of C	6,275.82
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,787.74
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**100,609.06**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
K1				**Total Civil & Services**	**37,847.30**
K2				Applicable Taxes to make it Landed Cost @18%	6,812.51
K				**Total landed Cost (K=K1+ K2)**	**44,659.81**
L				**Total (J+K)**	145,268.88
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**145,268.88**
O				Total CESS @ 1% of (N)	1,452.69
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**146,721.57**

PART E: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	10	1,380.92	13,809.15
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	80	950.00	76,000.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	18360	7.00	128,520.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**218,329.15**
A2				**Applicable Taxes to make it Landed Cost @18%**	**39,299.25**
A				**Total landed Cost (A=A1+ A2)**	**257,628.40**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	257,628.40
D				**CESS @ 1% of C**	2,576.28
E				**Grand Total (C+D)**	260,204.68

ANNEXURE-12.60		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Jagatsinghpur	
Name of the Section : -	Mandasahi	
Name of the Work :-	Proposal for refurbishment of 7.5 CKM 11 KV line of 11 kV Mandasahi Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole along with construction of 1 CKM 11 kV line for N-1 connectivity between 11 kV Mandasahi & Jankothi Fdr. for length reduction of Mandasahi Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 7.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD AB, CDE & HI)	9,401,687.65
2	PART B: Construction of 1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD HI)	2,818,190.33
3	PART C: Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)	152,185.94
4	PART D: Dismantling Portion	462,104.48
5	PART E: Installation of 01 No. section boundary meter (refer PSLD)	92,915.60
	Total Amount	**12,927,084.01**
	Total Amount (In Cr.)	**1.29**
Total estimated cost is Rs. 1.29 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 7.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD AB, CDE & HI)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**259,759.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,756.72**
A				**Total landed Cost (A=A1 + A2)**	**306,516.25**
B				Stock, Storage & Insurance i.e 3% of A	9,195.49
C				**Sub Total (A+B)**	**315,711.73**
D				Contigency @ 3% of C	9,471.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,696.42
F				Transportation @ 7.5% of C	23,678.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,454.48
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**372,526.18**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**447,061.40**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**447,061.40**
O				CESS 1% of N	4,470.61
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**451,532.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**121,321.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**

A	**Total landed Cost (A=A1 + A2)**	**143,159.50**
B	Stock, Storage & Insurance i.e 3% of A	4,294.79
C	**Sub Total (A+B)**	**147,454.29**
D	Contigency @ 3% of C	4,423.63
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F	Transportation @ 7.5% of C	11,059.07
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,992.85
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**175,034.86**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**205,311.53**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**205,311.53**
O	CESS 1% of N				2,053.12
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**207,364.64**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	6

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	573.0	44,691.82
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
9	11 KV pin insulator polymer	EA	140.00	18	2,520.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	66	27,192.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	66	9,900.00
12	Earthing of Support (Coil Type)	EA	164.00	6	984.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	66	9,108.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.976	4,438.22
A1	**Total Cost of materials**				**293,006.04**
A2	**Applicable Taxes to make it Landed Cost @18%**				**52,741.09**
A	**Total landed Cost (A=A1 + A2)**				**345,747.13**
B	Stock, Storage & Insurance i.e 3% of A				10,372.41
C	**Sub Total (A+B)**				**356,119.54**
D	Contigency @ 3% of C				10,683.59
E	Tools & Plants @ 2% of C				6,694.18
F	Transportation @ 7.5% of C				26,708.97
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,513.82
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				12,443.27
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**423,163.36**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6.00	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1	**Total Civil & Services**				**42,965.06**
K2	**Applicable Taxes to make it Landed Cost @18%**				**7,733.71**
K	**Total landed Cost (K=K1+ K2)**				**50,698.77**
L	**Total (J+K)**				**473,862.13**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**473,862.13**
O	CESS 1% of N				4,738.62
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**478,600.75**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				6	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	404.064	31,516.99
3	Danger Plate	EA	180.00	6	1,080.00
4	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
5	11 KV pin insulator polymer	EA	140.00	24	3,360.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
8	Earthing of Support (Coil Type)	EA	164.00	6	984.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	36	4,968.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	60	1,260.00
11	H.T. Stay clamp	EA	260.00	12	3,120.00
12	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
13	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
14	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.976	4,438.22
A1				**Total Cost of materials**	**277,413.22**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,934.38**
A				**Total landed Cost (A=A1 + A2)**	**327,347.59**
B				Stock, Storage & Insurance i.e 3% of A	9,820.43
C				**Sub Total (A+B)**	**337,168.02**
D				Contigency @ 3% of C	10,115.04
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,886.94
F				Transportation @ 7.5% of C	25,287.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,407.07
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**397,378.49**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.7	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.7	4,487.97
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6.00	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**56,774.21**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,219.36**
K				**Total landed Cost (K=K1+ K2)**	**66,993.57**
L				**Total (J+K)**	**464,372.06**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**464,372.06**
O				CESS 1% of N	4,643.72
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**469,015.78**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				7.5	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	97	2,796,995.00
2	11 KV V cross Arm(GI)	EA	851.00	117	99,567.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	117	9,477.00
4	Danger Plate	EA	180.00	97	17,460.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	149.38	11,651.64
6	GI barbed wire anticlimbing device	KG	74.00	291.00	21,534.00
7	11 KV pin insulator polymer	EA	140.00	351	49,140.00
8	Earthing of Support (Coil Type)	EA	164.00	97	15,908.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	133.08	9,848.22
10	100 sq.mm AAA conductor	M	78.41	23175.00	1,817,151.75
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	21	3,680.25
12	POLYCARBONATE BIRD GUARD	EA	21.00	351	7,371.00
A1				**Total Cost of materials**	**4,859,783.86**
A2				**Applicable Taxes to make it Landed Cost @18%**	**874,761.09**
A				**Total landed Cost (A=A1 + A2)**	**5,734,544.95**
B				Stock, Storage & Insurance i.e 3% of A	172,036.35
C				**Sub Total (A+B)**	**5,906,581.30**
D				Contigency @ 3% of C	177,197.44
E				Tools & Plants @ 2% of C	118,131.63
F				Transportation @ 7.5% of C	442,993.60
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	169,973.39
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	250,711.36
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,065,588.70**

	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	43.65	290,222.30
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	10.91	72,555.58
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	97	81,092.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	97	27,483.98
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7.5	78,525.00
K1				**Total Civil & Services**	**549,878.86**
K2				**Applicable Taxes to make it Landed Cost @18%**	**98,978.19**
K				**Total landed Cost (K=K1+ K2)**	**648,857.05**
L				**Total Material+Services (J+K)**	7,714,445.76
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**7,714,445.76**
O				CESS 1% of N	77,144.46
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**7,791,590.21**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				451,532.01
2	Gross Total Material +Services (N+O) for DP With AB Switch				207,364.64
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				478,600.75
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				469,015.78
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				7,791,590.21
Q				**Gross Total Material +Services**	**9,398,103.40**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				1,912.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**3,037.50**
V	GST @ 18% on Total Inspection Fees (U)				546.75
W	Total Inspection Fees including GST (U+V)				3,584.25
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**9,401,687.65**

PART B: Construction of 1 CKM 11 kV O/H line using 11 Mtr. H Pole & 100 Sq.mm. AAAC (Refer PSLD HI)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**86,586.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,585.57**
A				**Total landed Cost (A=A1 + A2)**	**102,172.08**
B				Stock, Storage & Insurance i.e 3% of A	3,065.16
C				**Sub Total (A+B)**	**105,237.24**
D				Contigency @ 3% of C	3,157.12
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	1,898.81
F				Transportation @ 7.5% of C	7,892.79
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,484.83
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**124,175.39**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**149,020.47**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**149,020.47**
O				CESS 1% of N	1,490.20
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**150,510.67**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**242,643.23**

A2	**Applicable Taxes to make it Landed Cost @18%**	**43,675.78**
A	**Total landed Cost (A=A1 + A2)**	**286,319.01**
B	Stock, Storage & Insurance i.e 3% of A	8,589.57
C	**Sub Total (A+B)**	**294,908.58**
D	Contigency @ 3% of C	8,847.26
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,200.82
F	Transportation @ 7.5% of C	22,118.14
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,985.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**350,069.71**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**51,316.39**
K2	**Applicable Taxes to make it Landed Cost @18%**				**9,236.95**
K	**Total landed Cost (K=K1+ K2)**				**60,553.34**
L	**Total (J+K)**				**410,623.05**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**410,623.05**
O	CESS 1% of N				4,106.23
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**414,729.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
12	Earthing of Support (Coil Type)	EA	164.00	1	164.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**63,194.04**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,374.93**
A	**Total landed Cost (A=A1 + A2)**				**74,568.97**
B	Stock, Storage & Insurance i.e 3% of A				2,237.07
C	**Sub Total (A+B)**				**76,806.04**
D	Contigency @ 3% of C				2,304.18
E	Tools & Plants @ 2% of C				1,464.75
F	Transportation @ 7.5% of C				5,760.45
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,082.68
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**90,538.65**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**98,988.44**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**98,988.44**
O	CESS 1% of N				989.88
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**99,978.32**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				1	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	10	210.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**68,750.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**12,375.10**
A				**Total landed Cost (A=A1 + A2)**	**81,125.63**
B				Stock, Storage & Insurance i.e 3% of A	2,433.77
C				**Sub Total (A+B)**	**83,559.40**
D				Contigency @ 3% of C	2,506.78
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,528.45
F				Transportation @ 7.5% of C	6,266.96
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,120.54
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,401.18
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**98,383.31**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**109,548.90**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**109,548.90**
O				CESS 1% of N	1,095.49
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**110,644.39**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				1	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	20	1,027,000.00
2	11 KV V cross Arm(GI)	EA	851.00	20	17,020.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	20	1,620.00
4	Danger Plate	EA	180.00	20	3,600.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	30.80	2,402.40
6	GI barbed wire anticlimbing device	KG	74.00	60.00	4,440.00
7	11 KV pin insulator polymer	EA	140.00	60	8,400.00
8	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	27.44	2,030.56
10	100 sq.mm AAA conductor	M	78.41	3090.00	242,286.90
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	3	525.75
12	POLYCARBONATE BIRD GUARD	EA	21.00	60	1,260.00
A1				**Total Cost of materials**	**1,313,865.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**236,495.81**
A				**Total landed Cost (A=A1 + A2)**	**1,550,361.42**
B				Stock, Storage & Insurance i.e 3% of A	46,510.84
C				**Sub Total (A+B)**	**1,596,872.26**
D				Contigency @ 3% of C	47,906.17
E				Tools & Plants @ 2% of C	31,937.45
F				Transportation @ 7.5% of C	119,765.42
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	62,410.79
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	34,865.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,893,757.73**

	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.00	59,839.65
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**107,656.36**
K2				**Applicable Taxes to make it Landed Cost @18%**	**19,378.15**
K				**Total landed Cost (K=K1+ K2)**	**127,034.51**
L				**Total Material+Services (J+K)**	2,020,792.24
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**2,020,792.24**
O				CESS 1% of N	20,207.92
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**2,041,000.16**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				150,510.67
2	Gross Total Material +Services (N+O) for DP With AB Switch				414,729.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				99,978.32
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				110,644.39
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				2,041,000.16
Q				**Gross Total Material +Services**	**2,816,862.83**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,818,190.33**

PART C: Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			5		
Length of 11 KV Line Protecting Guarding in Mtr.			40		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	576.235	44,946.33
2	No-10 GI wire for lacing	KG	78.00	32.75	2,554.50
3	No-8 GI wire for guard wire	KG	78.00	153.6	11,980.80
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
A1				**Total Cost of materials**	**72,481.63**
A2				**Applicable Taxes to make it Landed Cost @18%**	**13,046.69**
A				**Total landed Cost (A=A1 + A2)**	**85,528.32**
B				Stock, Storage & Insurance i.e 3% of A	2,565.85
C				**Sub Total (A+B)**	**88,094.17**
D				Contigency @ 3% of C	2,642.83
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,445.88
F				Transportation @ 7.5% of C	6,607.06
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,229.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**106,019.34**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
K1				**Total Civil & Services**	**37,847.30**
K2				Applicable Taxes to make it Landed Cost @18%	6,812.51
K				**Total landed Cost (K=K1+ K2)**	**44,659.81**
L				**Total (J+K)**	150,679.15
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**150,679.15**
O				Total CESS @ 1% of (N)	1,506.79
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**152,185.94**

PART D: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	40	1,380.92	55,236.60
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	140	950.00	133,000.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	28500	7.00	199,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**387,736.60**
A2				**Applicable Taxes to make it Landed Cost @18%**	**69,792.59**
A				**Total landed Cost (A=A1+ A2)**	**457,529.19**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	457,529.19
D				**CESS @ 1% of C**	4,575.29
E				**Grand Total (C+D)**	462,104.48

PART E: Installation of 01 No. section boundary meter (refer PSLD)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**3 Phase Smart Meter**	EA			-
1.1	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	1	7,389.11	7,389.11
1.2	11 KV Metering Unit	EA	1	54,400.00	54,400.00
	Sub Total (in Rs.)				**61,789.11**
A1	**Sub Total (Supply Portion)**				**61,789.11**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,122.04**
A	**Total Landed Cost (A=A1 + A2)**				**72,911.15**
B	Stock, Storage & Insurance @ 3 % of A				2,187.33
C	**Sub Total (A+B)**				**75,098.48**
D	Contingency @ 3 % of C				2,252.95
E	Tools & Plants Charges @ 2% of C				1,501.97
F	Transportation @ 7.5% of C				5,632.39
G	Erection Charges @ 10% of C				7,509.85
H	**Total (C+D+E+F+G)**				**91,995.64**
I	Other Overhead /(including Supervision Charges) @ 6 % of H				
J	**Total Estimated Capital Cost i.e. (H+I)**				**91,995.64**
K	CESS 1% of J				919.96
L	**Grand Total (J+K)**				**92,915.60**

ANNEXURE-12.61		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	JED	
Name of the Sub-Division : -	Jagatsinghpur	
Name of the Section : -	Mandasahi	
Name of the Work :-	Proposal for refurbishment of 4.5 CKM O/H line of 11 kV Tarikund Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole for reliability improvement.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD BCD & CE)	6,149,159.59
2	PART B: Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)	117,377.25
3	PART C: Dismantling Portion	191,879.80
	Total Amount	**6,458,416.64**
	Total Amount (In Cr.)	**0.65**
Total estimated cost is Rs. 0.65 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. AAAC (Refer PSLD BCD & CE)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	173,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**259,759.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,756.72**
A				**Total landed Cost (A=A1 + A2)**	**306,516.25**
B				Stock, Storage & Insurance i.e 3% of A	9,195.49
C				**Sub Total (A+B)**	**315,711.73**
D				Contigency @ 3% of C	9,471.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,696.42
F				Transportation @ 7.5% of C	23,678.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,454.48
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**372,526.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**447,061.40**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**447,061.40**
O				CESS 1% of N	4,470.61
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**451,532.01**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
12	Earthing of Support (Coil Type)	EA	164.00	4	656.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**162,716.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**29,288.91**
A				**Total landed Cost (A=A1 + A2)**	**192,005.07**
B				Stock, Storage & Insurance i.e 3% of A	5,760.15
C				**Sub Total (A+B)**	**197,765.22**

D	Contigency @ 3% of C	5,932.96
E	Tools & Plants @ 2% of C	3,669.83
F	Transportation @ 7.5% of C	14,832.39
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,330.73
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**233,540.34**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**28,643.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,155.81**
K				**Total landed Cost (K=K1+ K2)**	**33,799.18**
L				**Total (J+K)**	**267,339.52**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**267,339.52**
O				CESS 1% of N	2,673.40
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**270,012.92**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
8	Earthing of Support (Coil Type)	EA	164.00	3	492.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	30	630.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**138,706.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,967.19**
A				**Total landed Cost (A=A1 + A2)**	**163,673.80**
B				Stock, Storage & Insurance i.e 3% of A	4,910.21
C				**Sub Total (A+B)**	**168,584.01**
D				Contigency @ 3% of C	5,057.52
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,943.47
F				Transportation @ 7.5% of C	12,643.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,203.53
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**198,689.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**232,186.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**232,186.03**
O				CESS 1% of N	2,321.86
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**234,507.89**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	4.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	68	1,960,780.00
2	11 KV V cross Arm(GI)	EA	851.00	88	74,888.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	88	7,128.00
4	Danger Plate	EA	180.00	68	12,240.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	104.72	8,168.16
6	GI barbed wire anticlimbing device	KG	74.00	204.00	15,096.00
7	11 KV pin insulator polymer	EA	140.00	264	36,960.00
8	Earthing of Support (Coil Type)	EA	164.00	68	11,152.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	113.30	8,383.90
10	100 sq.mm AAA conductor	M	78.41	13905.00	1,090,291.05
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	12	2,103.00
12	POLYCARBONATE BIRD GUARD	EA	21.00	264	5,544.00
A1				**Total Cost of materials**	**3,232,734.11**
A2				**Applicable Taxes to make it Landed Cost @18%**	**581,892.14**
A				**Total landed Cost (A=A1 + A2)**	**3,814,626.25**
B				Stock, Storage & Insurance i.e 3% of A	114,438.79
C				**Sub Total (A+B)**	**3,929,065.04**
D				Contigency @ 3% of C	117,871.95
E				Tools & Plants @ 2% of C	78,581.30
F				Transportation @ 7.5% of C	294,679.88
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	119,156.60
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	154,593.30
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,693,948.08**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	30.60	203,454.81
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.65	50,863.70
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	68	56,848.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	68	19,267.12
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.5	47,115.00
K1				**Total Civil & Services**	**377,548.63**
K2				**Applicable Taxes to make it Landed Cost @18%**	**67,958.75**
K				**Total landed Cost (K=K1+ K2)**	**445,507.39**
L				**Total Material+Services (J+K)**	5,139,455.46
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**5,139,455.46**
O				CESS 1% of N	51,394.55
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**5,190,850.02**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	451,532.01
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	270,012.92
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	234,507.89
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	5,190,850.02
Q				**Gross Total Material +Services**	**6,146,902.84**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	787.50
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,912.50**
V				GST @ 18% on Total Inspection Fees (U)	344.25
W				Total Inspection Fees including GST (U+V)	2,256.75
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**6,149,159.59**

PART B: Installation of 04 Nos of 11 kV line protecting guarding having span 30 Mtr. (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			4		
Length of 11 KV Line Protecting Guarding in Mtr.			30		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	460.988	35,957.06
2	No-10 GI wire for lacing	KG	78.00	19.65	1,532.70
3	No-8 GI wire for guard wire	KG	78.00	92.16	7,188.48
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
A1				**Total Cost of materials**	**55,078.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,914.08**
A				**Total landed Cost (A=A1 + A2)**	**64,992.33**
B				Stock, Storage & Insurance i.e 3% of A	1,949.77
C				**Sub Total (A+B)**	**66,942.10**
D				Contigency @ 3% of C	2,008.26
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,086.04
F				Transportation @ 7.5% of C	5,020.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,430.19
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**80,487.25**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
K1				**Total Civil & Services**	**30,277.84**
K2				Applicable Taxes to make it Landed Cost @18%	5,450.01
K				**Total landed Cost (K=K1+ K2)**	**35,727.85**
L				**Total (J+K)**	116,215.10
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**116,215.10**
O				Total CESS @ 1% of (N)	1,162.15
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**117,377.25**

PART C: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	70	950.00	66,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	13500	7.00	94,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**161,000.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**28,980.00**
A				**Total landed Cost (A=A1+ A2)**	**189,980.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	189,980.00
D				**CESS @ 1% of C**	1,899.80
E				**Grand Total (C+D)**	191,879.80

ANNEXURE- 12.62		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	PDP	
Name of the Sub-Division : -	PARADEEP	
Name of the Section : -	PARADEEP	
Name of the Work :-	Proposal for refurbishment of 0.5 CKM line of 11 kV Atharabanki Medical Fdr. from 34/55 Sq.mm. AAAC to 100 Sq.mm. XLPE AAAC for unsafe to safe & improvement of reliability.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. H -Pole & 100 Sq.mm. XLPE AAA Conductor in vertical arrangement (Refer PSLD C-F,D-E)	1,756,398.69
2	PART-B: Installation of 11 KV line protecting guarding of 3 Nos having span 30 Mtr. Each (Refer PSLD)	88,032.94
3	PART C: Dismantling Portion	31,236.06
	Total Amount	**1,875,667.70**
	Total Amount (In Cr.)	**0.19**
Total estimated cost is Rs. 0.19 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 0.5 CKM 11 kV O/H line using 11 Mtr. H -Pole & 100 Sq.mm. XLPE AAA Conductor in vertical arrangement (Refer PSLD C-F,D-E)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**136,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**161,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**165,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**197,577.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**227,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**227,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**230,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	1	51,350.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**78,335.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,100.31**
A				**Total landed Cost (A=A1 + A2)**	**92,435.35**

B	Stock, Storage & Insurance i.e 3% of A	2,773.06
C	**Sub Total (A+B)**	**95,208.41**
D	Contigency @ 3% of C	2,856.25
E	Tools & Plants @ 2% of C	1,832.80
F	Transportation @ 7.5% of C	7,140.63
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,120.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**113,081.55**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**121,531.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**121,531.34**
O	CESS 1% of N				1,215.31
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**122,746.66**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	3	154,050.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
10	Earthing of Support (Coil Type)	EA	164.00	3	492.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1	**Total Cost of materials**				**251,941.61**
A2	**Applicable Taxes to make it Landed Cost @18%**				**45,349.49**
A	**Total landed Cost (A=A1 + A2)**				**297,291.10**
B	Stock, Storage & Insurance i.e 3% of A				8,918.73
C	**Sub Total (A+B)**				**306,209.83**
D	Contigency @ 3% of C				9,186.29
E	Tools & Plants @ 2% of C (Except HT Stay Set)				5,695.99
F	Transportation @ 7.5% of C				22,965.74
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				9,361.62
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,756.70
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**363,176.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1	**Total Civil & Services**				**28,387.10**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,109.68**
K	**Total landed Cost (K=K1+ K2)**				**33,496.78**
L	**Total (J+K)**				**396,672.95**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**396,672.95**
O	CESS 1% of N				3,966.73
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**400,639.68**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	8	410,800.00
2	GI Channel, angle & flat of different size	KG	78.00	286	22,346.69
3	Danger Plate	EA	180.00	8	1,440.00
4	Back Clamp for danger Plate and barbed wire	KG	78.00	12.32	960.96
5	GI barbed wire anticlimbing device	KG	74.00	24.00	1,776.00
6	11 KV pin insulator polymer	EA	140.00	24	3,360.00
7	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	24	2,640.00
8	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	10.98	812.22
10	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	1545.00	202,395.00
A1				**Total Cost of materials**	**647,842.87**
A2				**Applicable Taxes to make it Landed Cost @18%**	**116,611.72**
A				**Total landed Cost (A=A1 + A2)**	**764,454.59**
B				Stock, Storage & Insurance i.e 3% of A	22,933.64
C				**Sub Total (A+B)**	**787,388.23**
D				Contigency @ 3% of C	23,621.65
E				Tools & Plants @ 2% of C	15,747.76
F				Transportation @ 7.5% of C	59,054.12
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				24,964.32
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				28,810.19
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**939,586.26**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.5	5,235.00
K1				**Total Civil & Services**	**44,109.55**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,939.72**
K				**Total landed Cost (K=K1+ K2)**	**52,049.26**
L				**Total Material+Services (J+K)**	991,635.52
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**991,635.52**
O				CESS 1% of N	9,916.36
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,001,551.88**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				230,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				122,746.66
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				400,639.68
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,001,551.88
Q				**Gross Total Material +Services**	**1,755,071.19**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,756,398.69**

PART-B: Installation of 11 KV line protecting guarding of 3 Nos having span 30 Mtr. Each (Refer PSLD)

No. of 11 KV Line Protecting Guarding	3
Length of 11 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	345.741	26,967.80
2	No-10 GI wire for lacing	KG	78.00	14.7375	1,149.53
3	No-8 GI wire for guard wire	KG	78.00	69.12	5,391.36
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
A1				**Total Cost of materials**	**41,308.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,435.56**
A				**Total landed Cost (A=A1 + A2)**	**48,744.25**
B				Stock, Storage & Insurance i.e 3% of A	1,462.33
C				**Sub Total (A+B)**	**50,206.57**
D				Contigency @ 3% of C	1,506.20
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	814.53
F				Transportation @ 7.5% of C	3,765.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,072.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**60,365.44**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
K1				**Total Civil & Services**	**22,708.38**
K2				Applicable Taxes to make it Landed Cost @18%	4,087.51
K				**Total landed Cost (K=K1+ K2)**	**26,795.89**
L				**Total (J+K)**	87,161.33
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**87,161.33**
O				Total CESS @ 1% of (N)	871.61
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**88,032.94**

PART C: Dismantling Portion

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	10	1,380.92	13,809.15
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	2	950.00	1,900.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	1500	7.00	10,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**26,209.15**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,717.65**
A				**Total landed Cost (A=A1+ A2)**	**30,926.80**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	30,926.80
D				**CESS @ 1% of C**	309.27
E				**Grand Total (C+D)**	31,236.06

ANNEXURE-15

MITIGATION OF SINGLE PTR AT 33/11 kV PSS

Summary and Location of Single PTR Mitigation at 33/11 kV PSS

Sl. No.	Name of Circle	Name of PSS	Existing PTR rating (MVA)	2nd PTR rating (MVA)	Cost in Cr.	Remarks	Annexures
1	CUTTACK	Khuntakanta	8	5	2.07	PTR cost is not part of the estimate	Annexure-15.1
2	DHENKANAL	Dayanbil	3.15	3.15	2.07		Annexure-15.2
3	PARADEEP	22 Mouza	5	5	2.07		Annexure-15.3
4	PARADEEP	Paruna	5	3.15	2.07		Annexure-15.4
5	PARADEEP	Patrapur	5	5	2.07		Annexure-15.5
6	PARADEEP	Sahupada	5	5	3.1	PTR cost included in the estimate	Annexure-15.6
	Total				**13.45**		

Annexure-15.1

TP CENTRAL ODISHA DISTRIBUTION LIMITED

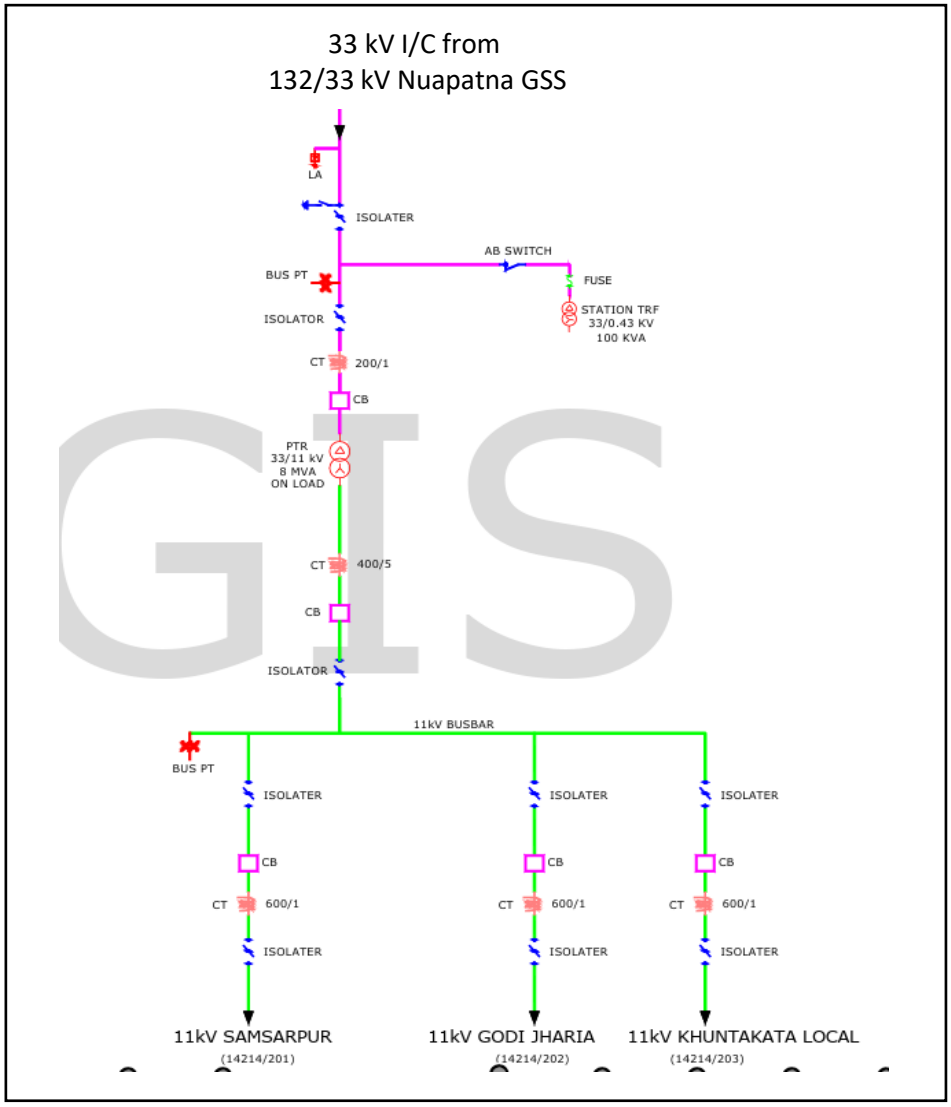
Name of the Circle :-	**CUTTACK**
Name of the Division : -	AED
Name of the Work :-	Proposal for installation of 2nd PTR (5 MVA) at Khuntakanta PSS along with 33 kV Bay and 11 kV Bays
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

ABSTRACT OF ESTIMATE

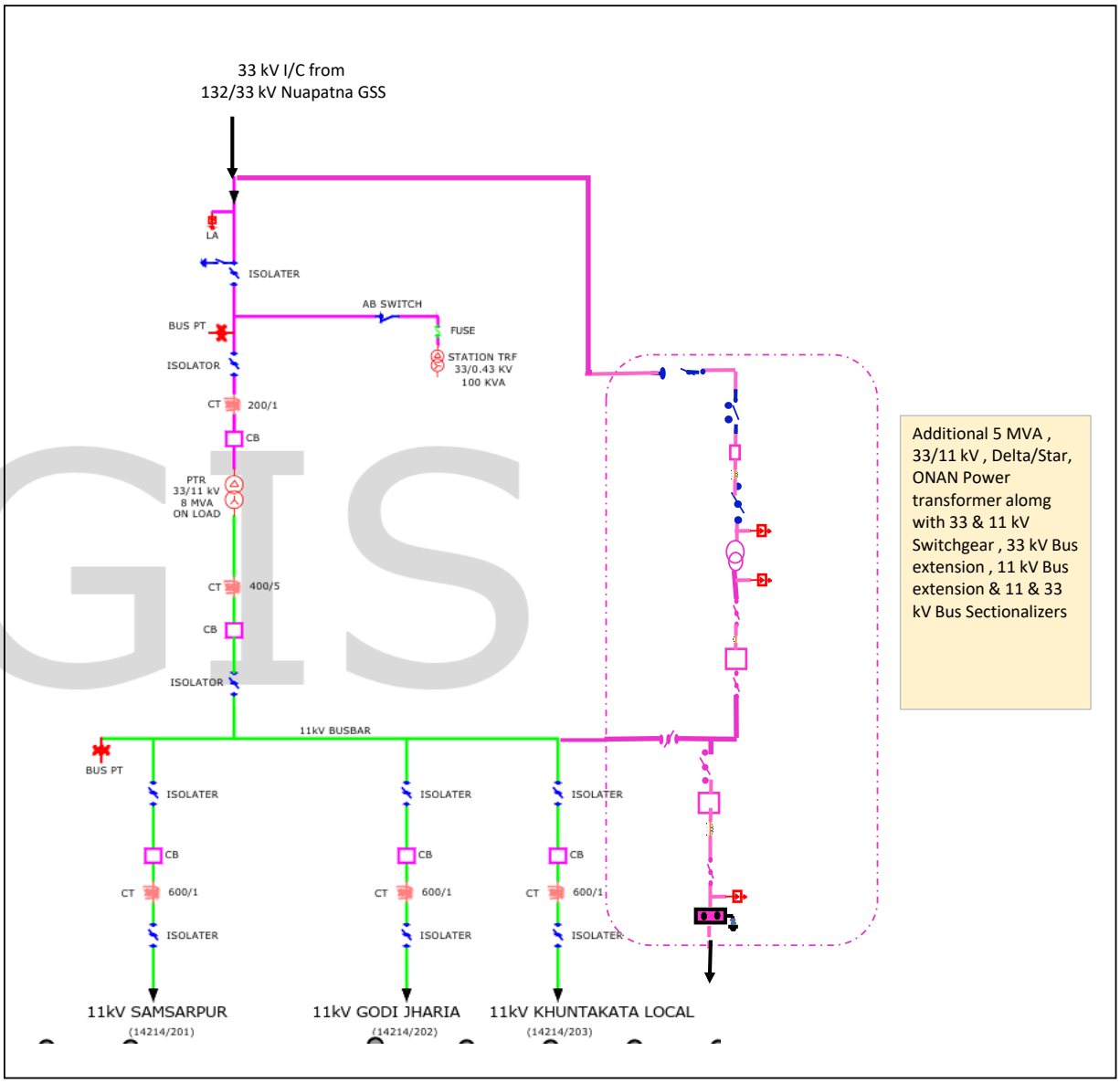
Sl. No.	Description	Amount
1	Part-A: a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.	69,32,475.44
2	Part-B: Extension of 11 kV Bus to connect new additional PTR Bay	7,35,764.69
3	Part-C: Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.	45,26,914.92
4	Part-D: Installation of Additional 33/11 kV , 5 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)	80,42,301.67
5	PART E: a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder. b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.	4,32,161.08
6	PART-F- Dismantling of Materials	25,287.63
	Total Amount	**2,06,94,905.43**
	Total Amount (In Cr.)	**2.07**

Total estimated cost is Rs. 2.07 Crore. (On TPCODL Capex Scheme)

EXISTING SLD



PROPOSED SLD



Part-A:

a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line

b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.

No. of BAY requirement	2
No. of VCB Requirement	2

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	1,15,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	1320	1,02,960.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	28	36,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	991	77,313.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	3	2,60,574.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	2	5,27,258.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	1	4,49,000.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	2,43,306.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/V3/110/V3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	1,44,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
26	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
27	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
28	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
29	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
30	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**29,78,755.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,36,176.05**
A				**Total landed Cost (A=A1 + A2)**	**35,14,931.87**
B				Stock, Storage & Insurance i.e 3% of A	1,05,447.96
C				**Sub Total (A+B)**	**36,20,379.82**
D				Contigency @ 3% of C	1,08,611.39
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	71,522.79
F				Transportation @ 7.5% of C	2,71,528.49

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	32,041.47
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,93,530.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**43,97,614.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	28	1,05,972.44
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	1,88,494.90
4.v	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	1,63,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	18.9	9,318.46
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.134	5,950.64

5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	11.4	75,796.89
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	59.76	18,399.51
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	489.72	54,603.78
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	138	32,016.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	9.2	13,616.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	9.2	46,276.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	18.4	1,38,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	16.8	1,26,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	224	60,480.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	3965.6	4,04,491.20
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	4.8	38,160.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2120.8	2,20,563.20

7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**20,87,048.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,75,668.72**
K				**Total landed Cost (K=K1+ K2)**	**24,62,717.17**
L				**Total Material +services (J+K)**	**68,60,332.12**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**68,60,332.12**
O				CESS 1% of (N)	68,603.32
P				**Total (N+O)**	69,28,935.44
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**69,32,475.44**

Part-B:

Extension of 11 kV Bus to connect new additional PTR Bay

No. of BAY requirement	1
No. of VCB Requirement	

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
9	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	2	2,600.00
10	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	71	5,522.40
A1				**Total Cost of materials**	**2,60,842.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,951.63**
A				**Total landed Cost (A=A1 + A2)**	**3,07,794.03**
B				Stock, Storage & Insurance i.e 3% of A	9,233.82
C				**Sub Total (A+B)**	**3,17,027.85**
D				Contigency @ 3% of C	9,510.84
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,277.36
F				Transportation @ 7.5% of C	23,777.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,386.78
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,87,979.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	2	7,569.46
2	**Column as per Drawing Schedule-**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
2.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
2.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
2.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
3	**Land Leveling & Compaction/ Gravels sprading :**				

3.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
3.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**2,88,559.30**
K2				**Applicable Taxes to make it Landed Cost @18%**	**51,940.67**
K				**Total landed Cost (K=K1+ K2)**	**3,40,499.97**
L				**Total Material +services (J+K)**	**7,28,479.89**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**7,28,479.89**
O				CESS 1% of (N)	7,284.80
P				**Total (N+O)**	7,35,764.69
Q				Inspection Fee of VCB - Rs. 1500/ VCB	-
R				GST @ 18% on Total Inspection Fees (Q)	-
S				Total Inspection Fees including GST (Q+R)	-
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**7,35,764.69**

Part-C:
Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.

No. of BAY requirement	2
No. of VCB Requirement	2

MATERIALS OF 11 kV Bay

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
2	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
3	Danger Plate, 2 no's.	EA	180.00	4	720.00
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	25	32,500.00
5	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
6	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
7	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	0	-
8	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	3	87,984.00
9	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	2	3,90,794.00
10	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	2	5,41,000.00
11	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	6	1,99,320.00
12	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	6	97,188.00
13	Control Cable 12Core x 2.5 mm2	Mtr	329.00	100	32,900.00
14	Control Cable 16Core x 2.5 mm2	Mtr	426.00	100	42,600.00
15	Control Cable 4Core x 2.5 mm2	Mtr	124.00	100	12,400.00
16	Control Cable 7Core x 2.5 mm2	Mtr	196.00	100	19,600.00
17	11 KV pin insulator polymer	EA	140.00	12	1,680.00
18	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
19	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
20	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
21	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
22	GI Nut , Bolt & Washer of different sizes	KG	74.00	100	7,400.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**16,88,521.03**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,03,933.79**
A				**Total landed Cost (A=A1 + A2)**	**19,92,454.82**
B				Stock, Storage & Insurance i.e 3% of A	59,773.64
C				**Sub Total (A+B)**	**20,52,228.46**
D				Contigency @ 3% of C	61,566.85
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	40,254.56
F				Transportation @ 7.5% of C	1,53,917.13
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				23,748.55
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,53,775.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**24,85,491.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	25	94,618.25
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**RCC Cable Trench :**	Qty			
4.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	172.5	40,020.00
4.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	11.5	17,020.00
4.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	11.5	57,845.00
4.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	23	1,72,500.00
4.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	21	1,57,500.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	280	75,600.00
4.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	4957	5,05,614.00
4.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	6	47,700.00
4.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2651	2,75,704.00
5	**Land Leveling & Compaction/ Gravels sprading :**				
5.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
5.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00

K1	**Total Civil & Services**	**16,89,065.91**
K2	**Applicable Taxes to make it Landed Cost @18%**	**3,04,031.86**
K	**Total landed Cost (K=K1+ K2)**	**19,93,097.78**
L	**Total (J+K)**	**44,78,589.03**
M	Other overheads (Including 6% supervision charges) of L	
N	**Sub-Total (L+M)**	**44,78,589.03**
O	CESS 1% of (N)	44,785.89
P	**Gross Total Material +Services (N+O)**	**45,23,374.92**
Q	Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R	GST @ 18% on Total Inspection Fees (Q)	540.00
S	Total Inspection Fees including GST (Q+R)	3,540.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**45,26,914.92**

Part-D:
Installation of Additional 33/11 kV , 5 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	5 MVA, 33/11 KV Power Transformer with OLTC	EA	82,86,500.00	1	
2	50x6mm GI Flat for earthing	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe for earthing	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,037.00	240	2,48,880.00
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,220.00	6	43,320.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,390.00	6	44,340.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1				**Total Cost of materials**	**14,24,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,56,410.00**
A				**Total landed Cost (A=A1 + A2)**	**16,80,910.00**
B				Stock, Storage & Insurance i.e 3% of A	50,427.30
C				**Sub Total (A+B)**	**17,31,337.30**
D				Contigency @ 3% of C	51,940.12
E				Tools & Plants @ 2% of C	8,515.09
F				Transportation @ 7.5% of C	1,29,850.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	5,03,570.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)	42,575.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kV	-
J				**Sum of (C to I)**	**24,67,788.88**
	Civil and Services Works (As per Technical Specification)				
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Laying, Commissioning & Testing of 11kV, 1CoreX630sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 3.15/5 MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	75,000.00	1	75,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Trailer with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, 14 mt Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board . Item whose loading& unloading is to be done with crane , charges for crane will be paid separately. (Full Trailer)	EA	24,000.00	2	48,000.00
10	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
11	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
12	Modification and extension of Control Room along with other civil works	LS	30,00,000.00	1	30,00,000.00
K1				**Total Civil & Services**	**45,29,702.89**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,15,346.52**
K				**Total landed Cost (K=K1+K2)**	**53,45,049.41**
L				**Total (J+K)**	**78,12,838.29**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**78,12,838.29**
O				Total GST @ 18% of (N)	

P	CESS 1% of N	78,128.38
Q	**Gross Total Material +Services (N+O+P)**	**78,90,966.67**
a	Inspection Fee of Drawing Checking and Approval	750.00
b	Inspection Fee of PTR	1,27,500.00
c	Inspection Fee of Breaker	-
R1	**Total Inspection Fees (a+b+c)**	**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)	**23,085.00**
R	Total Inspection charges including GST (R1+R2)	**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**	**80,42,301.67**

PART E:
a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder.
b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.

No. of DP required With Isolator and Earthswitch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With Isolator and Earthswitch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With Isolator and Earthswitch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch**	**2,91,762.82**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	11 KV V cross Arm(GI)	EA	851.00	2	1,702.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	2	162.00
4	Danger Plate	EA	180.00	2	360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	3.08	240.24
6	GI barbed wire anticlimbing device	KG	74.00	6.00	444.00
7	11 KV pin insulator polymer	EA	140.00	6	840.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.74	203.06
10	100 sq.mm AAA conductor	M	78.41	309.00	24,228.69
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
A1				**Total Cost of materials**	**86,303.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,534.72**
A				**Total landed Cost (A=A1 + A2)**	**1,01,838.70**
B				Stock, Storage & Insurance i.e 3% of A	3,055.16
C				**Sub Total (A+B)**	**1,04,893.86**
D				Contigency @ 3% of C	3,146.82
E				Tools & Plants @ 2% of C	2,097.88
F				Transportation @ 7.5% of C	7,867.04
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,480.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,24,990.38**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99

3	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**10,765.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,937.81**
K				**Total landed Cost (K=K1+ K2)**	**12,703.45**
L				**Total Material+Services (J+K)**	1,37,693.83
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,37,693.83**
O				CESS 1% of N	1,376.94
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,39,070.77**
	Gross Total Summary				
2	Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch				2,91,762.82
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,39,070.77
Q				**Gross Total Material +Services**	**4,30,833.58**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				-
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,32,161.08**

PART-F- Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
2	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc.	KG	200	16.37	3,273.28
A1				**Sub Total (Civil Portion) (in Rs.)**	**21,218.01**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,819.24**
A				**Total landed Cost (A=A1+ A2)**	**25,037.26**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	25,037.26
D				**CESS @ 1% of C**	250.37
E				**Grand Total (C+D)**	25,287.63

Annexure-15.2

TP CENTRAL ODISHA DISTRIBUTION LIMITED

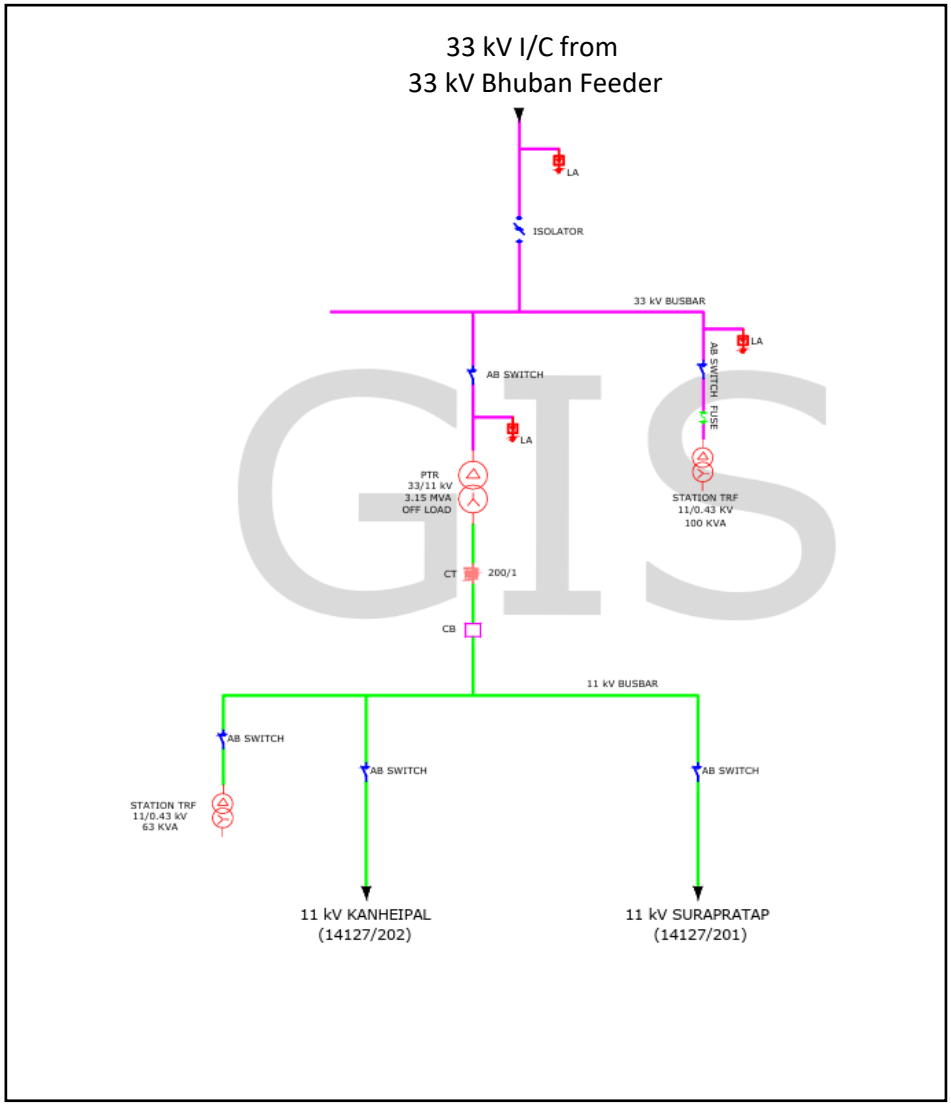
Name of the Circle :-	**Dhenkenal**
Name of the Division : -	DED
Name of the Work :-	Proposal for installation of 2nd PTR (3.15 MVA) at Dahanbil PSS along with 33 kV Bay and 11 kV Bays
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

ABSTRACT OF ESTIMATE

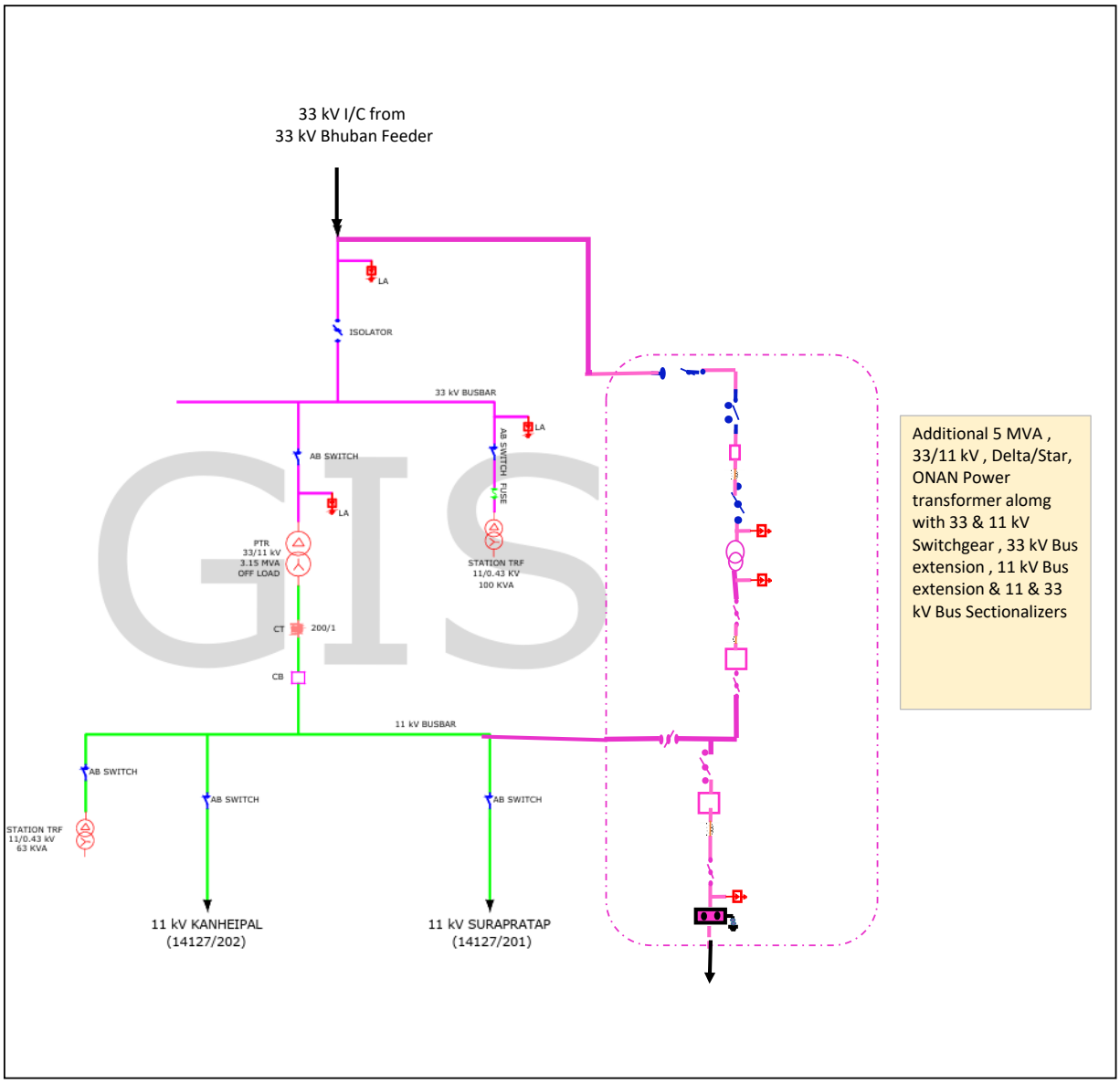
Sl. No.	Description	Amount
1	Part-A: a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.	69,32,475.44
2	Part-B: Extension of 11 kV Bus to connect new additional PTR Bay	7,35,764.69
3	Part-C: Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.	45,26,914.92
4	Part-D: Installation of Additional 33/11 kV , 3.15 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)	80,42,301.67
5	PART E: a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder. b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.	4,32,161.08
6	PART-F- Dismantling of Materials	25,287.63
	Total Amount	**2,06,94,905.43**
	Total Amount (In Cr.)	**2.07**

Total estimated cost is Rs. 2.07 Crore. (On TPCODL Capex Scheme)

EXISTING SLD



PROPOSED SLD



Part-A:

a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line

b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.

No. of BAY requirement	2
No. of VCB Requirement	2

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	1,15,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	1320	1,02,960.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	28	36,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	991	77,313.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	3	2,60,574.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	2	5,27,258.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	1	4,49,000.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	2,43,306.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/V3/110/V3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	1,44,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
26	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
27	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
28	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
29	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
30	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**29,78,755.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,36,176.05**
A				**Total landed Cost (A=A1 + A2)**	**35,14,931.87**
B				Stock, Storage & Insurance i.e 3% of A	1,05,447.96
C				**Sub Total (A+B)**	**36,20,379.82**
D				Contigency @ 3% of C	1,08,611.39
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	71,522.79
F				Transportation @ 7.5% of C	2,71,528.49

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	32,041.47
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,93,530.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**43,97,614.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	28	1,05,972.44
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	1,88,494.90
4.v	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	1,63,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	18.9	9,318.46
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.134	5,950.64

5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	11.4	75,796.89
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	59.76	18,399.51
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	489.72	54,603.78
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	138	32,016.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	9.2	13,616.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	9.2	46,276.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	18.4	1,38,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	16.8	1,26,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	224	60,480.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	3965.6	4,04,491.20
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	4.8	38,160.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2120.8	2,20,563.20

7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**20,87,048.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,75,668.72**
K				**Total landed Cost (K=K1+ K2)**	**24,62,717.17**
L				**Total Material +services (J+K)**	**68,60,332.12**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**68,60,332.12**
O				CESS 1% of (N)	68,603.32
P				**Total (N+O)**	69,28,935.44
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**69,32,475.44**

Part-B:

Extension of 11 kV Bus to connect new additional PTR Bay

No. of BAY requirement	1
No. of VCB Requirement	

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
9	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	2	2,600.00
10	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	71	5,522.40
A1				**Total Cost of materials**	**2,60,842.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,951.63**
A				**Total landed Cost (A=A1 + A2)**	**3,07,794.03**
B				Stock, Storage & Insurance i.e 3% of A	9,233.82
C				**Sub Total (A+B)**	**3,17,027.85**
D				Contigency @ 3% of C	9,510.84
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,277.36
F				Transportation @ 7.5% of C	23,777.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,386.78
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,87,979.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	2	7,569.46
2	**Column as per Drawing Schedule-**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
2.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
2.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
2.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
3	**Land Leveling & Compaction/ Gravels sprading :**				

3.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
3.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**2,88,559.30**
K2				**Applicable Taxes to make it Landed Cost @18%**	**51,940.67**
K				**Total landed Cost (K=K1+ K2)**	**3,40,499.97**
L				**Total Material +services (J+K)**	**7,28,479.89**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**7,28,479.89**
O				CESS 1% of (N)	7,284.80
P				**Total (N+O)**	7,35,764.69
Q				Inspection Fee of VCB - Rs. 1500/ VCB	-
R				GST @ 18% on Total Inspection Fees (Q)	-
S				Total Inspection Fees including GST (Q+R)	-
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**7,35,764.69**

Part-C:
Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.

No. of BAY requirement	2
No. of VCB Requirement	2

MATERIALS OF 11 kV Bay

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
2	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
3	Danger Plate, 2 no's.	EA	180.00	4	720.00
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	25	32,500.00
5	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
6	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
7	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	0	-
8	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	3	87,984.00
9	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	2	3,90,794.00
10	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	2	5,41,000.00
11	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	6	1,99,320.00
12	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	6	97,188.00
13	Control Cable 12Core x 2.5 mm2	Mtr	329.00	100	32,900.00
14	Control Cable 16Core x 2.5 mm2	Mtr	426.00	100	42,600.00
15	Control Cable 4Core x 2.5 mm2	Mtr	124.00	100	12,400.00
16	Control Cable 7Core x 2.5 mm2	Mtr	196.00	100	19,600.00
17	11 KV pin insulator polymer	EA	140.00	12	1,680.00
18	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
19	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
20	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
21	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
22	GI Nut , Bolt & Washer of different sizes	KG	74.00	100	7,400.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**16,88,521.03**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,03,933.79**
A				**Total landed Cost (A=A1 + A2)**	**19,92,454.82**
B				Stock, Storage & Insurance i.e 3% of A	59,773.64
C				**Sub Total (A+B)**	**20,52,228.46**
D				Contigency @ 3% of C	61,566.85
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	40,254.56
F				Transportation @ 7.5% of C	1,53,917.13
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				23,748.55
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,53,775.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**24,85,491.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	25	94,618.25
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**RCC Cable Trench :**	Qty			
4.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	172.5	40,020.00
4.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	11.5	17,020.00
4.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	11.5	57,845.00
4.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	23	1,72,500.00
4.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	21	1,57,500.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	280	75,600.00
4.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	4957	5,05,614.00
4.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	6	47,700.00
4.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2651	2,75,704.00
5	**Land Leveling & Compaction/ Gravels sprading :**				
5.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
5.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00

K1	**Total Civil & Services**	**16,89,065.91**
K2	**Applicable Taxes to make it Landed Cost @18%**	**3,04,031.86**
K	**Total landed Cost (K=K1+ K2)**	**19,93,097.78**
L	**Total (J+K)**	**44,78,589.03**
M	Other overheads (Including 6% supervision charges) of L	
N	**Sub-Total (L+M)**	**44,78,589.03**
O	CESS 1% of (N)	44,785.89
P	**Gross Total Material +Services (N+O)**	**45,23,374.92**
Q	Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R	GST @ 18% on Total Inspection Fees (Q)	540.00
S	Total Inspection Fees including GST (Q+R)	3,540.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**45,26,914.92**

Part-D:
Installation of Additional 33/11 kV , 3.15 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	3.15 MVA, 33/11 KV Power Transformer with OLTC	EA	82,86,500.00	1	
2	50x6mm GI Flat for earthing	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe for earthing	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,037.00	240	2,48,880.00
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,220.00	6	43,320.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,390.00	6	44,340.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1				**Total Cost of materials**	**14,24,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,56,410.00**
A				**Total landed Cost (A=A1 + A2)**	**16,80,910.00**
B				Stock, Storage & Insurance i.e 3% of A	50,427.30
C				**Sub Total (A+B)**	**17,31,337.30**
D				Contigency @ 3% of C	51,940.12
E				Tools & Plants @ 2% of C	8,515.09
F				Transportation @ 7.5% of C	1,29,850.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	5,03,570.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)	42,575.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kV	-
J				**Sum of (C to I)**	**24,67,788.88**
	Civil and Services Works (As per Technical Specification)				
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Laying, Commissioning & Testing of 11kV, 1CoreX630sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 3.15/5 MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	75,000.00	1	75,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Trailer with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, 14 mt Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board . Item whose loading& unloading is to be done with crane , charges for crane will be paid separately. (Full Trailer)	EA	24,000.00	2	48,000.00
10	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
11	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
12	Modification and extension of Control Room along with other civil works	LS	30,00,000.00	1	30,00,000.00
K1				**Total Civil & Services**	**45,29,702.89**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,15,346.52**
K				**Total landed Cost (K=K1+K2)**	**53,45,049.41**
L				**Total (J+K)**	**78,12,838.29**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**78,12,838.29**
O				Total GST @ 18% of (N)	

P	CESS 1% of N	78,128.38
Q	**Gross Total Material +Services (N+O+P)**	**78,90,966.67**
a	Inspection Fee of Drawing Checking and Approval	750.00
b	Inspection Fee of PTR	1,27,500.00
c	Inspection Fee of Breaker	-
R1	**Total Inspection Fees (a+b+c)**	**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)	**23,085.00**
R	Total Inspection charges including GST (R1+R2)	**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**	**80,42,301.67**

PART E:
a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder.
b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.

No. of DP required With Isolator and Earthswitch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With Isolator and Earthswitch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With Isolator and Earthswitch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch**	**2,91,762.82**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	11 KV V cross Arm(GI)	EA	851.00	2	1,702.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	2	162.00
4	Danger Plate	EA	180.00	2	360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	3.08	240.24
6	GI barbed wire anticlimbing device	KG	74.00	6.00	444.00
7	11 KV pin insulator polymer	EA	140.00	6	840.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.74	203.06
10	100 sq.mm AAA conductor	M	78.41	309.00	24,228.69
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
A1				**Total Cost of materials**	**86,303.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,534.72**
A				**Total landed Cost (A=A1 + A2)**	**1,01,838.70**
B				Stock, Storage & Insurance i.e 3% of A	3,055.16
C				**Sub Total (A+B)**	**1,04,893.86**
D				Contigency @ 3% of C	3,146.82
E				Tools & Plants @ 2% of C	2,097.88
F				Transportation @ 7.5% of C	7,867.04
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,480.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,24,990.38**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99

3	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**10,765.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,937.81**
K				**Total landed Cost (K=K1+ K2)**	**12,703.45**
L				**Total Material+Services (J+K)**	1,37,693.83
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,37,693.83**
O				CESS 1% of N	1,376.94
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,39,070.77**
	Gross Total Summary				
2	Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch				2,91,762.82
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,39,070.77
Q				**Gross Total Material +Services**	**4,30,833.58**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				-
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,32,161.08**

PART-F- Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
2	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc.	KG	200	16.37	3,273.28
A1	**Sub Total (Civil Portion) (in Rs.)**				**21,218.01**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,819.24**
A	**Total landed Cost (A=A1+ A2)**				**25,037.26**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				25,037.26
D	**CESS @ 1% of C**				250.37
E	**Grand Total (C+D)**				25,287.63

Annexure-15.3

TP CENTRAL ODISHA DISTRIBUTION LIMITED

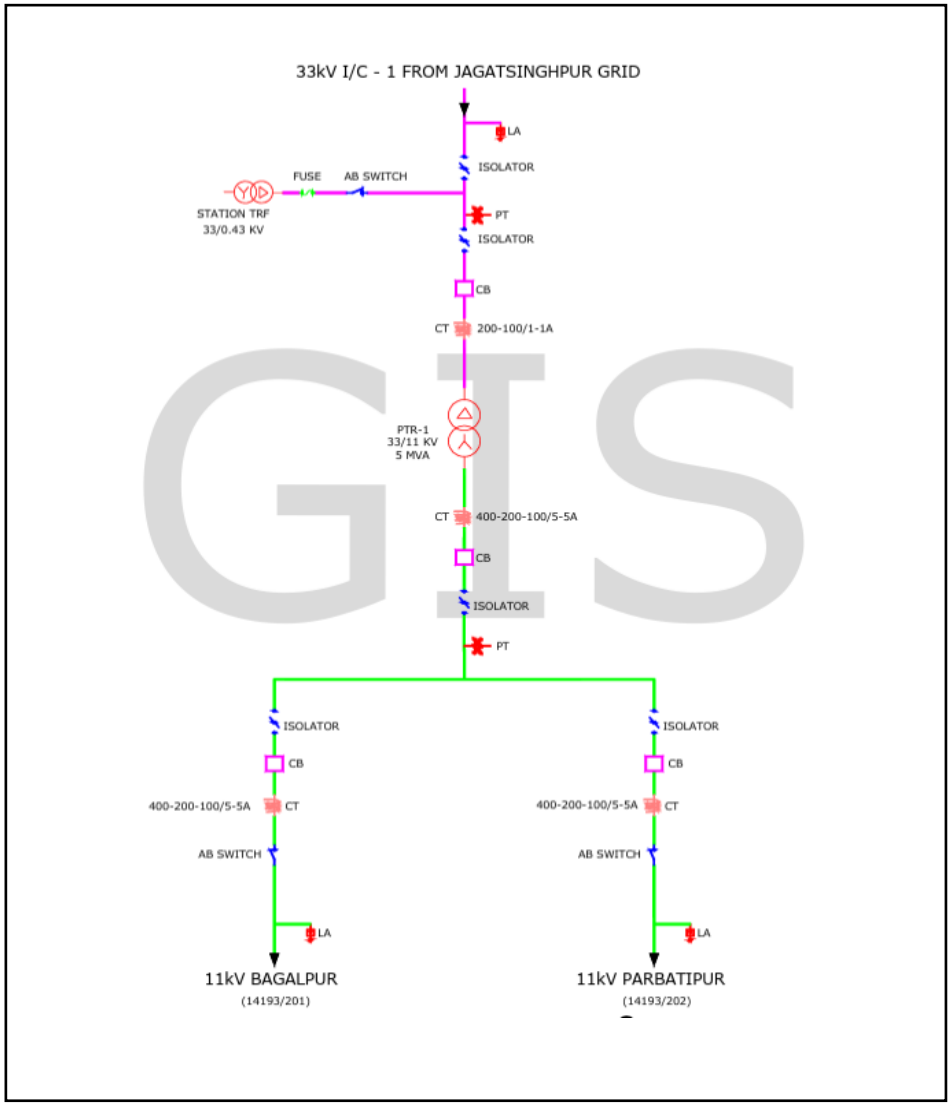
Name of the Circle :-	**Paradeep**
Name of the Division : -	JED
Name of the Work :-	Proposal for installation of 2nd PTR (5 MVA) at 22 Mouza PSS along with 33 kV Bay and 11 kV Bays
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

ABSTRACT OF ESTIMATE

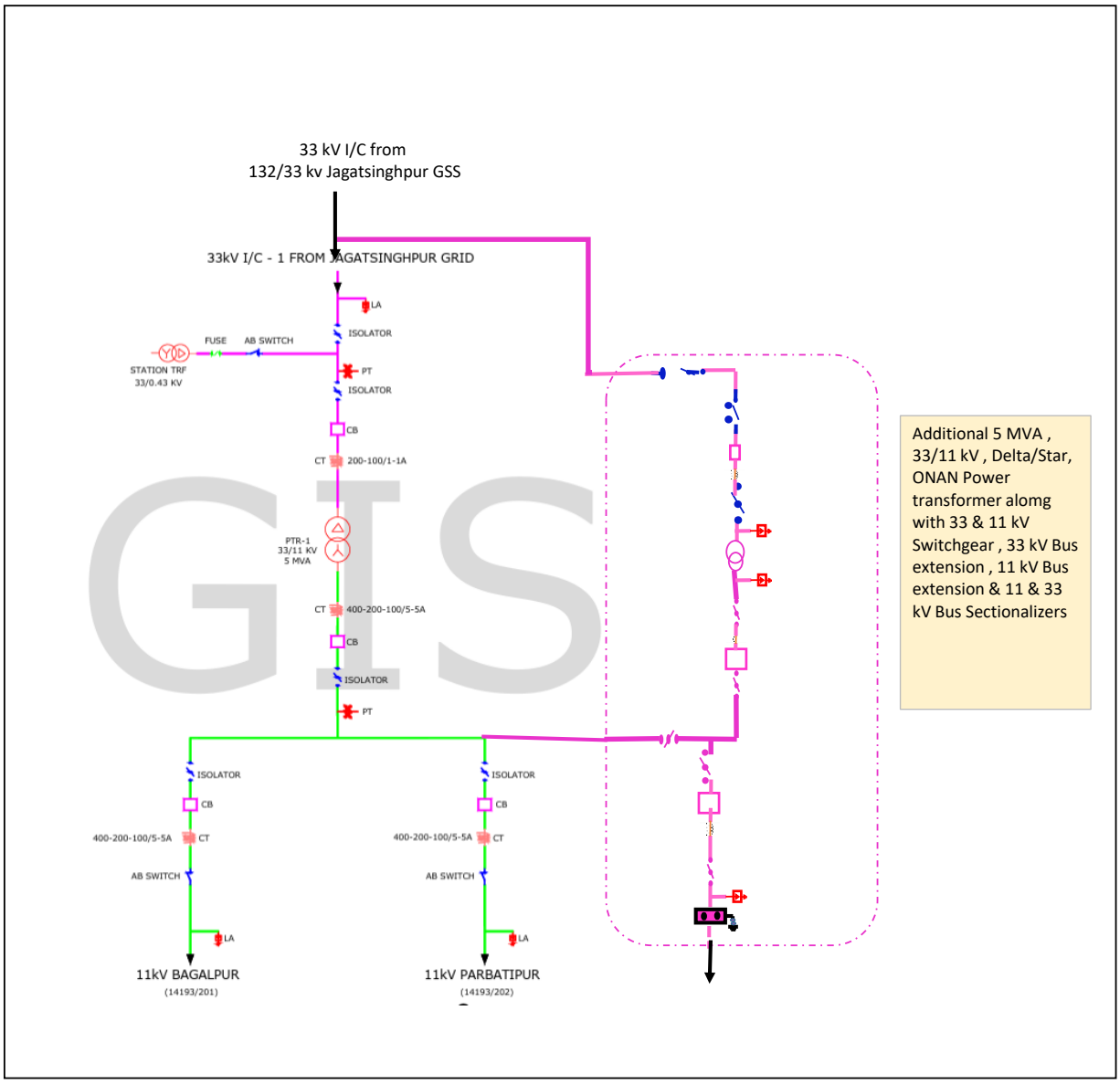
Sl. No.	Description	Amount
1	Part-A: a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.	69,32,475.44
2	Part-B: Extension of 11 kV Bus to connect new additional PTR Bay	7,35,764.69
3	Part-C: Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.	45,26,914.92
4	Part-D: Installation of Additional 33/11 kV , 5 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)	80,42,301.67
5	PART E: a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder. b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.	4,32,161.08
6	PART-F- Dismantling of Materials	25,287.63
	Total Amount	**2,06,94,905.43**
	Total Amount (In Cr.)	**2.07**

Total estimated cost is Rs. 2.07 Crore. (On TPCODL Capex Scheme)

EXISTING SLD



PROPOSED SLD



Part-A:

a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line

b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.

No. of BAY requirement	2
No. of VCB Requirement	2

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	1,15,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	1320	1,02,960.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	28	36,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	991	77,313.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	3	2,60,574.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	2	5,27,258.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	1	4,49,000.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	2,43,306.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/V3/110/V3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	1,44,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
26	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
27	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
28	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
29	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
30	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**29,78,755.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,36,176.05**
A				**Total landed Cost (A=A1 + A2)**	**35,14,931.87**
B				Stock, Storage & Insurance i.e 3% of A	1,05,447.96
C				**Sub Total (A+B)**	**36,20,379.82**
D				Contigency @ 3% of C	1,08,611.39
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	71,522.79
F				Transportation @ 7.5% of C	2,71,528.49

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	32,041.47
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,93,530.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**43,97,614.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	28	1,05,972.44
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	1,88,494.90
4.v	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	1,63,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	18.9	9,318.46
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.134	5,950.64

5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	11.4	75,796.89
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	59.76	18,399.51
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	489.72	54,603.78
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	138	32,016.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	9.2	13,616.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	9.2	46,276.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	18.4	1,38,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	16.8	1,26,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	224	60,480.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	3965.6	4,04,491.20
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	4.8	38,160.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2120.8	2,20,563.20

7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**20,87,048.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,75,668.72**
K				**Total landed Cost (K=K1+ K2)**	**24,62,717.17**
L				**Total Material +services (J+K)**	**68,60,332.12**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**68,60,332.12**
O				CESS 1% of (N)	68,603.32
P				**Total (N+O)**	69,28,935.44
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**69,32,475.44**

Part-B:

Extension of 11 kV Bus to connect new additional PTR Bay

No. of BAY requirement	1
No. of VCB Requirement	

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
9	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	2	2,600.00
10	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	71	5,522.40
A1				**Total Cost of materials**	**2,60,842.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,951.63**
A				**Total landed Cost (A=A1 + A2)**	**3,07,794.03**
B				Stock, Storage & Insurance i.e 3% of A	9,233.82
C				**Sub Total (A+B)**	**3,17,027.85**
D				Contigency @ 3% of C	9,510.84
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,277.36
F				Transportation @ 7.5% of C	23,777.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,386.78
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,87,979.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	2	7,569.46
2	**Column as per Drawing Schedule-**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
2.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
2.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
2.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
3	**Land Leveling & Compaction/ Gravels sprading :**				

3.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
3.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**2,88,559.30**
K2				**Applicable Taxes to make it Landed Cost @18%**	**51,940.67**
K				**Total landed Cost (K=K1+ K2)**	**3,40,499.97**
L				**Total Material +services (J+K)**	**7,28,479.89**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**7,28,479.89**
O				CESS 1% of (N)	7,284.80
P				**Total (N+O)**	7,35,764.69
Q				Inspection Fee of VCB - Rs. 1500/ VCB	-
R				GST @ 18% on Total Inspection Fees (Q)	-
S				Total Inspection Fees including GST (Q+R)	-
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**7,35,764.69**

Part-C:
Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.

No. of BAY requirement	2
No. of VCB Requirement	2

MATERIALS OF 11 kV Bay

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
2	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
3	Danger Plate, 2 no's.	EA	180.00	4	720.00
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	25	32,500.00
5	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
6	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
7	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	0	-
8	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	3	87,984.00
9	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	2	3,90,794.00
10	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	2	5,41,000.00
11	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	6	1,99,320.00
12	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	6	97,188.00
13	Control Cable 12Core x 2.5 mm2	Mtr	329.00	100	32,900.00
14	Control Cable 16Core x 2.5 mm2	Mtr	426.00	100	42,600.00
15	Control Cable 4Core x 2.5 mm2	Mtr	124.00	100	12,400.00
16	Control Cable 7Core x 2.5 mm2	Mtr	196.00	100	19,600.00
17	11 KV pin insulator polymer	EA	140.00	12	1,680.00
18	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
19	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
20	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
21	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
22	GI Nut , Bolt & Washer of different sizes	KG	74.00	100	7,400.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**16,88,521.03**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,03,933.79**
A				**Total landed Cost (A=A1 + A2)**	**19,92,454.82**
B				Stock, Storage & Insurance i.e 3% of A	59,773.64
C				**Sub Total (A+B)**	**20,52,228.46**
D				Contigency @ 3% of C	61,566.85
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	40,254.56
F				Transportation @ 7.5% of C	1,53,917.13
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				23,748.55
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,53,775.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**24,85,491.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	25	94,618.25
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**RCC Cable Trench :**	Qty			
4.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	172.5	40,020.00
4.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	11.5	17,020.00
4.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	11.5	57,845.00
4.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	23	1,72,500.00
4.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	21	1,57,500.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	280	75,600.00
4.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	4957	5,05,614.00
4.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	6	47,700.00
4.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2651	2,75,704.00
5	**Land Leveling & Compaction/ Gravels sprading :**				
5.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
5.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00

K1	**Total Civil & Services**	**16,89,065.91**
K2	**Applicable Taxes to make it Landed Cost @18%**	**3,04,031.86**
K	**Total landed Cost (K=K1+ K2)**	**19,93,097.78**
L	**Total (J+K)**	**44,78,589.03**
M	Other overheads (Including 6% supervision charges) of L	
N	**Sub-Total (L+M)**	**44,78,589.03**
O	CESS 1% of (N)	44,785.89
P	**Gross Total Material +Services (N+O)**	**45,23,374.92**
Q	Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R	GST @ 18% on Total Inspection Fees (Q)	540.00
S	Total Inspection Fees including GST (Q+R)	3,540.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**45,26,914.92**

Part-D:
Installation of Additional 33/11 kV , 5 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	5 MVA, 33/11 KV Power Transformer with OLTC	EA	82,86,500.00	1	
2	50x6mm GI Flat for earthing	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe for earthing	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,037.00	240	2,48,880.00
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,220.00	6	43,320.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,390.00	6	44,340.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1				**Total Cost of materials**	**14,24,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,56,410.00**
A				**Total landed Cost (A=A1 + A2)**	**16,80,910.00**
B				Stock, Storage & Insurance i.e 3% of A	50,427.30
C				**Sub Total (A+B)**	**17,31,337.30**
D				Contigency @ 3% of C	51,940.12
E				Tools & Plants @ 2% of C	8,515.09
F				Transportation @ 7.5% of C	1,29,850.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	5,03,570.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)	42,575.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kV	-
J				**Sum of (C to I)**	**24,67,788.88**
	Civil and Services Works (As per Technical Specification)				
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Laying, Commissioning & Testing of 11kV, 1CoreX630sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 3.15/5 MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	75,000.00	1	75,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Trailer with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, 14 mt Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board . Item whose loading& unloading is to be done with crane , charges for crane will be paid separately. (Full Trailer)	EA	24,000.00	2	48,000.00
10	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
11	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
12	Modification and extension of Control Room along with other civil works	LS	30,00,000.00	1	30,00,000.00
K1				**Total Civil & Services**	**45,29,702.89**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,15,346.52**
K				**Total landed Cost (K=K1+K2)**	**53,45,049.41**
L				**Total (J+K)**	**78,12,838.29**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**78,12,838.29**
O				Total GST @ 18% of (N)	

P	CESS 1% of N	78,128.38
Q	**Gross Total Material +Services (N+O+P)**	**78,90,966.67**
a	Inspection Fee of Drawing Checking and Approval	750.00
b	Inspection Fee of PTR	1,27,500.00
c	Inspection Fee of Breaker	-
R1	**Total Inspection Fees (a+b+c)**	**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)	**23,085.00**
R	Total Inspection charges including GST (R1+R2)	**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**	**80,42,301.67**

PART E:
a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder.
b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.

No. of DP required With Isolator and Earthswitch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With Isolator and Earthswitch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With Isolator and Earthswitch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch**	**2,91,762.82**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	11 KV V cross Arm(GI)	EA	851.00	2	1,702.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	2	162.00
4	Danger Plate	EA	180.00	2	360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	3.08	240.24
6	GI barbed wire anticlimbing device	KG	74.00	6.00	444.00
7	11 KV pin insulator polymer	EA	140.00	6	840.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.74	203.06
10	100 sq.mm AAA conductor	M	78.41	309.00	24,228.69
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
A1				**Total Cost of materials**	**86,303.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,534.72**
A				**Total landed Cost (A=A1 + A2)**	**1,01,838.70**
B				Stock, Storage & Insurance i.e 3% of A	3,055.16
C				**Sub Total (A+B)**	**1,04,893.86**
D				Contigency @ 3% of C	3,146.82
E				Tools & Plants @ 2% of C	2,097.88
F				Transportation @ 7.5% of C	7,867.04
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,480.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,24,990.38**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99

3	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**10,765.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,937.81**
K				**Total landed Cost (K=K1+ K2)**	**12,703.45**
L				**Total Material+Services (J+K)**	1,37,693.83
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,37,693.83**
O				CESS 1% of N	1,376.94
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,39,070.77**
	Gross Total Summary				
2	Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch				2,91,762.82
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,39,070.77
Q				**Gross Total Material +Services**	**4,30,833.58**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				-
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,32,161.08**

PART-F- Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
2	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc.	KG	200	16.37	3,273.28
A1				**Sub Total (Civil Portion) (in Rs.)**	**21,218.01**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,819.24**
A				**Total landed Cost (A=A1+ A2)**	**25,037.26**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	25,037.26
D				**CESS @ 1% of C**	250.37
E				**Grand Total (C+D)**	25,287.63

Annexure-15.4

TP CENTRAL ODISHA DISTRIBUTION LIMITED

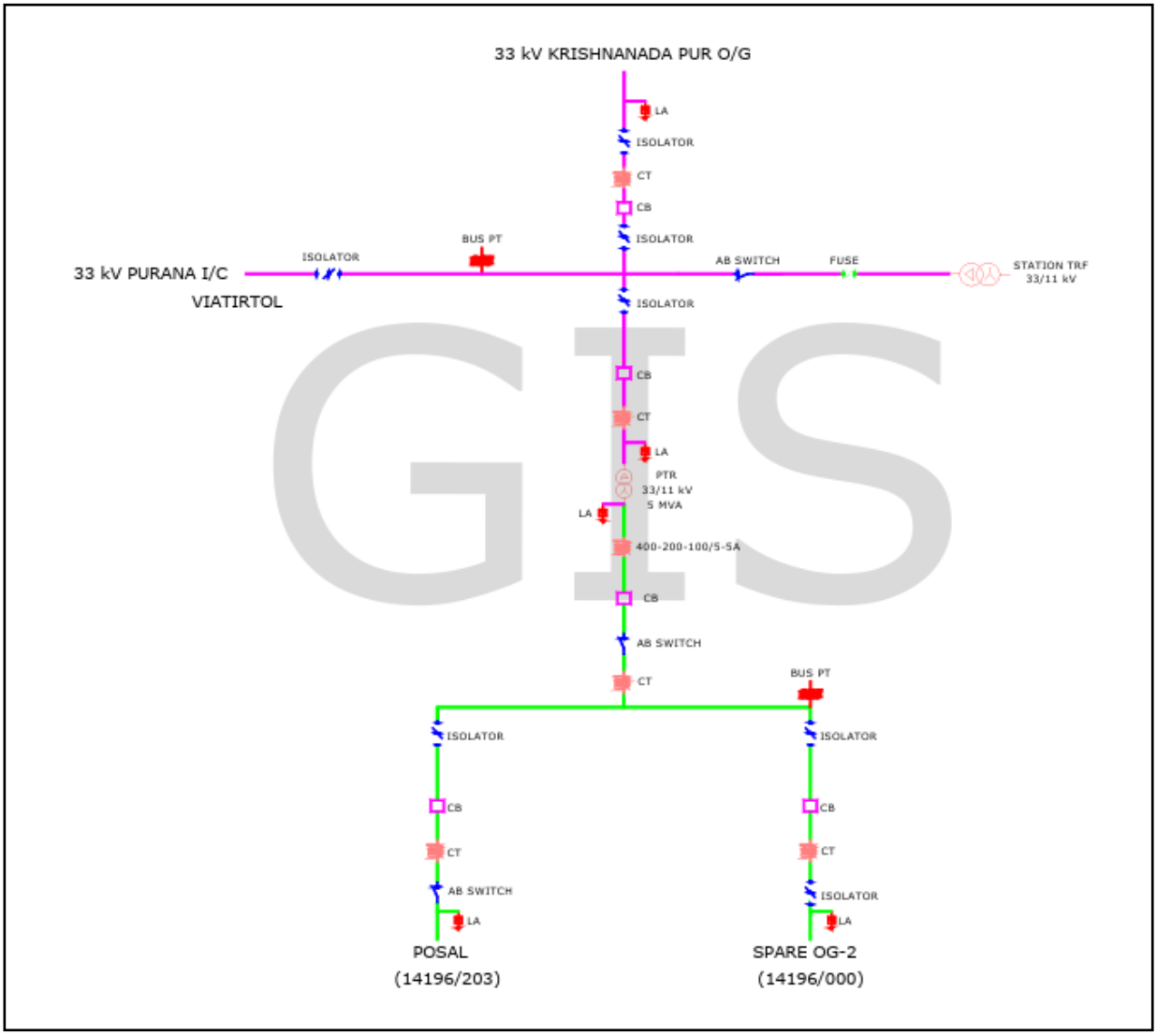
Name of the Circle :-	**Paradeep**
Name of the Division : -	PDP
Name of the Work :-	Proposal for installation of 2nd PTR (3.15 MVA) at Paruna PSS along with 33 kV Bay and 11 kV Bays
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

ABSTRACT OF ESTIMATE

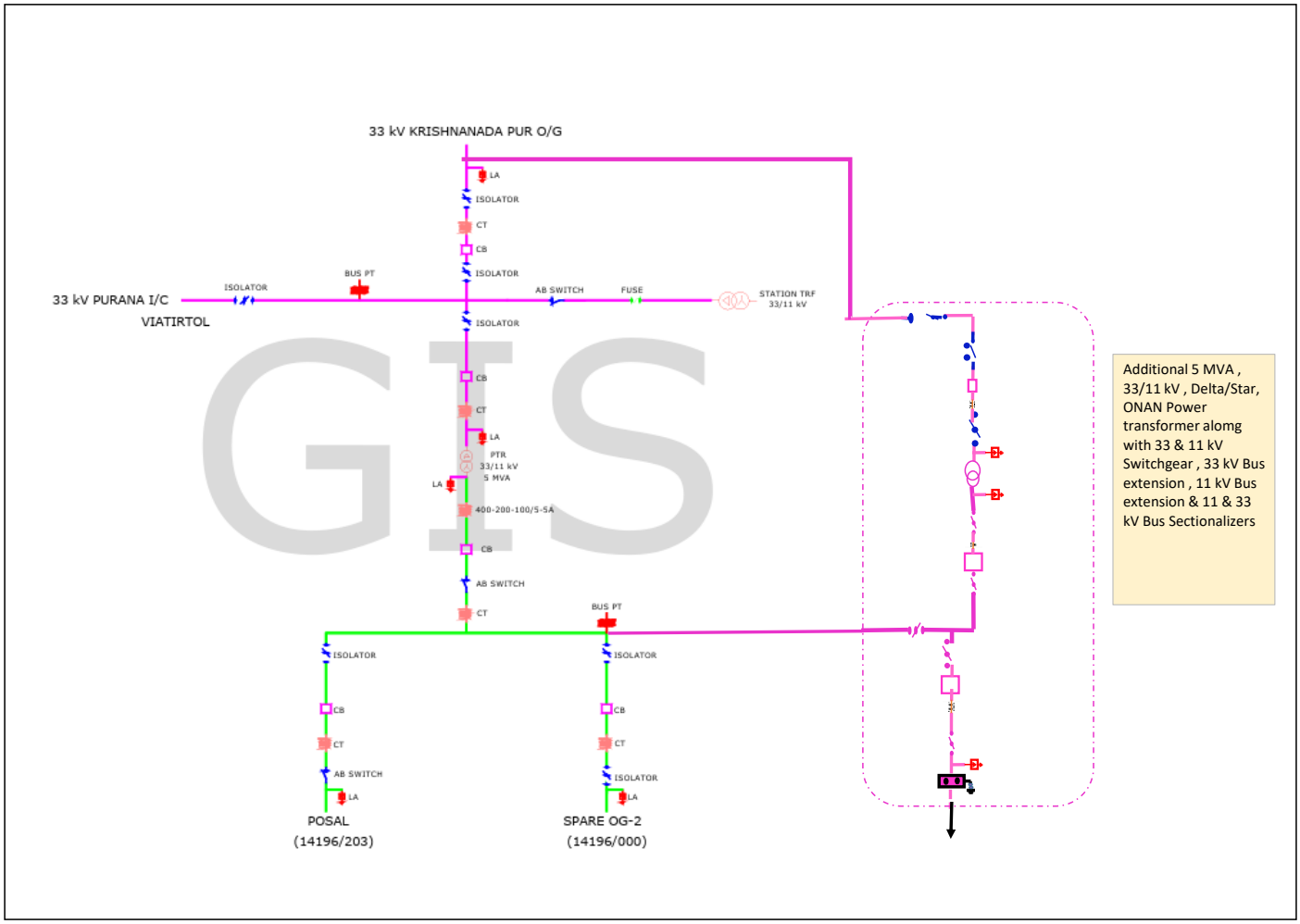
Sl. No.	Description	Amount
1	Part-A: a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.	69,32,475.44
2	Part-B: Extension of 11 kV Bus to connect new additional PTR Bay	7,35,764.69
3	Part-C: Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.	45,26,914.92
4	Part-D: Installation of Additional 33/11 kV , 3.15 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)	80,42,301.67
5	PART E: a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder. b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.	4,32,161.08
6	PART-F- Dismantling of Materials	25,287.63
	Total Amount	**2,06,94,905.43**
	Total Amount (In Cr.)	**2.07**

Total estimated cost is Rs. 2.07 Crore. (On TPCODL Capex Scheme)

EXISTING SLD



PROPOSED SLD



Part-A:

a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line

b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.

No. of BAY requirement	2
No. of VCB Requirement	2

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	1,15,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	1320	1,02,960.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	28	36,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	991	77,313.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	3	2,60,574.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	2	5,27,258.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	1	4,49,000.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	2,43,306.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/V3/110/V3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	1,44,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
26	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
27	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
28	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
29	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
30	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**29,78,755.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,36,176.05**
A				**Total landed Cost (A=A1 + A2)**	**35,14,931.87**
B				Stock, Storage & Insurance i.e 3% of A	1,05,447.96
C				**Sub Total (A+B)**	**36,20,379.82**
D				Contigency @ 3% of C	1,08,611.39
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	71,522.79
F				Transportation @ 7.5% of C	2,71,528.49

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	32,041.47
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,93,530.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**43,97,614.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	28	1,05,972.44
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	1,88,494.90
4.v	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	1,63,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	18.9	9,318.46
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.134	5,950.64

5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	11.4	75,796.89
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	59.76	18,399.51
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	489.72	54,603.78
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	138	32,016.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	9.2	13,616.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	9.2	46,276.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	18.4	1,38,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	16.8	1,26,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	224	60,480.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	3965.6	4,04,491.20
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	4.8	38,160.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2120.8	2,20,563.20

7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**20,87,048.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,75,668.72**
K				**Total landed Cost (K=K1+ K2)**	**24,62,717.17**
L				**Total Material +services (J+K)**	**68,60,332.12**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**68,60,332.12**
O				CESS 1% of (N)	68,603.32
P				**Total (N+O)**	69,28,935.44
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**69,32,475.44**

Part-B:

Extension of 11 kV Bus to connect new additional PTR Bay

No. of BAY requirement	1
No. of VCB Requirement	

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
9	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	2	2,600.00
10	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	71	5,522.40
A1				**Total Cost of materials**	**2,60,842.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,951.63**
A				**Total landed Cost (A=A1 + A2)**	**3,07,794.03**
B				Stock, Storage & Insurance i.e 3% of A	9,233.82
C				**Sub Total (A+B)**	**3,17,027.85**
D				Contigency @ 3% of C	9,510.84
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,277.36
F				Transportation @ 7.5% of C	23,777.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,386.78
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,87,979.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	2	7,569.46
2	**Column as per Drawing Schedule-**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
2.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
2.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
2.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
3	**Land Leveling & Compaction/ Gravels sprading :**				

3.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
3.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**2,88,559.30**
K2				**Applicable Taxes to make it Landed Cost @18%**	**51,940.67**
K				**Total landed Cost (K=K1+ K2)**	**3,40,499.97**
L				**Total Material +services (J+K)**	**7,28,479.89**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**7,28,479.89**
O				CESS 1% of (N)	7,284.80
P				**Total (N+O)**	7,35,764.69
Q				Inspection Fee of VCB - Rs. 1500/ VCB	-
R				GST @ 18% on Total Inspection Fees (Q)	-
S				Total Inspection Fees including GST (Q+R)	-
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**7,35,764.69**

Part-C:
Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.

No. of BAY requirement	2
No. of VCB Requirement	2

MATERIALS OF 11 kV Bay

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
2	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
3	Danger Plate, 2 no's.	EA	180.00	4	720.00
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	25	32,500.00
5	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
6	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
7	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	0	-
8	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	3	87,984.00
9	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	2	3,90,794.00
10	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	2	5,41,000.00
11	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	6	1,99,320.00
12	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	6	97,188.00
13	Control Cable 12Core x 2.5 mm2	Mtr	329.00	100	32,900.00
14	Control Cable 16Core x 2.5 mm2	Mtr	426.00	100	42,600.00
15	Control Cable 4Core x 2.5 mm2	Mtr	124.00	100	12,400.00
16	Control Cable 7Core x 2.5 mm2	Mtr	196.00	100	19,600.00
17	11 KV pin insulator polymer	EA	140.00	12	1,680.00
18	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
19	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
20	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
21	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
22	GI Nut , Bolt & Washer of different sizes	KG	74.00	100	7,400.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**16,88,521.03**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,03,933.79**
A				**Total landed Cost (A=A1 + A2)**	**19,92,454.82**
B				Stock, Storage & Insurance i.e 3% of A	59,773.64
C				**Sub Total (A+B)**	**20,52,228.46**
D				Contigency @ 3% of C	61,566.85
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	40,254.56
F				Transportation @ 7.5% of C	1,53,917.13
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				23,748.55
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,53,775.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**24,85,491.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	25	94,618.25
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**RCC Cable Trench :**	Qty			
4.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	172.5	40,020.00
4.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	11.5	17,020.00
4.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	11.5	57,845.00
4.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	23	1,72,500.00
4.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	21	1,57,500.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	280	75,600.00
4.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	4957	5,05,614.00
4.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	6	47,700.00
4.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2651	2,75,704.00
5	**Land Leveling & Compaction/ Gravels sprading :**				
5.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
5.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00

K1	**Total Civil & Services**	**16,89,065.91**
K2	**Applicable Taxes to make it Landed Cost @18%**	**3,04,031.86**
K	**Total landed Cost (K=K1+ K2)**	**19,93,097.78**
L	**Total (J+K)**	**44,78,589.03**
M	Other overheads (Including 6% supervision charges) of L	
N	**Sub-Total (L+M)**	**44,78,589.03**
O	CESS 1% of (N)	44,785.89
P	**Gross Total Material +Services (N+O)**	**45,23,374.92**
Q	Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R	GST @ 18% on Total Inspection Fees (Q)	540.00
S	Total Inspection Fees including GST (Q+R)	3,540.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**45,26,914.92**

Part-D:
Installation of Additional 33/11 kV , 3.15 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	3.15 MVA, 33/11 KV Power Transformer with OLTC	EA	82,86,500.00	1	
2	50x6mm GI Flat for earthing	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe for earthing	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,037.00	240	2,48,880.00
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,220.00	6	43,320.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,390.00	6	44,340.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1				**Total Cost of materials**	**14,24,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,56,410.00**
A				**Total landed Cost (A=A1 + A2)**	**16,80,910.00**
B				Stock, Storage & Insurance i.e 3% of A	50,427.30
C				**Sub Total (A+B)**	**17,31,337.30**
D				Contigency @ 3% of C	51,940.12
E				Tools & Plants @ 2% of C	8,515.09
F				Transportation @ 7.5% of C	1,29,850.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	5,03,570.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)	42,575.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kV	-
J				**Sum of (C to I)**	**24,67,788.88**
	Civil and Services Works (As per Technical Specification)				
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Laying, Commissioning & Testing of 11kV, 1CoreX630sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 3.15/5 MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	75,000.00	1	75,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Trailer with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, 14 mt Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board . Item whose loading& unloading is to be done with crane , charges for crane will be paid separately. (Full Trailer)	EA	24,000.00	2	48,000.00
10	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
11	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
12	Modification and extension of Control Room along with other civil works	LS	30,00,000.00	1	30,00,000.00
K1				**Total Civil & Services**	**45,29,702.89**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,15,346.52**
K				**Total landed Cost (K=K1+K2)**	**53,45,049.41**
L				**Total (J+K)**	**78,12,838.29**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**78,12,838.29**
O				Total GST @ 18% of (N)	

P	CESS 1% of N	78,128.38
Q	**Gross Total Material +Services (N+O+P)**	**78,90,966.67**
a	Inspection Fee of Drawing Checking and Approval	750.00
b	Inspection Fee of PTR	1,27,500.00
c	Inspection Fee of Breaker	-
R1	**Total Inspection Fees (a+b+c)**	**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)	**23,085.00**
R	Total Inspection charges including GST (R1+R2)	**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**	**80,42,301.67**

PART E:
a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder.
b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.

No. of DP required With Isolator and Earthswitch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With Isolator and Earthswitch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With Isolator and Earthswitch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch**	**2,91,762.82**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	11 KV V cross Arm(GI)	EA	851.00	2	1,702.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	2	162.00
4	Danger Plate	EA	180.00	2	360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	3.08	240.24
6	GI barbed wire anticlimbing device	KG	74.00	6.00	444.00
7	11 KV pin insulator polymer	EA	140.00	6	840.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.74	203.06
10	100 sq.mm AAA conductor	M	78.41	309.00	24,228.69
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
A1				**Total Cost of materials**	**86,303.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,534.72**
A				**Total landed Cost (A=A1 + A2)**	**1,01,838.70**
B				Stock, Storage & Insurance i.e 3% of A	3,055.16
C				**Sub Total (A+B)**	**1,04,893.86**
D				Contigency @ 3% of C	3,146.82
E				Tools & Plants @ 2% of C	2,097.88
F				Transportation @ 7.5% of C	7,867.04
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,480.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,24,990.38**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99

3	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**10,765.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,937.81**
K				**Total landed Cost (K=K1+ K2)**	**12,703.45**
L				**Total Material+Services (J+K)**	1,37,693.83
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,37,693.83**
O				CESS 1% of N	1,376.94
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,39,070.77**
	Gross Total Summary				
2	Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch				2,91,762.82
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,39,070.77
Q				**Gross Total Material +Services**	**4,30,833.58**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				-
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,32,161.08**

PART-F- Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
2	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc.	KG	200	16.37	3,273.28
A1	**Sub Total (Civil Portion) (in Rs.)**				**21,218.01**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,819.24**
A	**Total landed Cost (A=A1+ A2)**				**25,037.26**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				25,037.26
D	**CESS @ 1% of C**				250.37
E	**Grand Total (C+D)**				25,287.63

Annexure-15.5

TP CENTRAL ODISHA DISTRIBUTION LIMITED

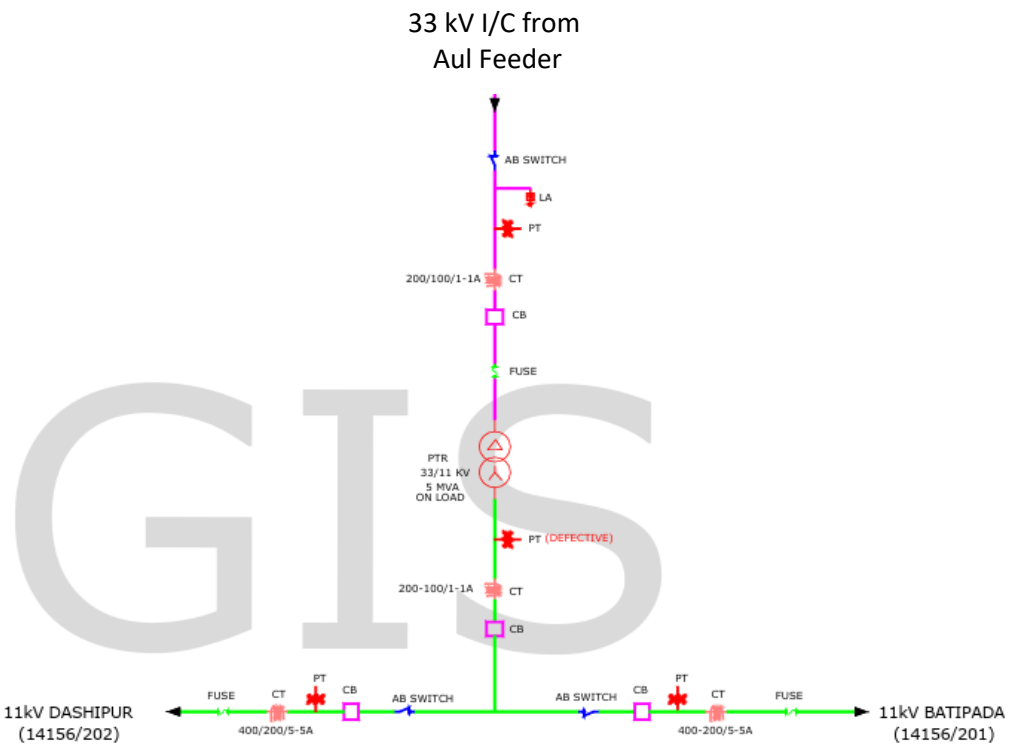
Name of the Circle :-	**Paradeep**
Name of the Division : -	KED-1
Name of the Work :-	Proposal for installation of 2nd PTR (5 MVA) at Patrapur PSS along with 33 kV Bay and 11 kV Bays
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

ABSTRACT OF ESTIMATE

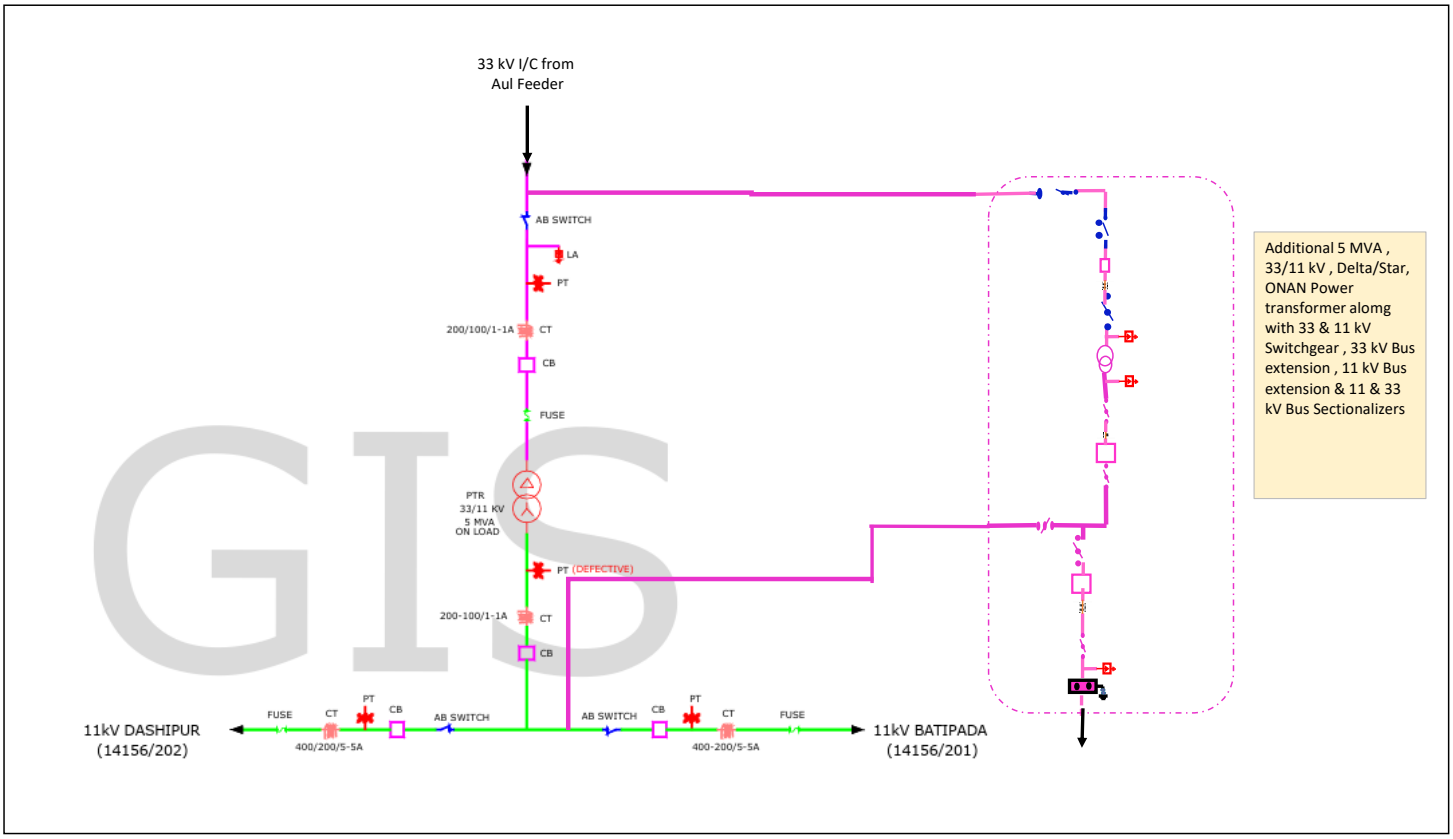
Sl. No.	Description	Amount
1	Part-A: a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.	69,32,475.44
2	Part-B: Extension of 11 kV Bus to connect new additional PTR Bay	7,35,764.69
3	Part-C: Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.	45,26,914.92
4	Part-D: Installation of Additional 33/11 kV , 5 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)	80,42,301.67
5	PART E: a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder. b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.	4,32,161.08
6	PART-F- Dismantling of Materials	25,287.63
	Total Amount	**2,06,94,905.43**
	Total Amount (In Cr.)	**2.07**

Total estimated cost is Rs. 2.07 Crore. (On TPCODL Capex Scheme)

EXISTING SLD



PROPOSED SLD



Part-A:

a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line

b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.

No. of BAY requirement	2
No. of VCB Requirement	2

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	1,15,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	1320	1,02,960.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	28	36,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	991	77,313.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	3	2,60,574.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	2	5,27,258.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	1	4,49,000.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	2,43,306.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/V3/110/V3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	1,44,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
26	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
27	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
28	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
29	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
30	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**29,78,755.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,36,176.05**
A				**Total landed Cost (A=A1 + A2)**	**35,14,931.87**
B				Stock, Storage & Insurance i.e 3% of A	1,05,447.96
C				**Sub Total (A+B)**	**36,20,379.82**
D				Contigency @ 3% of C	1,08,611.39
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	71,522.79
F				Transportation @ 7.5% of C	2,71,528.49

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	32,041.47
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,93,530.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**43,97,614.95**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	28	1,05,972.44
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	1,88,494.90
4.v	Centring and shuttering including strutttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	1,63,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	18.9	9,318.46
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.134	5,950.64

5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	11.4	75,796.89
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	59.76	18,399.51
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	489.72	54,603.78
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	138	32,016.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	9.2	13,616.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	9.2	46,276.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	18.4	1,38,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	16.8	1,26,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	224	60,480.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	3965.6	4,04,491.20
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	4.8	38,160.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2120.8	2,20,563.20

7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**20,87,048.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,75,668.72**
K				**Total landed Cost (K=K1+ K2)**	**24,62,717.17**
L				**Total Material +services (J+K)**	**68,60,332.12**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**68,60,332.12**
O				CESS 1% of (N)	68,603.32
P				**Total (N+O)**	69,28,935.44
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**69,32,475.44**

Part-B:

Extension of 11 kV Bus to connect new additional PTR Bay

No. of BAY requirement	1
No. of VCB Requirement	

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
9	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	2	2,600.00
10	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	71	5,522.40
A1				**Total Cost of materials**	**2,60,842.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,951.63**
A				**Total landed Cost (A=A1 + A2)**	**3,07,794.03**
B				Stock, Storage & Insurance i.e 3% of A	9,233.82
C				**Sub Total (A+B)**	**3,17,027.85**
D				Contigency @ 3% of C	9,510.84
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,277.36
F				Transportation @ 7.5% of C	23,777.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				31,386.78
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,87,979.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	2	7,569.46
2	**Column as per Drawing Schedule-**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
2.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
2.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
2.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
3	**Land Leveling & Compaction/ Gravels sprading :**				

3.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
3.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**2,88,559.30**
K2				**Applicable Taxes to make it Landed Cost @18%**	**51,940.67**
K				**Total landed Cost (K=K1+ K2)**	**3,40,499.97**
L				**Total Material +services (J+K)**	**7,28,479.89**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**7,28,479.89**
O				CESS 1% of (N)	7,284.80
P				**Total (N+O)**	7,35,764.69
Q				Inspection Fee of VCB - Rs. 1500/ VCB	-
R				GST @ 18% on Total Inspection Fees (Q)	-
S				Total Inspection Fees including GST (Q+R)	-
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**7,35,764.69**

Part-C:
Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.

No. of BAY requirement	2
No. of VCB Requirement	2

MATERIALS OF 11 kV Bay

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
2	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
3	Danger Plate, 2 no's.	EA	180.00	4	720.00
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	25	32,500.00
5	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
6	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
7	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	0	-
8	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	3	87,984.00
9	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	2	3,90,794.00
10	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	2	5,41,000.00
11	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	6	1,99,320.00
12	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	6	97,188.00
13	Control Cable 12Core x 2.5 mm2	Mtr	329.00	100	32,900.00
14	Control Cable 16Core x 2.5 mm2	Mtr	426.00	100	42,600.00
15	Control Cable 4Core x 2.5 mm2	Mtr	124.00	100	12,400.00
16	Control Cable 7Core x 2.5 mm2	Mtr	196.00	100	19,600.00
17	11 KV pin insulator polymer	EA	140.00	12	1,680.00
18	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
19	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
20	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
21	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
22	GI Nut , Bolt & Washer of different sizes	KG	74.00	100	7,400.00
23	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**16,88,521.03**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,03,933.79**
A				**Total landed Cost (A=A1 + A2)**	**19,92,454.82**
B				Stock, Storage & Insurance i.e 3% of A	59,773.64
C				**Sub Total (A+B)**	**20,52,228.46**
D				Contigency @ 3% of C	61,566.85
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	40,254.56
F				Transportation @ 7.5% of C	1,53,917.13
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				23,748.55
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,53,775.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**24,85,491.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	25	94,618.25
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**RCC Cable Trench :**	Qty			
4.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	172.5	40,020.00
4.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	11.5	17,020.00
4.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	11.5	57,845.00
4.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	23	1,72,500.00
4.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	21	1,57,500.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	280	75,600.00
4.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	4957	5,05,614.00
4.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	6	47,700.00
4.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2651	2,75,704.00
5	**Land Leveling & Compaction/ Gravels sprading :**				
5.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
5.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00

K1	**Total Civil & Services**	**16,89,065.91**
K2	**Applicable Taxes to make it Landed Cost @18%**	**3,04,031.86**
K	**Total landed Cost (K=K1+ K2)**	**19,93,097.78**
L	**Total (J+K)**	**44,78,589.03**
M	Other overheads (Including 6% supervision charges) of L	
N	**Sub-Total (L+M)**	**44,78,589.03**
O	CESS 1% of (N)	44,785.89
P	**Gross Total Material +Services (N+O)**	**45,23,374.92**
Q	Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R	GST @ 18% on Total Inspection Fees (Q)	540.00
S	Total Inspection Fees including GST (Q+R)	3,540.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**45,26,914.92**

Part-D:
Installation of Additional 33/11 kV , 5 MVA PTR (PTR Cost not considered in the estimate, existing PTR to be re-used)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	5 MVA, 33/11 KV Power Transformer with OLTC	EA	82,86,500.00	1	
2	50x6mm GI Flat for earthing	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe for earthing	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,037.00	240	2,48,880.00
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,220.00	6	43,320.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,390.00	6	44,340.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1				**Total Cost of materials**	**14,24,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,56,410.00**
A				**Total landed Cost (A=A1 + A2)**	**16,80,910.00**
B				Stock, Storage & Insurance i.e 3% of A	50,427.30
C				**Sub Total (A+B)**	**17,31,337.30**
D				Contigency @ 3% of C	51,940.12
E				Tools & Plants @ 2% of C	8,515.09
F				Transportation @ 7.5% of C	1,29,850.30
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole	5,03,570.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)	42,575.46
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kV	-
J				**Sum of (C to I)**	**24,67,788.88**
	Civil and Services Works (As per Technical Specification)				
Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Laying, Commissioning & Testing of 11kV, 1CoreX630sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 3.15/5 MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	75,000.00	1	75,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Trailer with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, 14 mt Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board . Item whose loading& unloading is to be done with crane , charges for crane will be paid separately. (Full Trailer)	EA	24,000.00	2	48,000.00
10	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
11	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
12	Modification and extension of Control Room along with other civil works	LS	30,00,000.00	1	30,00,000.00
K1				**Total Civil & Services**	**45,29,702.89**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,15,346.52**
K				**Total landed Cost (K=K1+K2)**	**53,45,049.41**
L				**Total (J+K)**	**78,12,838.29**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**78,12,838.29**
O				Total GST @ 18% of (N)	

P	CESS 1% of N	78,128.38
Q	**Gross Total Material +Services (N+O+P)**	**78,90,966.67**
a	Inspection Fee of Drawing Checking and Approval	750.00
b	Inspection Fee of PTR	1,27,500.00
c	Inspection Fee of Breaker	-
R1	**Total Inspection Fees (a+b+c)**	**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)	**23,085.00**
R	Total Inspection charges including GST (R1+R2)	**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**	**80,42,301.67**

PART E:
a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder.
b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.

No. of DP required With Isolator and Earthswitch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With Isolator and Earthswitch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With Isolator and Earthswitch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch**	**2,91,762.82**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	11 KV V cross Arm(GI)	EA	851.00	2	1,702.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	2	162.00
4	Danger Plate	EA	180.00	2	360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	3.08	240.24
6	GI barbed wire anticlimbing device	KG	74.00	6.00	444.00
7	11 KV pin insulator polymer	EA	140.00	6	840.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.74	203.06
10	100 sq.mm AAA conductor	M	78.41	309.00	24,228.69
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
A1				**Total Cost of materials**	**86,303.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,534.72**
A				**Total landed Cost (A=A1 + A2)**	**1,01,838.70**
B				Stock, Storage & Insurance i.e 3% of A	3,055.16
C				**Sub Total (A+B)**	**1,04,893.86**
D				Contigency @ 3% of C	3,146.82
E				Tools & Plants @ 2% of C	2,097.88
F				Transportation @ 7.5% of C	7,867.04
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,480.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,24,990.38**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99

3	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**10,765.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,937.81**
K				**Total landed Cost (K=K1+ K2)**	**12,703.45**
L				**Total Material+Services (J+K)**	1,37,693.83
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,37,693.83**
O				CESS 1% of N	1,376.94
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,39,070.77**
	Gross Total Summary				
2	Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch				2,91,762.82
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,39,070.77
Q				**Gross Total Material +Services**	**4,30,833.58**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				-
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,32,161.08**

PART-F- Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
2	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc.	KG	200	16.37	3,273.28
A1	**Sub Total (Civil Portion) (in Rs.)**				**21,218.01**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,819.24**
A	**Total landed Cost (A=A1+ A2)**				**25,037.26**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				25,037.26
D	**CESS @ 1% of C**				250.37
E	**Grand Total (C+D)**				25,287.63

Annexure-15.6

TP CENTRAL ODISHA DISTRIBUTION LIMITED

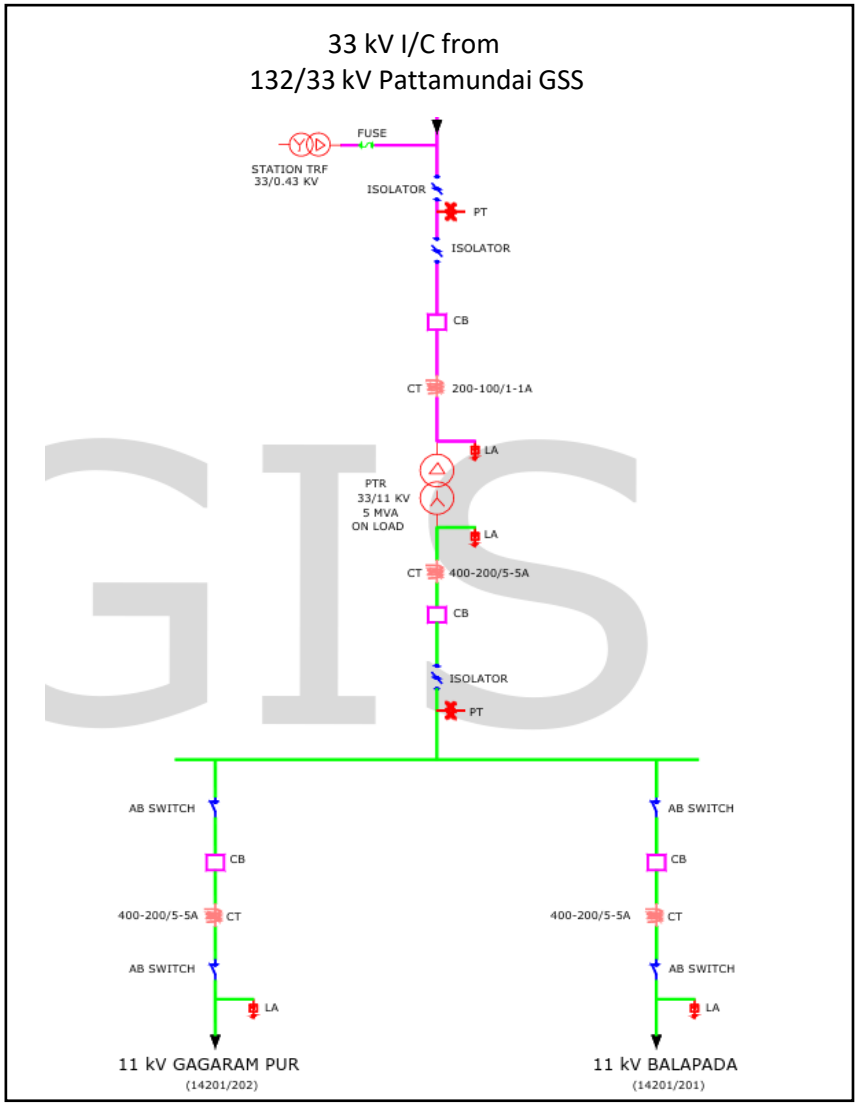
Name of the Circle :-	**Paradeep**
Name of the Division : -	KED-1
Name of the Work :-	Proposal for installation of 2nd PTR (5 MVA) at Sahupada PSS along with 33 kV Bay and 11 kV Bays
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**

ABSTRACT OF ESTIMATE

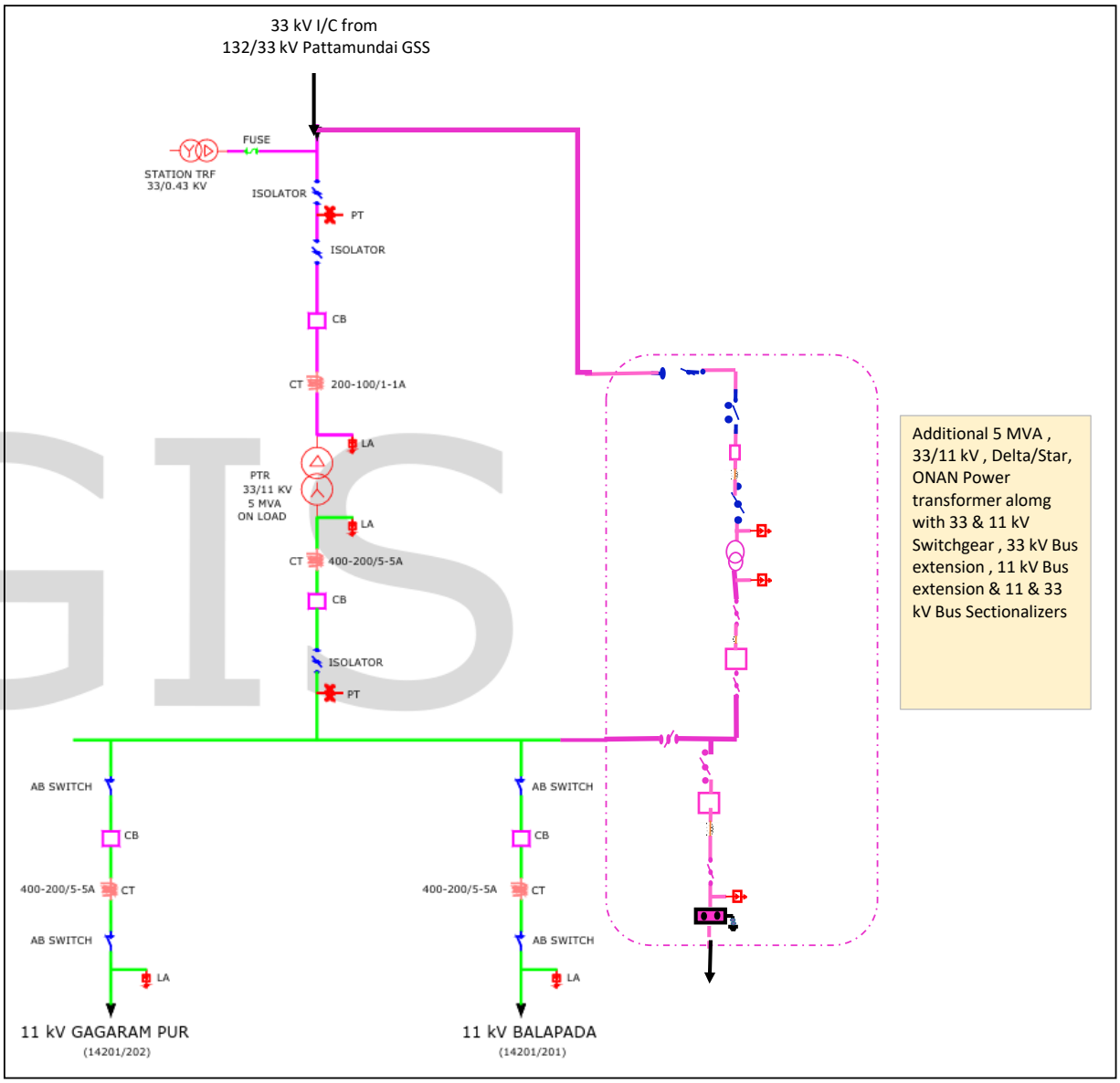
Sl. No.	Description	Amount
1	Part-A: a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.	64,17,807.39
2	Part-B: Extension of 11 kV Bus to connect new additional PTR Bay	7,35,764.69
3	Part-C: Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.	38,83,579.85
4	Part-D: Supply and Installation of Additional 33/11 kV 5 MVA PTR with accessories.	1,94,85,943.67
5	PART E: a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder. b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.	4,32,161.08
6	PART-F- Dismantling of Materials	25,287.63
	Total Amount	**3,09,80,544.30**
	Total Amount (In Cr.)	**3.10**

Total estimated cost is Rs. 3.10 Crore. (On TPCODL Capex Scheme)

EXISTING SLD



PROPOSED SLD



Part-A:

a. Construction of One No of 33 kV Outdoor Bay for Incomer 33 kV Line

b. Construction of One No of 33 kV Outdoor Bay for Power Transformer.

No. of BAY requirement	2
No. of VCB Requirement	2

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	700	54,600.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	840	65,520.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	1240	96,720.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	1480	1,15,440.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	400	31,200.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	700	54,600.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	1320	1,02,960.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	420	32,760.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	28	36,400.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	991	77,313.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	100	18,165.00
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	3	2,60,574.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	2	5,27,258.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	4,49,000.00	1	4,49,000.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	6	2,43,306.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	6	1,44,168.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	100	32,900.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	100	42,600.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	100	12,400.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	100	19,600.00
26	Disc insulator (B&S) 90 KN polymer	No.	289.00	36	10,404.00
27	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	36	22,716.00
28	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	24	7,992.00
29	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	400	29,600.00
30	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**29,78,755.82**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,36,176.05**

A	**Total landed Cost (A=A1 + A2)**	**35,14,931.87**
B	Stock, Storage & Insurance i.e 3% of A	1,05,447.96
C	**Sub Total (A+B)**	**36,20,379.82**
D	Contigency @ 3% of C	1,08,611.39
E	Tools & Plants @ 2% of C (Except GI Pipe earthing)	71,522.79
F	Transportation @ 7.5% of C	2,71,528.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed	32,041.47
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,93,530.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**43,97,614.95**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	28	1,05,972.44
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63

3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	102.6195	50,595.52

4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	48	10,560.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.2	22,039.40
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	28.35	1,88,494.90
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	179.28	55,198.52
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1469.16	1,63,811.34
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	18.9	9,318.46
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.134	5,950.64
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	11.4	75,796.89
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	59.76	18,399.51
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	489.72	54,603.78
6	**RCC Cable Trench :**				

6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	82.8	19,209.60
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	5.52	8,169.60
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	5.52	27,765.60
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	11.04	82,800.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	10.08	75,600.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	134.4	36,288.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	2379.36	2,42,694.72
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	2.88	22,896.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1272.48	1,32,337.92
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**16,55,207.49**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,97,937.35**
K				**Total landed Cost (K=K1+ K2)**	**19,53,144.84**
L				**Total Material +services (J+K)**	**63,50,759.79**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**63,50,759.79**
O				CESS 1% of (N)	63,507.60
P				**Total (N+O)**	64,14,267.39
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**64,17,807.39**

Part-B:
Extension of 11 kV Bus to connect new additional PTR Bay

No. of BAY requirement	1

No. of Bus isolator requirement

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	0	-
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	2	2,600.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	71	5,522.40
A1				**Total Cost of materials**	**2,60,842.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,951.63**
A				**Total landed Cost (A=A1 + A2)**	**3,07,794.03**
B				Stock, Storage & Insurance i.e 3% of A	9,233.82
C				**Sub Total (A+B)**	**3,17,027.85**
D				Contigency @ 3% of C	9,510.84
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	6,277.36
F				Transportation @ 7.5% of C	23,777.09
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,386.78
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,87,979.92**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	2	7,569.46

2	**Column as per Drawing Schedule-**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
2.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
2.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
2.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
3	**Land Leveling & Compaction/ Gravels sprading :**				
3.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
3.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**2,88,559.30**
K2				**Applicable Taxes to make it Landed Cost @18%**	**51,940.67**
K				**Total landed Cost (K=K1+ K2)**	**3,40,499.97**
L				**Total Material +services (J+K)**	**7,28,479.89**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**7,28,479.89**
O				CESS 1% of (N)	7,284.80
P				**Total (N+O)**	7,35,764.69
Q				Inspection Fee of VCB - Rs. 1500/ VCB	-
R				GST @ 18% on Total Inspection Fees (Q)	-
S				Total Inspection Fees including GST (Q+R)	-
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**7,35,764.69**

Part-C:
Construction of One No of 11 kV Outdoor Bay at PTR Incomer side and One No. Feeder outgoing Bay.

No. of BAY requirement	2
No. of VCB Requirement	2

MATERIALS OF 11 kV Bay

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	2082.054	1,62,400.21
2	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
3	Danger Plate, 2 no's.	EA	180.00	4	720.00
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	25	32,500.00
5	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
6	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
7	11 KV 630 Amp Motorized Isolator without Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	29,328.00	3	87,984.00
8	1250 A 11 kV O/D VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,95,397.00	2	3,90,794.00
9	CR PANEL FOR FDR PROTECTION 11KV VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	2	5,41,000.00
10	CT 11KV OILCOOLED 200-400-800/1-1-1	EA	33,220.00	6	1,99,320.00
11	11KV OIL COOL PT 3P/3P/.2 CLS 100VA BRDN	EA	16,198.00	6	97,188.00
12	Control Cable 12Core x 2.5 mm2	Mtr	329.00	100	32,900.00
13	Control Cable 16Core x 2.5 mm2	Mtr	426.00	100	42,600.00
14	Control Cable 4Core x 2.5 mm2	Mtr	124.00	100	12,400.00
15	Control Cable 7Core x 2.5 mm2	Mtr	196.00	100	19,600.00
16	11 KV pin insulator polymer	EA	140.00	12	1,680.00
17	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	36	14,832.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	36	5,400.00
19	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	36	4,968.00
20	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
21	GI Nut , Bolt & Washer of different sizes	KG	74.00	100	7,400.00
22	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	2	14,778.22
A1				**Total Cost of materials**	**16,88,521.03**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,03,933.79**
A				**Total landed Cost (A=A1 + A2)**	**19,92,454.82**
B				Stock, Storage & Insurance i.e 3% of A	59,773.64
C				**Sub Total (A+B)**	**20,52,228.46**
D				Contigency @ 3% of C	61,566.85
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	40,254.56
F				Transportation @ 7.5% of C	1,53,917.13
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				23,748.55
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,53,775.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**24,85,491.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	25	94,618.25
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.56	7,178.66
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	8	1,760.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.6825	698.13
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.91	4,775.20
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.65	37,566.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	26.5	8,159.09
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	280	31,220.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	15.9375	7,857.83
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	9	1,980.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.726	742.63

3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.726	3,809.67
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	4.725	31,415.82
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
4	**RCC Cable Trench :**	Qty			
4.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	103.5	24,012.00
4.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	6.9	10,212.00
4.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	6.9	34,707.00
4.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	13.8	1,03,500.00
4.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	12.6	94,500.00
4.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	168	45,360.00
4.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	2974.2	3,03,368.40
4.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	3.6	28,620.00
4.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1590.6	1,65,422.40
5	**Land Leveling & Compaction/ Gravels sprading :**				
5.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	43.2	28,080.00
5.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	14.4	43,200.00
K1				**Total Civil & Services**	**11,49,264.71**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,06,867.65**
K				**Total landed Cost (K=K1+ K2)**	**13,56,132.36**
L				**Total (J+K)**	**38,41,623.61**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**38,41,623.61**
O				CESS 1% of (N)	38,416.24
P				**Gross Total Material +Services (N+O)**	**38,80,039.85**
Q				Inspection Fee of VCB - Rs. 1500/ VCB	3,000.00
R				GST @ 18% on Total Inspection Fees (Q)	540.00
S				Total Inspection Fees including GST (Q+R)	3,540.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**38,83,579.85**

Part-D:
Supply and Installation of Additional 33/11 kV 5 MVA PTR with accessories.

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)				
1	5 MVA, 33/11 KV Power Transformer with OLTC	EA	82,86,500.00	1	82,86,500.00
2	50x6mm GI Flat for earthing	KG	78.00	200.00	15,600.00
3	40mm Nominal bore GI pipe for earthing	No	1,300.00	9	11,700.00
4	GI Nuts & Bolts of Assorted size	Kg	74.00	100.00	7,400.00
5	Supply of 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	1,037.00	240	2,48,880.00
6	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,220.00	6	43,320.00
7	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits for 1Core	EA	7,390.00	6	44,340.00
8	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA-37.7kA and SC rating of Armour in kA- 15kA)	M	3,165.00	200	6,33,000.00
9	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,340.00	4	45,360.00
10	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
11	Different size Channel & Angle	KG	78.00	350	27,300.00
12	RTCC UNIT DC 24-48V	No	3,00,000.00	1	3,00,000.00
A1	**Total Cost of materials**				**97,11,000.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**17,47,980.00**
A	**Total landed Cost (A=A1 + A2)**				**1,14,58,980.00**
B	Stock, Storage & Insurance i.e 3% of A				3,43,769.40
C	**Sub Total (A+B)**				**1,18,02,749.40**
D	Contigency @ 3% of C				3,54,082.48
E	Tools & Plants @ 2% of C				2,09,943.33
F	Transportation @ 7.5% of C				8,85,206.21
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole				5,03,570.61
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/PSC Pole)				42,575.46
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kV				-
J	**Sum of (C to I)**				**1,37,98,127.49**

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
	Civil and Services Works (As per Technical Specification)				
1	Laying, Commissioning & Testing of 11kV, 1CoreX630sqmm, XLPE insulation (extruted type) UG cable	M	96.66	240	23,198.40
2	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
3	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG cable kits	Set	2,129.37	6	12,776.23
4	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	200	22,000.00
5	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	8	16,000.00
6	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation, soil treatment with bentonide powder, calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	No	3,784.73	9	34,062.57
	Demolition Work for Existing PTR				-
7	BA will demolish PCC & remove the debris using necessary tools & machinery for excavation of cable trench & other civil works.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	1,794.47	20	35,889.47
8	Dismantling of 3.15/5 MVA 33/11kV PTR, Loading, Transportation within 30kms, Unloading of same PTR if required.	EA	75,000.00	1	75,000.00
9	Transportation of various items from TPCODL store/site to other site or vice versa in TPCODL operational area - Trailer with labours as required (price per trip). Scope of work also include loading and unloading of materials heavy items like, 14 mt Rail Pole, PCC Pole, HT Panel, Transformer, Cable Drum, LT Board . Item whose loading& unloading is to be done with crane , charges for crane will be paid separately. (Full Trailer)	EA	24,000.00	2	48,000.00
10	**Construction of PTR Foundation**	LS	8,00,000.00	1	8,00,000.00
11	**Construction of Fire Wall**	LS	4,50,000.00	1	4,50,000.00
12	Modification and extension of Control Room along with other civil works	LS	30,00,000.00	1	30,00,000.00
K1	**Total Civil & Services**				**45,29,702.89**
K2	**Applicable Taxes to make it Landed Cost @18%**				**8,15,346.52**
K	**Total landed Cost (K=K1+K2)**				**53,45,049.41**
L	**Total (J+K)**				**1,91,43,176.90**
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub Total (L+M)**				**1,91,43,176.90**
O	Total GST @ 18% of (N)				

P	CESS 1% of N	1,91,431.77
Q	**Gross Total Material +Services (N+O+P)**	**1,93,34,608.67**
a	Inspection Fee of Drawing Checking and Approval	750.00
b	Inspection Fee of PTR	1,27,500.00
c	Inspection Fee of Breaker	-
R1	**Total Inspection Fees (a+b+c)**	**1,28,250.00**
R2	GST @ 18% of Inspection charges (R1)	**23,085.00**
R	Total Inspection charges including GST (R1+R2)	**1,51,335.00**
S	**Gross Total Material, Services and Inspection Fees (Q+R)**	**1,94,85,943.67**

PART E:
a. Construction of 0.1 CKM 11kV Line using 100 SQ.MM. -AAA Conductor to connect the existing 11 KV Feeder.
b. Installation of 1 No. of DP with Isolator and Earth switch at PSS.

No. of DP required With Isolator and Earthswitch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With Isolator and Earthswitch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With Isolator and Earthswitch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch**	**2,91,762.82**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	11 KV V cross Arm(GI)	EA	851.00	2	1,702.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	2	162.00
4	Danger Plate	EA	180.00	2	360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	3.08	240.24
6	GI barbed wire anticlimbing device	KG	74.00	6.00	444.00
7	11 KV pin insulator polymer	EA	140.00	6	840.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.74	203.06
10	100 sq.mm AAA conductor	M	78.41	309.00	24,228.69
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	6	126.00
A1				**Total Cost of materials**	**86,303.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,534.72**
A				**Total landed Cost (A=A1 + A2)**	**1,01,838.70**
B				Stock, Storage & Insurance i.e 3% of A	3,055.16
C				**Sub Total (A+B)**	**1,04,893.86**
D				Contigency @ 3% of C	3,146.82
E				Tools & Plants @ 2% of C	2,097.88
F				Transportation @ 7.5% of C	7,867.04
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,480.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,24,990.38**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99

3	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**10,765.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,937.81**
K				**Total landed Cost (K=K1+ K2)**	**12,703.45**
L				**Total Material+Services (J+K)**	1,37,693.83
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,37,693.83**
O				CESS 1% of N	1,376.94
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,39,070.77**
	Gross Total Summary				
2	Gross Total Material +Services (N+O) for DP With Isolator and Earthswitch				2,91,762.82
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,39,070.77
Q				**Gross Total Material +Services**	**4,30,833.58**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				-
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,32,161.08**

PART-F- Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
2	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc.	KG	200	16.37	3,273.28
A1				**Sub Total (Civil Portion) (in Rs.)**	**21,218.01**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,819.24**
A				**Total landed Cost (A=A1+ A2)**	**25,037.26**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	25,037.26
D				**CESS @ 1% of C**	250.37
E				**Grand Total (C+D)**	25,287.63

ANNEXURE-22

POWER TRANSFORMER AUGMENTATION

ANNEXURE-22

Power Transformer Augmentation

Overloading of Power Transformers is an alarming issue and need immediate attention for implementing overloading mitigation proposals. PTR overloading issue can be mitigated by below measures:

1) 11kV Feeder load diversion to lightly loaded PTR.
2) 11kV Feeder swapping with lightly loaded feeder in other lightly loaded PTR.
3) PTR Swapping with higher rating PTR.
4) Augmentation of existing PTR with higher rating of PTR.

We have conducted load flow analysis taking into consideration the peak load experienced during Summer'26. As per the load flow analysis, the overloading of PTRs under TPCODL jurisdiction has been identified. Since the priority of Power transformer overloading mitigation is crucial, we have prioritized & considered PTR overloading mitigation wherein PTR loading exceeds 80% in Summer'26 which will be subsequently overloaded in Summer'28 with load growth.

Additionally, 1no. proposal considered for supply and installation of 11kV Switchgear panel board for enabling 11kV power evacuation from Delta PSS and 1no. proposal considered for installation of 11kV Switchgear panel board for enabling 11kV power evacuation from Gurujanga PSS and installation of 33kV Switchgear panel board.

As per the trend, load growth year-on-year basis for BCDD-1, NED and ANED has been considered as 10%, BCDD-2 and BED have been considered as 15%, PED and CDD-2 have been considered as 13%, KHD and BAED have been considered as 12%, CDD-1, KED-1, KED-2 and PDP have been considered as 11%, JED has been considered as 9%, AED, DED and TED load growth has been considered as 8%, CED has been considered as 7%, NYED and SED have been considered as 6%.

As per the PTR loading analysis, 62nos. PTRs are loaded beyond 80% in Summer'26 as follows:

Sl. No.	Name of Circle	Name of Division	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Sum'26 Loading (MVA	% Loading (Sum'26)	Loading with 2yrs LG (Sum'28)	% Loading with 2yrs LG (Sum'28)	Scheme	Proposal Head
1	BBSR-1	BCDD-1	Unit-8	PTR-2	12.5	10.36	83%	12.54	100.3%	CAPEX FY: 2027-28	PTR Augmentation
2	BBSR-1	BCDD-2	Chandaka	PTR-2	8	6.97	87%	9.22	115%	CAPEX FY: 2025-26	11kV Feeder Load diversion
3	BBSR-1	BCDD-2	Infocity	PTR-1	16	14.35	90%	18.98	119%	CAPEX FY: 2025-26	11kV Feeder Load diversion
4	BBSR-1	BCDD-2	Niladri Vihar/ Lumbini Vihar	PTR-1	5	4.63	93%	6.13	123%	Deposit	PTR Augmentation
5	BBSR-1	BCDD-2	Ransinghpur	PTR-1	8	7.54	94%	9.98	125%	CAPEX FY: 2025-26	11kV Feeder Load diversion

Sl. No.	Name of Circle	Name of Division	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Sum'26 Loading (MVA	% Loading (Sum'26)	Loading with 2yrs LG (Sum'28)	% Loading with 2yrs LG (Sum'28)	Scheme	Proposal Head
6	BBSR-1	BCDD-2	CS Pur-2	PTR-3	8	6.40	80%	8.46	106%	OPEX	11kV Feeder Swapping
7	BBSR-1	BED	Badagada	PTR-1	12.5	11.96	96%	15.82	127%	CAPEX FY: 2027-28	PTR Augmentation
8	BBSR-1	BED	Bhimatangi	PTR-4	12.5	10.21	82%	13.50	108%	CAPEX FY: 2025-26	11kV Feeder Load diversion
9	BBSR-1	BED	Mancheswar	PTR-1	12.5	10.90	87%	14.41	115%	CAPEX FY: 2025-26	11kV Feeder Load diversion
10	BBSR-1	BED	Naharkanta	PTR-2	8	6.97	87%	9.22	115%	CAPEX FY: 2026-27	PTR Augmentation
11	BBSR-1	NED	Balakati	PTR-2	8	7.31	91%	8.85	111%	ODSSP Ph-IV	11kV Feeder load diversion
12	BBSR-1	NED	Balipatna	PTR-1	5	4.08	82%	4.93	99%	OPEX	11kV Feeder Swapping
13	BBSR-1	NED	Kakatpur	PTR-1	8	7.92	99%	9.59	120%	CAPEX FY: 2027-28	11kV Feeder load diversion
14	BBSR-1	NED	Pipili	PTR-3	8	7.54	94%	9.13	114%	CAPEX FY: 2026-27	PTR Augmentation
15	BBSR-2	BAED	Ankulapadar	PTR-1	5	4.18	84%	5.25	105%	OPEX	PTR Swapping
16	BBSR-2	BAED	Balugaon	PTR-1	8	7.16	90%	8.98	112%	CAPEX FY: 2027-28	PTR Augmentation
17	BBSR-2	BAED	Kuhudi	PTR-1	5	4.49	90%	5.63	113%	CAPEX FY: 2026-27	11kV Feeder Load diversion
18	BBSR-2	KHD	Khordha Town/ 10-Pole	PTR-1	12.5	11.20	90%	14.05	112%	CAPEX FY: 2027-28	PTR Augmentation
19	BBSR-2	KHD	Gurujanga	PTR-2	5	4.29	86%	5.38	108%	CAPEX FY: 2027-28	11kV Feeder Load diversion
20	BBSR-2	KHD	Kalapathar	PTR-1	3.15	2.59	82%	3.25	103%	OPEX	PTR Swapping
21	BBSR-2	KHD	Kalapathar	PTR-2	3.15	2.67	85%	3.35	106%	OPEX	PTR Swapping
22	BBSR-2	NYED	Daspalla	PTR-3	5	4.13	83%	4.64	93%	OPEX	PTR Swapping
23	BBSR-2	PED	Baliapanda	PTR-3	8	6.82	85%	8.71	109%	CAPEX FY: 2027-28	PTR Augmentation
24	BBSR-2	PED	Samanga/ Jail Road	PTR-1	8	6.40	80%	8.18	102%	CAPEX FY: 2027-28	PTR Augmentation
25	BBSR-2	PED	Talabania	PTR-1	16	13.64	85%	17.41	109%	CAPEX FY: 2025-26	11kV Feeder load diversion
26	CUTTACK	CDD-1	DRDA	PTR-1	8	6.52	82%	8.04	100%	OPEX	11kV Feeder Swapping
27	CUTTACK	CDD-1	Matamatha	PTR-2	8	6.48	81%	7.98	100%	OPEX	11kV Feeder load diversion
28	CUTTACK	CDD-1	Old Jail	PTR-1	5	4.11	82%	5.07	101%	OPEX	PTR Swapping

Sl. No.	Name of Circle	Name of Division	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Sum'26 Loading (MVA	% Loading (Sum'26)	Loading with 2yrs LG (Sum'28)	% Loading with 2yrs LG (Sum'28)	Scheme	Proposal Head
29	CUTTACK	CDD-1	Sector-6/ CDA	PTR-1	8	6.70	84%	8.26	103%	OPEX	11kV Feeder load diversion
30	CUTTACK	CDD-2	Kandarpur	PTR-1	5	4.11	82%	5.25	105%	OPEX	11kV Feeder load diversion
31	CUTTACK	CED	Badachana	PTR-1	3.15	3.01	96%	3.45	109%	OPEX	PTR Swapping
32	CUTTACK	CED	Balichandrapur	PTR-4	5	4.93	99%	5.64	113%	OPEX	PTR Swapping
33	CUTTACK	CED	Choudwar	PTR-2	12.5	10.91	87%	12.50	100%	CMPDP	11kV Feeder load diversion
34	CUTTACK	CED	Niali	PTR-2	5	4.27	85%	4.88	98%	CAPEX FY: 2026-27	11kV Feeder load diversion
35	CUTTACK	CED	Tangi_CED	PTR-3	5	4.11	82%	4.71	94%	OPEX	11kV Feeder Swapping
36	CUTTACK	CED	Tangi_CED	PTR-4	5	4.15	83%	4.75	95%	OPEX	11kV Feeder Swapping
37	CUTTACK	AED	Athagarh	PTR-1	8	6.70	84%	7.82	98%	CAPEX FY: 2027-28	PTR Augmentation
38	CUTTACK	AED	Kanpur/ Kandhabareni	PTR-2	3.15	2.70	86%	3.15	100%	OPEX	PTR Swapping
39	CUTTACK	SED	Orikanta	PTR-1	5	4.72	94%	5.31	106%	ODSSP Ph-IV	11kV Feeder load diversion
40	CUTTACK	SED	Orikanta	PTR-2	5	4.91	98%	5.52	110%	OPEX	11kV Feeder Swapping
41	DHENKANAL	DED	Dakhinakali	PTR-2	8	7.60	95%	8.86	111%	CAPEX FY: 2025-26	11kV Feeder load diversion
42	DHENKANAL	DED	College	PTR-2	8	7.28	91%	8.49	106%	OPEX	11kV Feeder Swapping
43	DHENKANAL	DED	Hindol Road	PTR-3	8	7.37	92%	8.60	108%	CAPEX FY: 2025-26	11kV Feeder load diversion
44	DHENKANAL	ANED	Badakera	PTR-2	5	4.80	96%	5.81	116%	OPEX	PTR Swapping
45	DHENKANAL	ANED	Jarapada	PTR-2	5	4.15	83%	5.02	100%	OPEX	PTR Swapping
46	DHENKANAL	ANED	RCMS	PTR-1	12.5	11.73	94%	14.19	114%	CAPEX FY: 2026-27	PTR Augmentation
47	DHENKANAL	TED	Balanda	PTR-1	5	4.76	95%	5.55	111%	OPEX	PTR Swapping
48	DHENKANAL	TED	Meramundali	PTR-2	8	6.86	86%	8.00	100%	CAPEX FY: 2025-26	11kV Feeder load diversion
49	DHENKANAL	TED	Parjang	PTR-3	5	4.32	86%	5.04	101%	OPEX	11kV Feeder Swapping
50	DHENKANAL	TED	Talcher Town/ Bhaghuabol	PTR-2	8	6.91	86%	8.06	101%	OPEX	11kV Feeder Swapping
51	PARADEEP	KED-1	Ayatan	PTR-2	5	4.19	84%	5.16	103%	OPEX	PTR Swapping
52	PARADEEP	KED-1	Indupur	PTR-2	5	4.11	82%	5.07	101%	OPEX	11kV Feeder Swapping

Sl. No.	Name of Circle	Name of Division	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Sum'26 Loading (MVA	% Loading (Sum'26)	Loading with 2yrs LG (Sum'28)	% Loading with 2yrs LG (Sum'28)	Scheme	Proposal Head
53	PARADEEP	KED-1	Kendrapada	PTR-4	5	4.27	85%	5.26	105%	CAPEX FY: 2026-27	PTR Augmentation
54	PARADEEP	KED-1	Kendrapada	PTR-5	5	4.34	87%	5.35	107%	CAPEX FY: 2026-27	PTR Augmentation
55	PARADEEP	KED-1	Pattamundai	PTR-2	8	6.67	83%	8.21	103%	CAPEX FY: 2026-27	11kV Feeder Load diversion
56	PARADEEP	KED-2	Garadpur/ Pakhada	PTR-1	3.15	2.59	82%	3.19	101%	OPEX	PTR Swapping
57	PARADEEP	KED-2	Korua/ Kudanagari	PTR-1	8	6.93	87%	8.53	107%	ODSSP Ph-IV	11kV Feeder load diversion
58	PARADEEP	PDP	Krishnanandapur	PTR-1	5	4.11	82%	5.07	101%	CMPDP	11kV Feeder load diversion
59	PARADEEP	PDP	Rahama	PTR-1	5	4.50	90%	5.54	111%	OPEX	11kV Feeder Swapping
60	PARADEEP	PDP	Trilochanpur	PTR-2	5	4.57	91%	5.63	113%	OPEX	11kV Feeder Swapping
61	PARADEEP	JED	Balikuda	PTR-1	8	6.68	84%	7.94	99%	OPEX	11kV Feeder Swapping
62	PARADEEP	JED	Jagatsinghpur	PTR-4	5	4.57	91%	5.43	109%	CAPEX FY: 2026-27	11kV Feeder Load diversion

In order to mitigate the overloading of the PTRs, instead of considering the PTR augmentation of all the overloaded PTRs, we have considered optimum utilization of our existing assets. This is achieved by 11kV load transfer or 11kV feeder swapping or PTR swapping schemes undertaken in OPEX. The PTRs which are getting augmented under CAPEX schemes are further utilized under PTR Swapping (OPEX) scheme to mitigate overloading of the transformers.

Out of 62nos. overloaded PTRs only 7nos. PTRs are proposed for augmentation under CAPEX FY:27-28 for overloading mitigation. The PTR mitigation plan scheme wise is given in the below table:

Proposal	Schemes						Total
	CAPEX FY: 2025-26 (WIP)	CAPEX FY: 2026-27 (WIP)	CAPEX FY: 2027-28	Govt Funded	OPEX	Others	
11kV Feeder Load diversion	9	4	2	5	3		23
11kV Feeder Swapping					13		13
PTR Swapping					13		13
PTR Augmentation		5	7			1	13
Total	**9**	**9**	**9**	**5**	**29**	**1**	**62**

The approx. costing for PTR overloading mitigation is given below:

Summary of Proposal Details for PTR Overloading Mitigation and Reliability Improvement:

Sl. No.	Name of Circle	Name of Division	Name of 33/11kV PSS	PTR No.	Proposal Details	Amount (in cr.)	Annex.
1	BBSR-1	BCDD-1	Unit-8	PTR-2	Augmentation of Power Transformer (PTR-2) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Unit-8 PSS.	3.60	Annex-22.1
2	BBSR-1	BCDD-2	Badagada	PTR-1	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Badagada PSS.	3.60	Annex-22.2
3	Cuttack	AED	Athagarh	PTR-1	Augmentation of Power Transformer (PTR-1) from 8 MVA to 16/20 MVA along with accessories at Athagarh PSS.	3.31	Annex-22.3
4	BBSR-2	PED	Samanga	PTR-1	Augmentation of Power Transformer (PTR-1) from 8 MVA to 16/20 MVA PTR along with expansion of existing Control Room Building at Samanga PSS.	8.75	Annex-22.4
5	BBSR-2	PED	Baliapanda	PTR-3	Augmentation of Power Transformer (PTR-3) from 8 MVA to 20 MVA along with accessories at Baliapanda PSS.	3.29	Annex-22.5
6	BBSR-2	KHD	Khordha Town/ 10-Pole	PTR-1	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at Khorda-10 Pole PSS.	3.75	Annex-22.6
7	BBSR-2	BAED	Balugaon	PTR-1	Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Balugaon PSS.	4.47	Annex-22.7
8	BBSR-1	BCDD-1	Delta		Supply and Installation of 11 kV Panel Board along with Control Room Building extension at Delta PSS. Proposal for Bifurcation of existing 11kV IRC-3 feeder for mitigation of Overloading. Proposal for Bifurcation of existing 11kV Baramunda Delta feeder for mitigation of Overloading.	5.95	Annex-22.8
9	BBSR-2	KHD	Gurujanga		Installation of 33kV and 11kV Panel Board at Gurujanga PSS.	3.29	Annex-22.9
					Total Cost (Cr.)	**40.0**	

1.0 Power Transformer overloading mitigation at UNIT-8 Substation

Proposal:

Augmentation of existing 1no. 33/11kV 12.5MVA Power Transformer (PTR-2) to 1no. 20/25MVA at Unit-8 33/11kV Substation in BCDD-1 division of BBSR-1 circle to mitigate overloading condition.

Requirement/ Need of the Proposal:

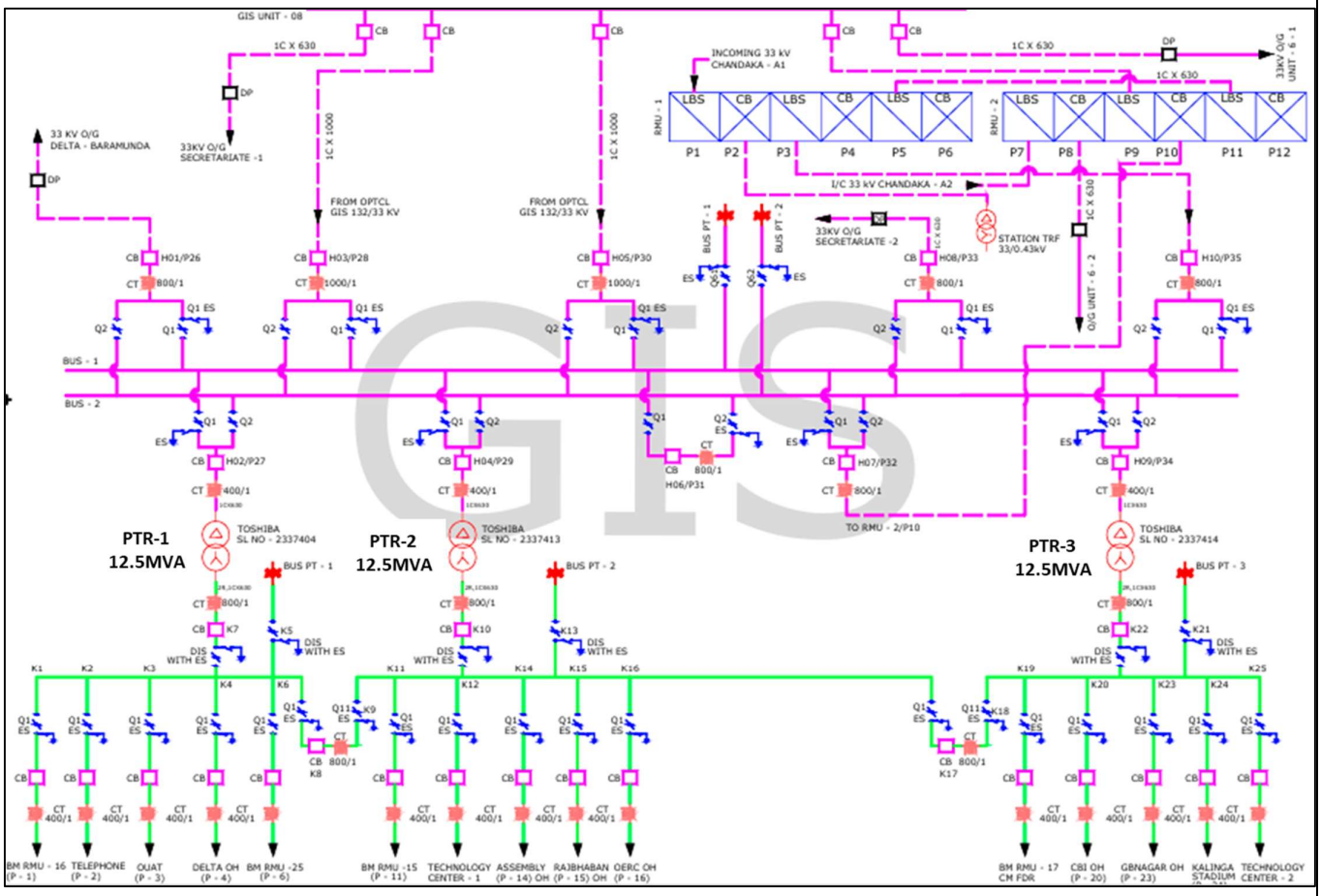
Existing Scenario:

- Loading of 33/11kV Unit-8 PTR-1, 2 and 3 are 7.54MVA, 10.436MVA and 9.07MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (10% load growth per year for 2years), the projected loading of Summer'28 for PTR-1, 2 and 3 would be 9.12MVA, 12.54MVA and 10.97MVA respectively.
- PTR-2 will be loaded up to 100.3%, w.r.t, the existing transformer capacity of 12.5MVA in Summer'28.

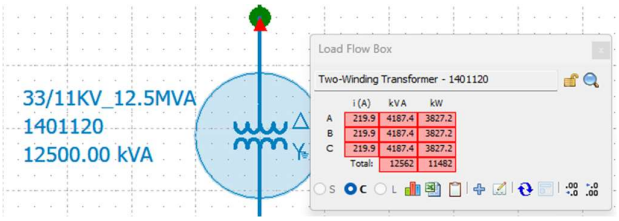
Existing Summer'26 Loading and projected load at Unit-8 PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @10%) Summer'28		
				Peak Load	%Loading	%Loading Range	Peak Load	%Loading	%Loading Range
1	Unit-8	PTR-1	12.5	7.54	60%	50%-70%	9.12	73%	70%-90%
2		PTR-2	12.5	10.4	83%	70%-90%	12.54	100.3%	≥100%
3		PTR-3	12.5	9.07	73%	70%-90%	10.97	88%	70%-90%

Existing SLD of UNIT-8 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-2 is presently loaded to 83% under the AS-IS scenario and is projected to reach 100.3% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 2,200 consumers during peak demand periods.

Technical Justification

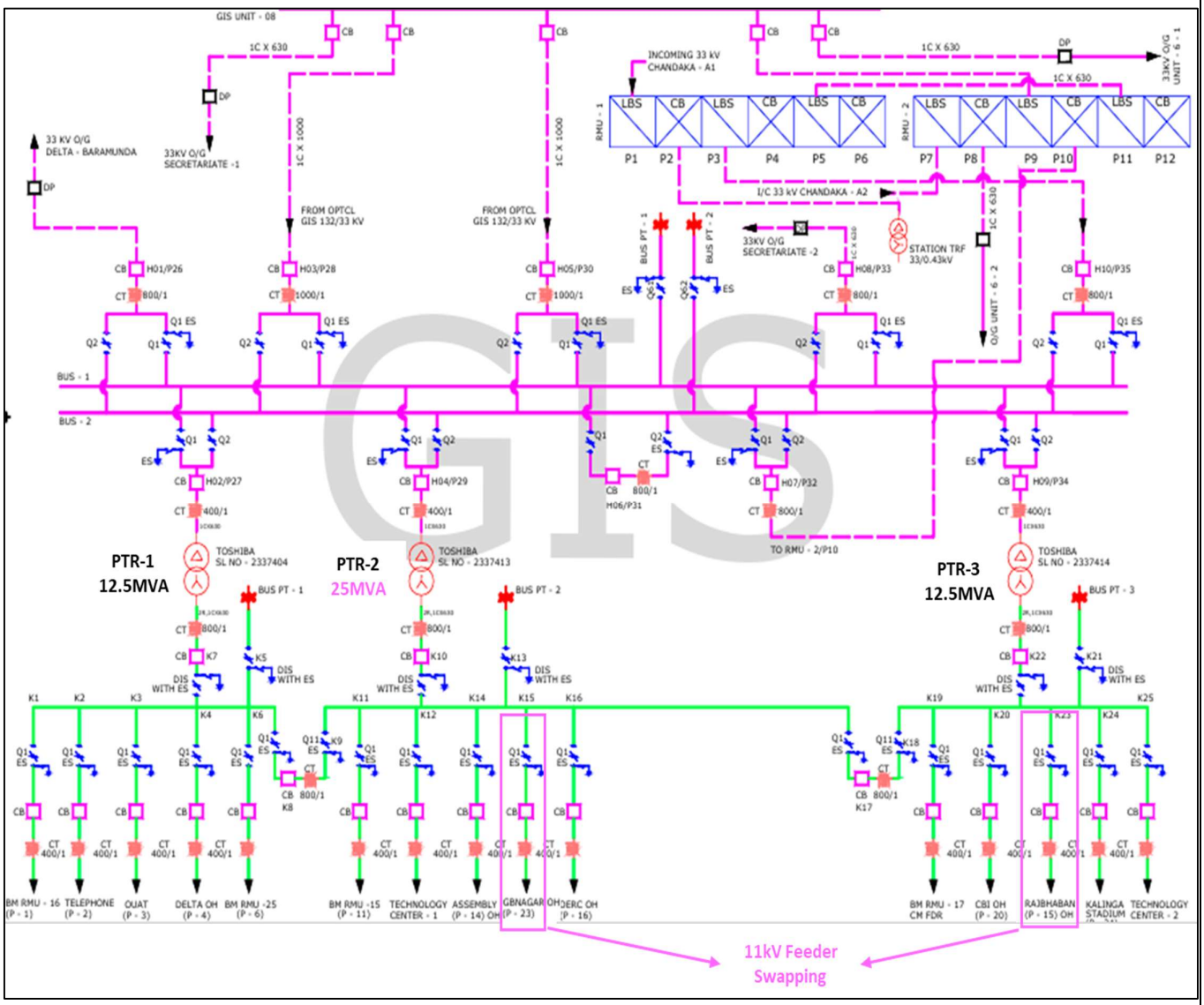
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, there are 3nos. PTRs and the PTR loading are 60%, 83% and 73% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-2 from 12.5MVA to 20/25MVA. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

Proposed Scenario:

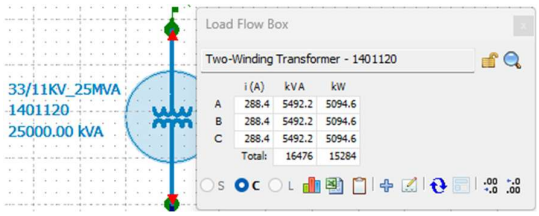
- Augmentation of PTR-2 from 12.5MVA to 20/25MVA at Unit-8 PSS is proposed to meet the full load of Unit-8 PSS at peak load condition after 2years load growth.
- The existing 11kV CTs in the PTR GIS panel are rated 800/1 A. In order to accommodate the PTR capacity of 25MVA and the corresponding full-load current, the CT ratio is proposed to be upgraded.
- 11kV feeder swapping between Rajbhawan feeder (0.23MVA load at PTR-2) and GB Nagar feeder (3.43MVA load at PTR-3) is proposed to mitigate the anticipated overloading of PTR-3 due to load growth over the next two years and to achieve better load balancing between the PTRs.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @10%) Summer'28			Projected Load (5yrs. Load Growth @10% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Unit-8	PTR-1	12.5	9.12	73%	70%-90%	12.14	97%	90%-100%
2		PTR-2	25	16.41	66%	50%-70%	21.84	87%	70%-90%
3		PTR-3	12.5	7.10	57%	70%-90%	9.45	76%	70%-90%

Proposed SLD of UNIT-8 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1no. PTR (PTR-2) from 12.5MVA to 20/25MVA.
- Installation of 1no. 11kV CT suitable for existing GIS panel board.

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-1
Name of the Sub-Division : -	Sub Division-1
Name of the Section : -	Power House-1
Name of the Work :-	Augmentation of Power Transformer (PTR-2) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Unit-8 PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-2) from 12.5 MVA to 20/25 MVA along with accessories at 33/11kV Unit-8 PSS.	3,58,92,317.10
PART B: Dismantling Portion	1,33,029.04
Total Amount	**₹ 3,60,25,346.14**
Total Amount (in Cr.)	**₹ 3.60**
Total estimated cost is Rs. 3.60 Crore. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 3.60cr. (For detailed BoQ refer Annexure-22.1).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Cost Benefit Analysis:

Load in Summer' 26 (MVA)	Load in Summer' 28 (MVA)	Additional load due to load growth (in MVA)	Total Load Added (in MW)	Benefit on account of Fixed Charges from New Loads (in INR)	Benefit on account of Energy Charges from New Loads (in INR) with Load Factor 10%	Total Benefit (in INR)	Calculations	Value	Unit
A	B	C=B-A	D=Cx0.95	E=Dx1000x12xFixed Charges for 1 kW(Rs)	F=Dx1000x365x24x0.1x(Avg. Selling Price - Avg. Purchase Price)	G=E+F			
26.97	32.63	5.66	5.38	₹ 12,91,324	₹ 1,12,85,430	₹ 1,25,76,753	Total Scheme Cost (incl. Taxes)	3.60	Cr.
							Pay Back Period of Scheme (H=Total Project Cost/G)	**2.86**	Years
							% Rate of Return	34.91	%

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumers.
- To ensure reliable power supply to the consumers.

2.0 Power Transformer overloading mitigation at BADAGADA Substation

Proposal:

Augmentation of existing 1no. 33/11kV 12.5MVA Power Transformer (PTR-1) to 1no. 20/25MVA at Badagada 33/11kV Substation in BED division of BBSR-1 circle to mitigate overloading condition.

Requirement/ Need of the Proposal:

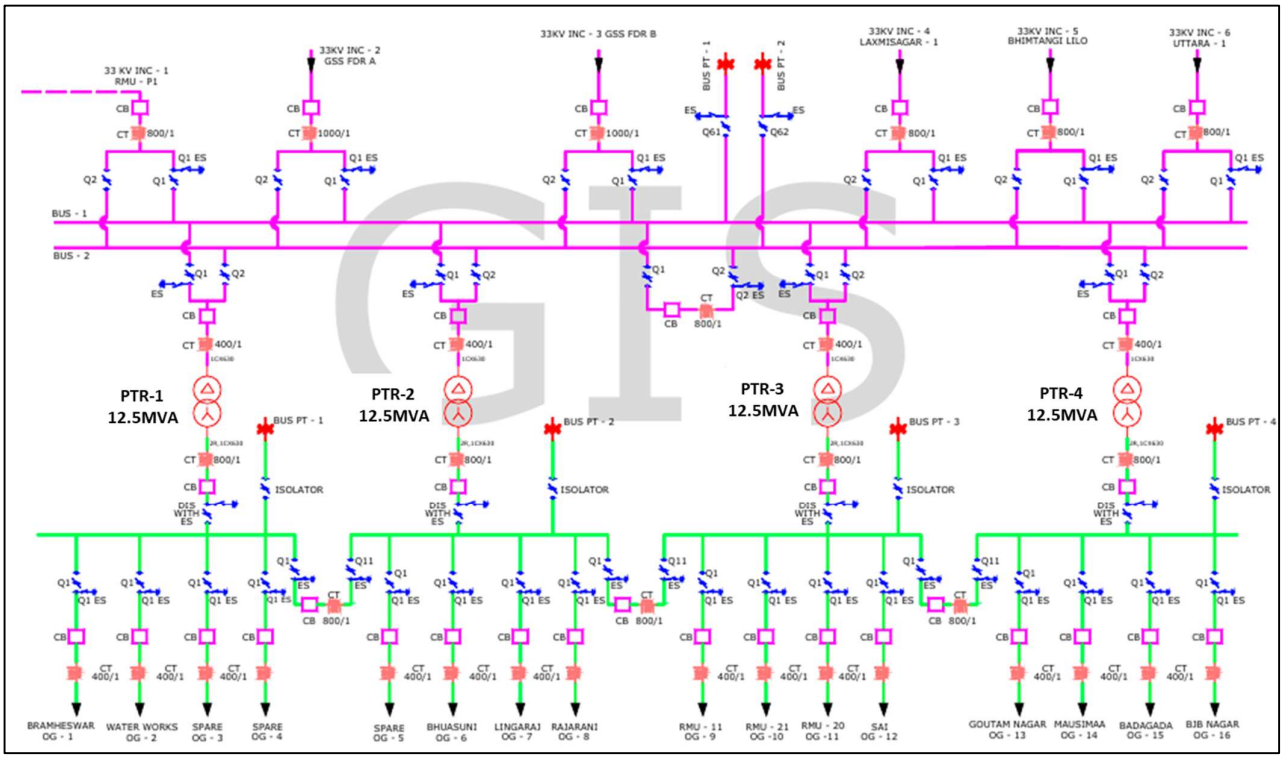
Existing Scenario:

- Loading of 33/11kV Badagada PTR-1, 2, 3 and 4 are 11.96MVA, 8.84MVA, 7.62MVA and 9.22MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (15% load growth per year for 2years), the projected loading of Summer'28 for PTR-1, 2, 3 and 4 would be 15.82MVA, 11.69MVA, 10.08MVA and 12.19MVA respectively.
- PTR-2 will be loaded up to 127%, w.r.t, the existing transformer capacity of 12.5MVA in Summer'28.

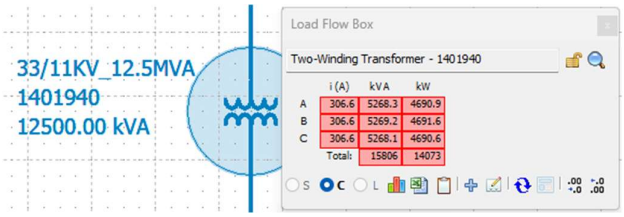
Existing Summer'26 Loading and projected load at Badagada PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @15%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Badagada	PTR-1	12.5	11.96	96%	90%-100%	15.82	127%	≥100%
2		PTR-2	12.5	8.84	71%	70%-90%	11.69	94%	90%-100%
3		PTR-3	12.5	7.62	61%	50%-70%	10.08	81%	70%-90%
4		PTR-4	12.5	9.22	74%	70%-90%	12.19	98%	90%-100%

Existing SLD of Badagada 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-1 is presently loaded to 96% under the AS-IS scenario and is projected to reach 127% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 7,700 consumers during peak demand periods.

Technical Justification

- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, there are 4nos. PTRs and the PTR loading are 96%, 71%, 61% and 74% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-1 from 12.5MVA to 20/25MVA. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

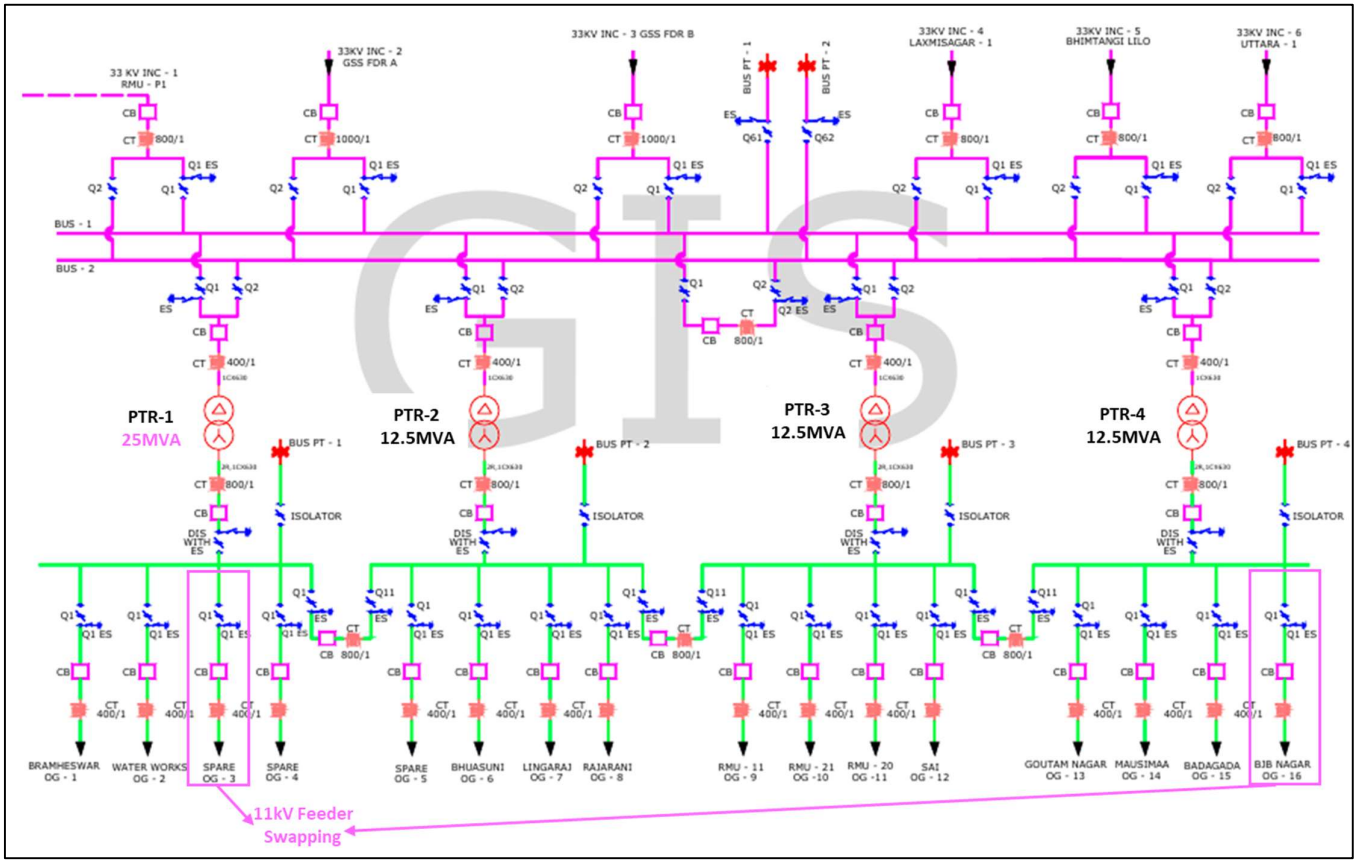
Proposed Scenario:

- Augmentation of PTR-1 from 12.5MVA to 20/25MVA at Badagada PSS is proposed to meet the full load of Badagada PSS at peak load condition after 2years load growth.
- The existing 11kV CTs in the PTR GIS panel are rated 800/1 A. In order to accommodate the PTR capacity of 25MVA and the corresponding full-load current, the CT ratio is proposed to be upgraded.
- 11kV feeder swapping of 11kV B.J.B Nagar feeder (1.45MVA load at PTR-4) to available spare feeder at PTR-1 is proposed to mitigate the anticipated overloading of PTR-4 due to load growth over the next two years and to achieve better load balancing between the PTRs.

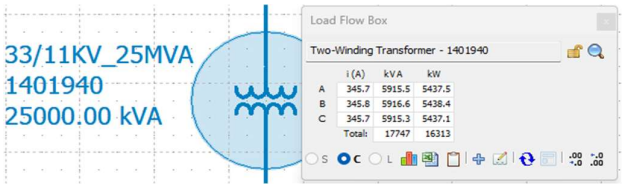
- Further, it is proposed to divert 1MVA load from 11kV Rajarani feeder (PTR-2) to 11kV Lewis Road feeder (PTR-2) of 33/11kV Nageswar Tangi PSS under ODSSP ph-IV.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @15%) Summer'28			Projected Load (5yrs. Load Growth @10% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Badagada	PTR-1	25	17.74	71%	50%-70%	23.61	94%	70%-90%
2		PTR-2	12.5	10.37	83%	90%-100%	13.80	110%	≥100%
3		PTR-3	12.5	10.08	81%	70%-90%	13.41	107%	≥100%
4		PTR-4	12.5	10.27	82%	90%-100%	13.68	109%	≥100%

Proposed SLD of BADAGADA 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1no. PTR (PTR-1) from 12.5MVA to 20/25MVA.
- Installation of 1no. 11kV CT suitable for existing GIS panel board.

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-1
Name of the Sub-Division : -	Temple
Name of the Section : -	Badagada
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Badagada PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at 33/11kV Badagada PSS.	3,58,92,317.10
PART B: Dismantling Portion	1,33,029.04
Total Amount	**₹ 3,60,25,346.14**
Total Amount (in Cr.)	**₹ 3.60**
Total estimated cost is Rs. 3.60 Crore. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 3.60cr. (For detailed BoQ refer Annexure-22.2).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Cost Benefit Analysis:

Load in Summer' 26 (MVA)	Load in Summer' 28 (MVA)	Additional load due to load growth (in MVA)	Total Load Added (in MW)	Benefit on account of Fixed Charges from New Loads (in INR)	Benefit on account of Energy Charges from New Loads (in INR) with Load Factor 10%	Total Benefit (in INR)	Calculations	Value	Unit
A	B	C=B-A	D=Cx0.95	E=Dx1000x12xFixed Charges for 1 kW(Rs)	F=Dx1000x365x24x0.1x(Avg. Selling Price - Avg. Purchase Price)	G=E+F			
37.64	48.45	10.82	10.27	₹ 24,65,999	₹ 2,15,51,422	₹ 2,40,17,422	Total Scheme Cost (incl. Taxes)	3.60	Cr.
							Pay Back Period of Scheme (H=Total Project Cost/G)	1.50	Years
							% Rate of Return	66.67	%

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumer.
- To ensure reliable power supply to the consumers.

3.0 Power Transformer overloading mitigation at ATHAGARH Substation

Proposal:

Augmentation of existing 1no. 33/11kV 8MVA Power Transformer (PTR-1) to 1no. 12.5/16MVA at Athagarh 33/11kV Substation in AED division of Cuttack circle to mitigate overloading condition.

Requirement/ Need of the Proposal:

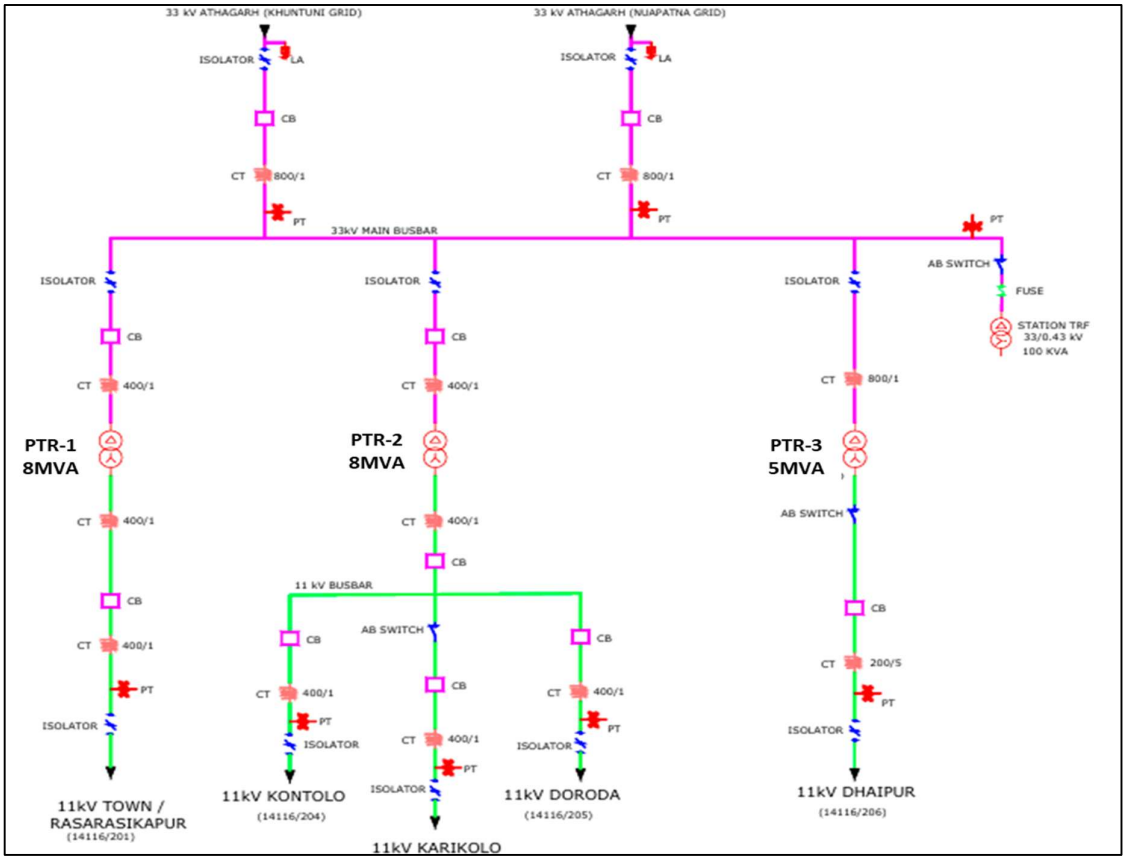
Existing Scenario:

- Loading of 33/11kV Athagarh PTR-1, 2 and 3 are 6.7MVA, 5.94MVA and 1.48MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (8% load growth per year for 2years), the projected loading of Summer'28 for PTR-1, 2 and 3 would be 7.82MVA, 6.93MVA and 1.72MVA respectively.
- PTR- will be loaded up to 98%, w.r.t, the existing transformer capacity of 8MVA in Summer'28.

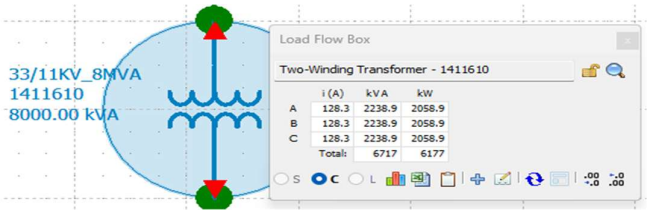
Existing Summer'26 Loading and projected load at Unit-8 PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @8%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Athagarh	PTR-1	8	6.70	84%	70%-90%	7.82	98%	90%-100%
2		PTR-2	8	5.94	74%	70%-90%	6.93	87%	70%-90%
3		PTR-3	5	1.48	30%	0-50%	1.72	34%	0-50%

Existing SLD of ATHAGARH 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-1 is presently loaded to 84% under the AS-IS scenario and is projected to reach 98% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 7,300 consumers during peak demand periods.

Technical Justification

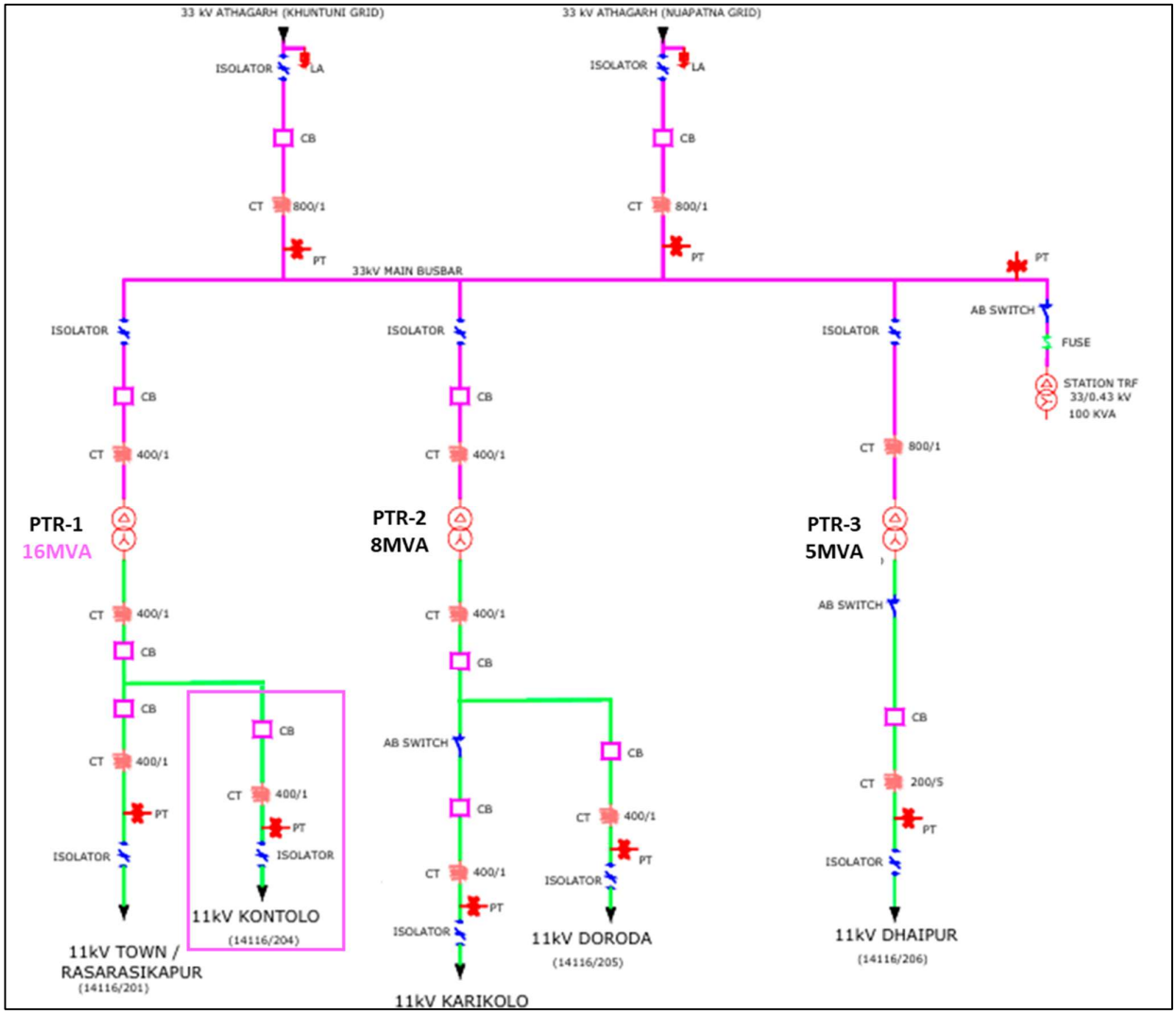
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, there are 3nos. PTRs and the PTR loading are 84%, 74% and 30% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth, the PTRs will be reaching to 98% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-1 from 8MVA to 12.5/16MVA. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

Proposed Scenario:

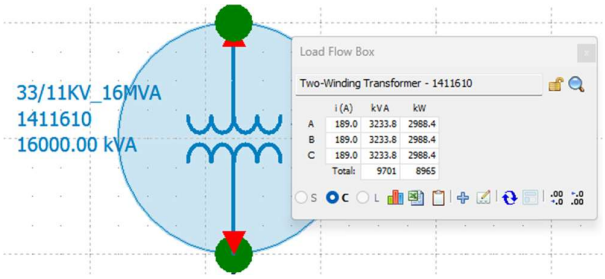
- Augmentation of PTR-1 from 8MVA to 12.5/16MVA at Athagarh PSS is proposed to meet the full load of Athagarh PSS at peak load condition after 2years load growth.
- In order to accommodate the PTR capacity of 16MVA and the corresponding full-load current, the CT ratio is proposed to be upgraded.
- 11kV feeder swapping of 11kV Kontolo feeder (1.6MVA load) from PTR-2 to PTR-1 is proposed to mitigate the anticipated overloading of PTR-2 due to load growth over the next two years and to achieve better load balancing between the PTRs.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @8%) Summer'28			Projected Load (5yrs. Load Growth @8% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Athagarh	PTR-1	16	9.69	61%	50%-70%	12.20	76%	70%-90%
2		PTR-2	8	5.07	63%	50%-70%	6.38	80%	70%-90%
3		PTR-3	5	1.72	34%	0-50%	2.17	43%	0-50%

Proposed SLD of ATHAGARH 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1no. PTR (PTR-1) from 8MVA to 12.5/16MVA.
- Supply and installation of 1no. 11kV Outdoor CT (Set).

Proposed Cost with Estimate Break-up:

Name of the Circle :-	Cuttack
Name of the Division :-	AED
Name of the Sub-Division : -	Athagarh
Name of the Section : -	Athagarh-1
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Athagarh PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Athagarh PSS.	3,19,47,230.96
PART B: Supply & laying of 11 kV 3C, 400sqmm U/G Cable without spare run for O/G Feeders.	10,42,276.53
PART C: Dismantling portion	1,54,415.58
Total Amount	**₹ 3,31,43,923.06**
Total Amount (in Cr.)	**₹ 3.31**
Total estimated cost is Rs. 3.31 Crore. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 3.31cr. (For detailed BoQ refer Annexure 22.3).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Cost Benefit Analysis:

Load in Summer '26 (MVA)	Load in Summer '28 (MVA)	Additional load due to load growth (in MVA)	Total Load Added (in MW)	Benefit on account of Fixed Charges from New Loads (in INR)	Benefit on account of Energy Charges from New Loads (in INR) with Load Factor 10%	Total Benefit (in INR)	Calculations	Value	Unit
A	B	C=B-A	D=Cx0.95	E=Dx1000x12xFixed Charges for 1 kW(Rs)	F=Dx1000x365x24x0.1x(Avg. Selling Price - Avg. Purchase Price)	G=E+F			
14.13	16.48	2.35	2.23	₹ 5,35,918	₹ 46,83,619	₹ 52,19,538	Total Scheme Cost (incl. Taxes)	3.31	Cr.
							Pay Back Period of Scheme (H=Total Project Cost/G)	6.35	Years
							% Rate of Return	15.75	%

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumers.
- To ensure reliable power supply to the consumers.

4.0 Power Transformer overloading mitigation at SAMANGA Substation

Proposal:

Augmentation of existing 1no. 33/11kV 8MVA Power Transformer (PTR-1) to 1no. 16/20MVA at Samanga 33/11kV Substation in PED division of BBSR-2 circle to mitigate overloading condition.

Requirement/ Need of the Proposal:

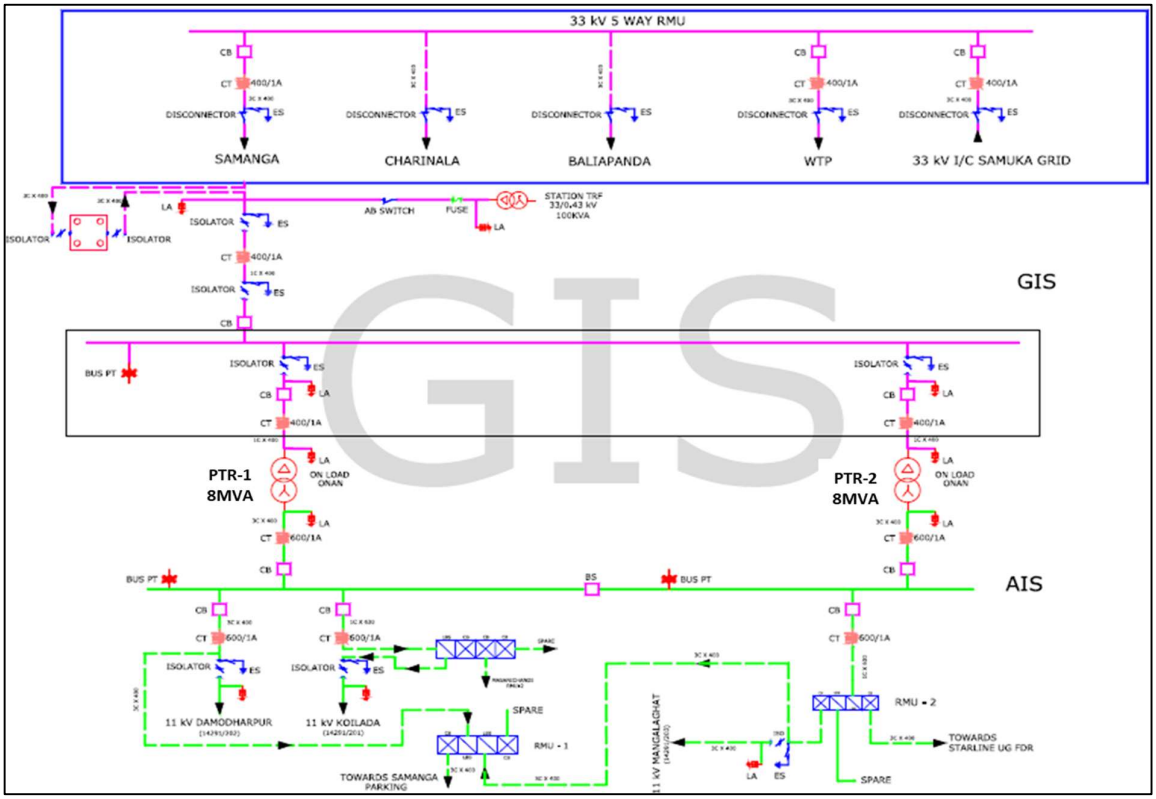
Existing Scenario:

- Loading of 33/11kV Samanga PTR-1 and 2 are 6.40MVA and 5.71MVA respectively at peak load condition of Summer'26.
- Further, new high value consumers are upcoming in the area like M/s Hayat regency (1.33MVA load), M/s. Sea Rose (1.5MVA load) in the area near Samanga PSS.
- Considering load growth for 2years (13% load growth per year for 2years), the projected loading of Summer'28 for PTR-1 and 2 would be 9.51MVA and 8.80MVA respectively.
- PTR-1 and PTR-2 will be loaded up to 119% and 110% respectively, w.r.t, the existing transformer capacity of 8MVA in Summer'28.

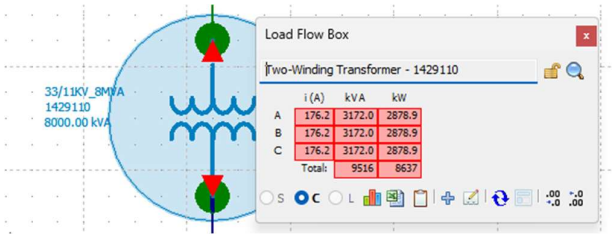
Existing Summer'26 Loading and projected load at Samanga PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @13%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Samanga	PTR-1	8	6.40	80.0%	70%-90%	9.51	119%	≥100%
2		PTR-2	8	5.71	71%	70%-90%	8.80	110%	≥100%

Existing SLD of Samanga 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-1 is presently loaded to 80% under the AS-IS scenario and is projected to reach 119% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 3,600 consumers during peak demand periods.

Technical Justification

- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, there are 2nos. PTRs and the PTR loading are 80% and 71% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth and upcoming high value consumer loads, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous

sustained overloading, it is proposed to augment the PTR-1 from 8MVA to 16/20MVA. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.

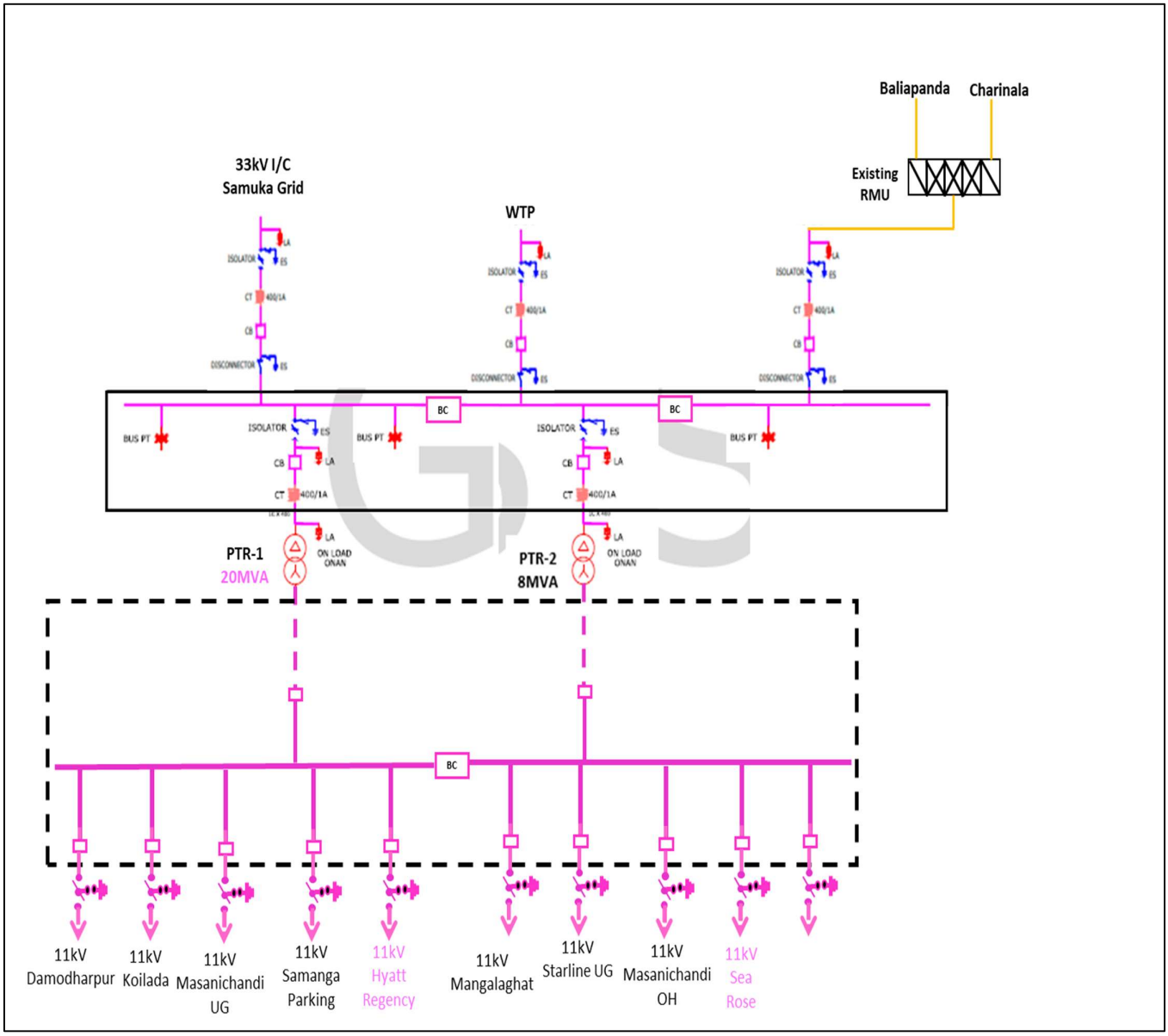
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

Proposed Scenario:

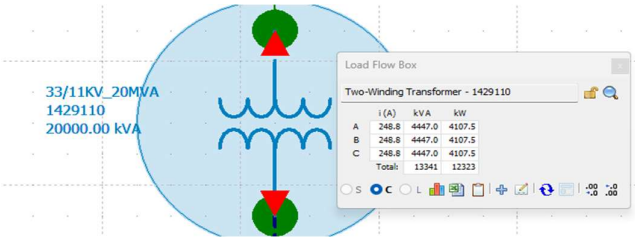
- Augmentation of PTR-1 from 8MVA to 16/20MVA at Samanga PSS is proposed to meet the full load of Samanga PSS at peak load condition after 2years load growth.
- To address the constraint of single 33kV bus arrangement and enhance network redundancy along with operational reliability, it is proposed to install a new 33kV switchgear panel board.
- Since existing control room is not having sufficient space for addition of new 11kV switchgear panels therefore, extension of control room is proposed to accommodate new switch panel boards. Moreover, the existing 11kV panels are of lower capacity which cannot meet to the current rating of new transformers.
- 11kV Switch panel board is proposed to be installed for power evacuation from 11kV feeders.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @13%) Summer'28			Projected Load (5yrs. Load Growth @13% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Samanga	PTR-1	20	13.34	67%	50%-70%	19.24	96%	90%-100%
2		PTR-2	8	4.97	62%	50%-70%	7.17	90%	70%-90%

Proposed SLD of SAMANGA 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1no. PTR-1 from 8MVA to 16/20MVA.
- Installation of 11kV Switch panel board.
- Installation of 33kV Switch panel board.
- Extension of existing Control Room.

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-2
Name of the Division :-	PED
Name of the Sub-Division : -	Puri S/D-2
Name of the Section : -	Sadar
Name of the Work :-	Installation of 1 No. of 16/20 MVA PTR along with expansion of existing Control Room Building at Samanga PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Installation of 1 No. of 16/20 MVA PTR along with expansion of existing Control Room Building at Samanga PSS.	8,53,61,181.95
PART B: Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders.	14,21,551.91
PART C: Dismantling portion	6,68,607.41
Total Amount	**₹ 8,74,51,341.28**
Total Amount (in Cr.)	**₹ 8.75**
Total estimated cost is Rs. 8.75 Crore. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 8.75cr. (For detailed BoQ refer Annexure-22.4).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Cost Benefit Analysis:

Load in Summer' 26 (MVA)	Load in Summer' 28 (MVA)	Additional load due to load growth (in MVA)	Total Load Added (in MW)	Benefit on account of Fixed Charges from New Loads (in INR)	Benefit on account of Energy Charges from New Loads (in INR) with Load Factor 10%	Total Benefit (in INR)	Calculations	Value	Unit
A	B	C=B-A	D=Cx 0.95	E=Dx1000x12 xFixed Charges for 1 kW(Rs)	F=Dx1000x365x 24x0.1x(Avg. Selling Price - Avg. Purchase Price)	G=E+F			
12.12	18.30	6.19	5.88	₹ 14,10,243	₹ 1,23,24,718	₹ 1,37,34,961	Total Scheme Cost (incl. Taxes)	8.75	Cr.
							Pay Back Period of Scheme (H=Total Project Cost/G)	6.37	Years
							% Rate of Return	15.71	%

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumer.
- To ensure reliable power supply to the consumers.

5.0 Power Transformer overloading mitigation at BALIAPANDA Substation

Proposal:

Augmentation of existing 1no. 33/11kV 8MVA Power Transformer (PTR-1) to 1no. 16/20MVA at Baliapanda 33/11kV Substation in PED division of BBSR-2 circle to mitigate overloading condition.

Requirement/ Need of the Proposal:

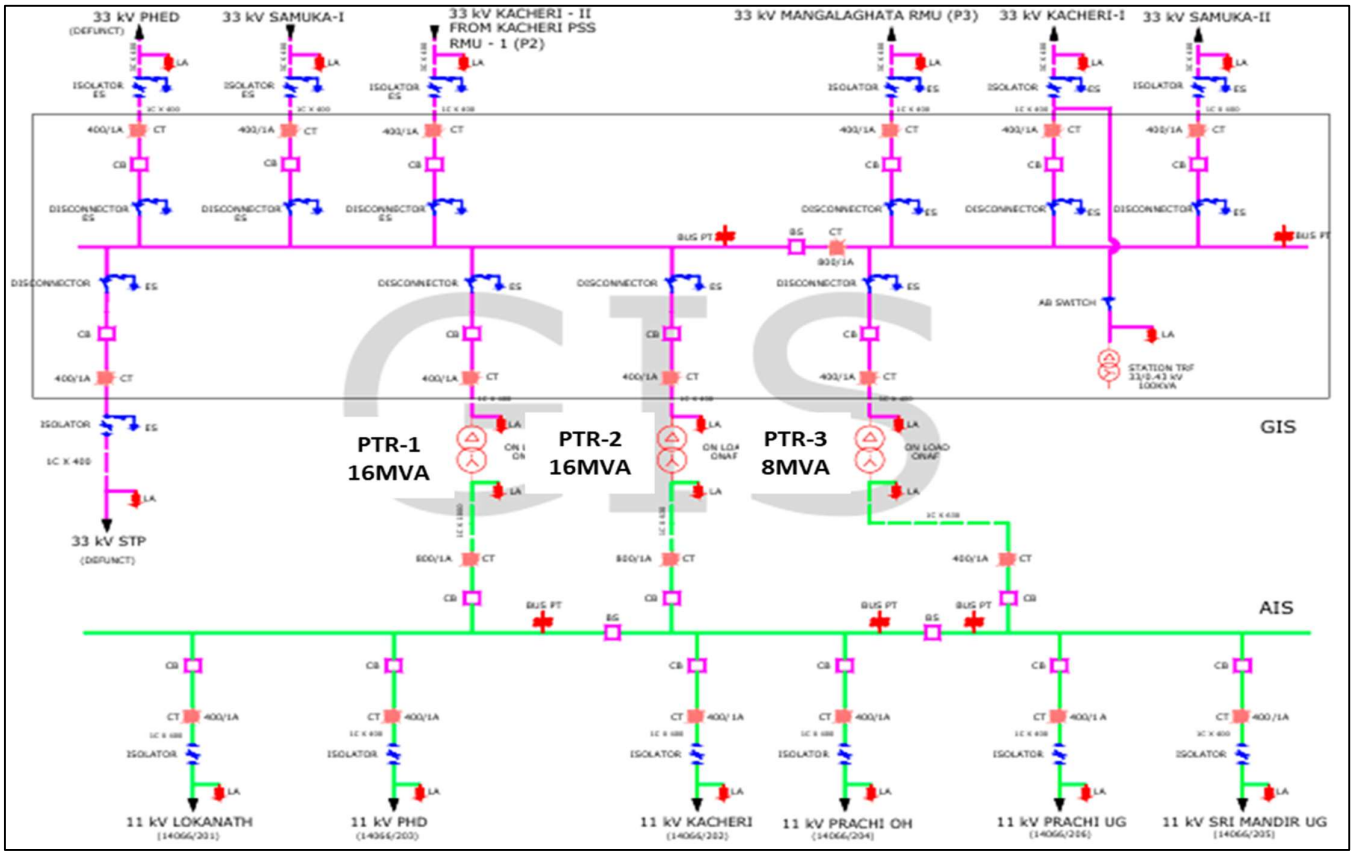
Existing Scenario:

- Loading of 33/11kV Baliapanda PTR-1, 2 and 3 are 6.29MVA, 11.58MVA and 6.82MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (13% load growth per year for 2years), the projected loading of Summer'28 for PTR-1, 2 and 3 would be 8.03MVA, 14.79MVA and 8.71MVA respectively.
- PTR-3 will be loaded up to 109%, w.r.t, the existing transformer capacity of 8MVA in Summer'28.

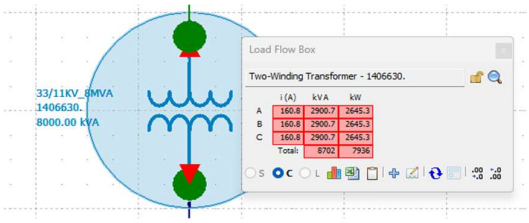
Existing Summer'26 Loading and projected load at Baliapanda PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @13%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Baliapanda	PTR-1	16	6.29	39%	0-50%	8.03	50%	50%-70%
2		PTR-2	16	11.58	72%	70%-90%	14.79	92%	90%-100%
3		PTR-3	8	6.82	85%	70%-90%	8.71	109%	≥100%

Existing SLD of Baliapanda 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-3 is presently loaded to 85% under the AS-IS scenario and is projected to reach 109% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 4,700 consumers during peak demand periods.

Technical Justification

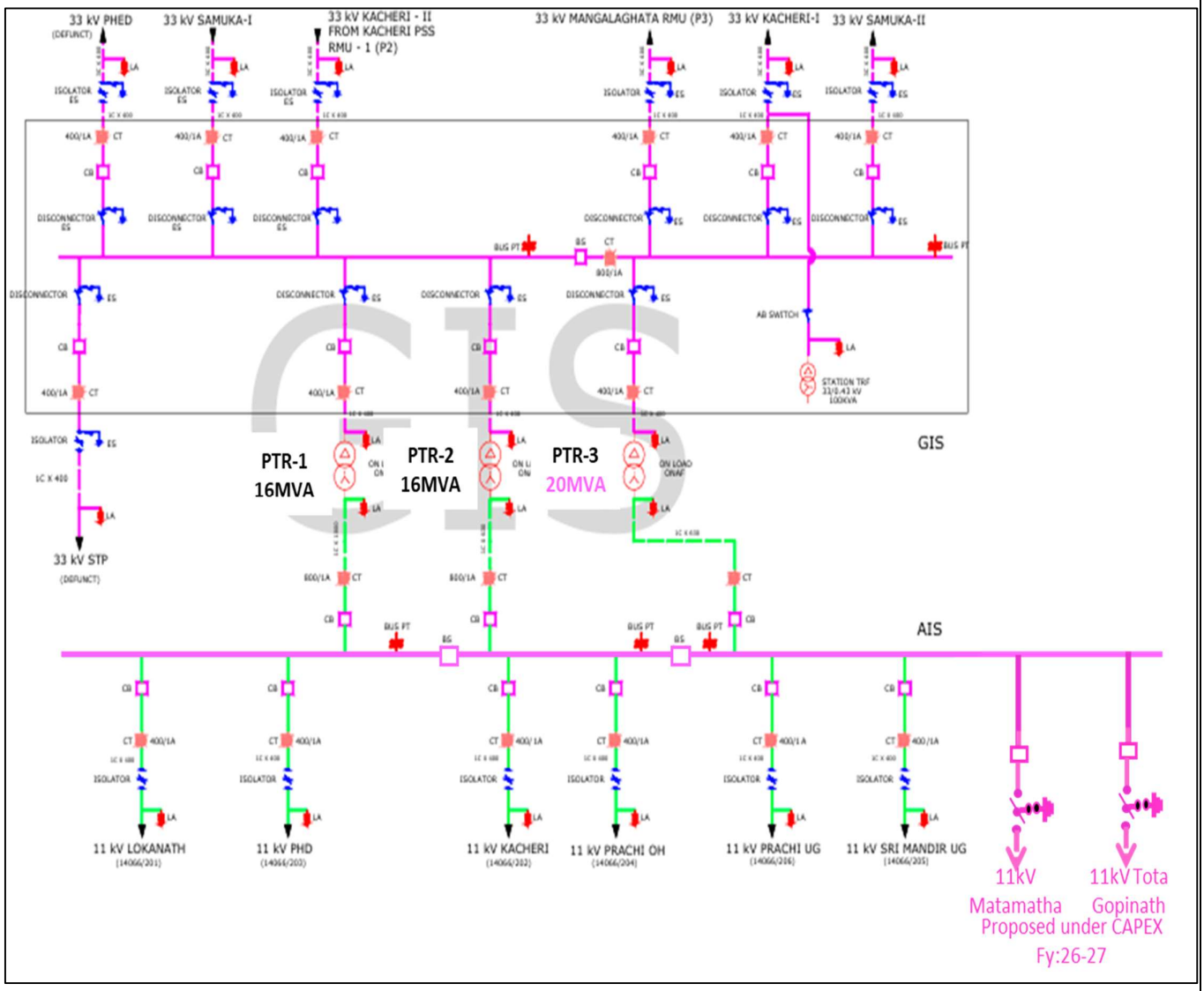
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, there are 3nos. PTRs and the PTR loading are 39%, 72% and 85% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth and upcoming high value consumer loads, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-1 from 8MVA to 16/20MVA. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

Proposed Scenario:

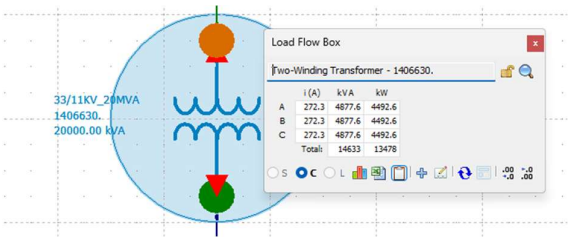
- Augmentation of PTR-3 from 8MVA to 16/20MVA at Baliapanda PSS is proposed to meet the full load of Baliapanda PSS at peak load condition after 2years load growth.
- The existing 11kV CTs in the PTR GIS panel are rated 400/1 A. In order to accommodate the PTR capacity of 20MVA and the corresponding full-load current, the CT ratio is proposed to be upgraded.
- After the bifurcation of 11kV Kacheri feeder (proposed under CAPEX FY: 2026-27), the 11kV proposed Tota Gopinath feeder (1.71MVA) will be fed from PTR-3 (20MVA) and after the bifurcation of 11kV Prachi OH feeder (proposed under CAPEX FY: 2026-27), the 11kV proposed Matamatha feeder (2.93MVA) will be fed from PTR-3 (20MVA) of Baliapanda PSS.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @13%) Summer'28			Projected Load (5yrs. Load Growth @13% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Baliapanda	PTR-1	16	8.03	50%	50%-70%	10.68	67%	50%-70%
2		PTR-2	16	8.86	55%	90%-100%	11.80	74%	70%-90%
3		PTR-3	20	14.63	73%	0-50%	19.48	97%	90%-100%

Proposed SLD of BALIAPANDA 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1no. PTR-3 from 8MVA to 16/20MVA.
- Supply and installation of 1no. 11kV Outdoor CT (Set).

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-2
Name of the Division :-	PED
Name of the Sub-Division : -	Puri S/D-1
Name of the Section : -	Baliapanda
Name of the Work :-	Augmentation of Power Transformer (PTR-3) from 8 MVA to 16/20 MVA along with accessories at Baliapanda PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)

Abstract of Estimate

Description	Total
PART A: Augmentation of Power Transformer (PTR-3) from 8 MVA to 16/20 MVA along with accessories at Baliapanda PSS.	3,27,84,820.84
PART B: Dismantling portion	1,54,415.58
Total Amount	**₹ 3,29,39,236.42**
Total Amount (in Cr.)	**₹ 3.29**
Total Estimated Cost is Rs. 3.29 Cr. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 3.29cr. (For detailed BoQ refer Annexure-22.5).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Cost Benefit Analysis:

Load in Summer '26 (MVA)	Load in Summer '28 (MVA)	Additional load due to load growth (in MVA)	Total Load Added (in MW)	Benefit on account of Fixed Charges from New Loads (in INR)	Benefit on account of Energy Charges from New Loads (in INR) with Load Factor 10%	Total Benefit (in INR)	Calculations	Value	Unit
A	B	C=B-A	D=Cx0.95	E=Dx1000x12xFixed Charges for 1 kW(Rs)	F=Dx1000x365x24x0.1x(Avg. Selling Price - Avg. Purchase Price)	G=E+F			
24.69	31.52	6.84	6.49	₹ 15,58,488	₹ 1,36,20,295	₹ 1,51,78,783	Total Scheme Cost (incl. Taxes)	3.29	Cr.
							Pay Back Period of Scheme (H=Total Project Cost/G)	2.17	Years
							% Rate of Return	46.08	%

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumer.
- To ensure reliable power supply to the consumers.

6.0 Power Transformer overloading mitigation at Khordha Town/ 10-Pole Substation

Proposal:

Augmentation of existing 1no. 33/11kV 12.5MVA Power Transformer (PTR-1) to 1no. 20/25MVA at Khordha Town/ 10-Pole 33/11kV Substation in KHD division of BBSR-2 circle to mitigate overloading condition.

Requirement/ Need of the Proposal:

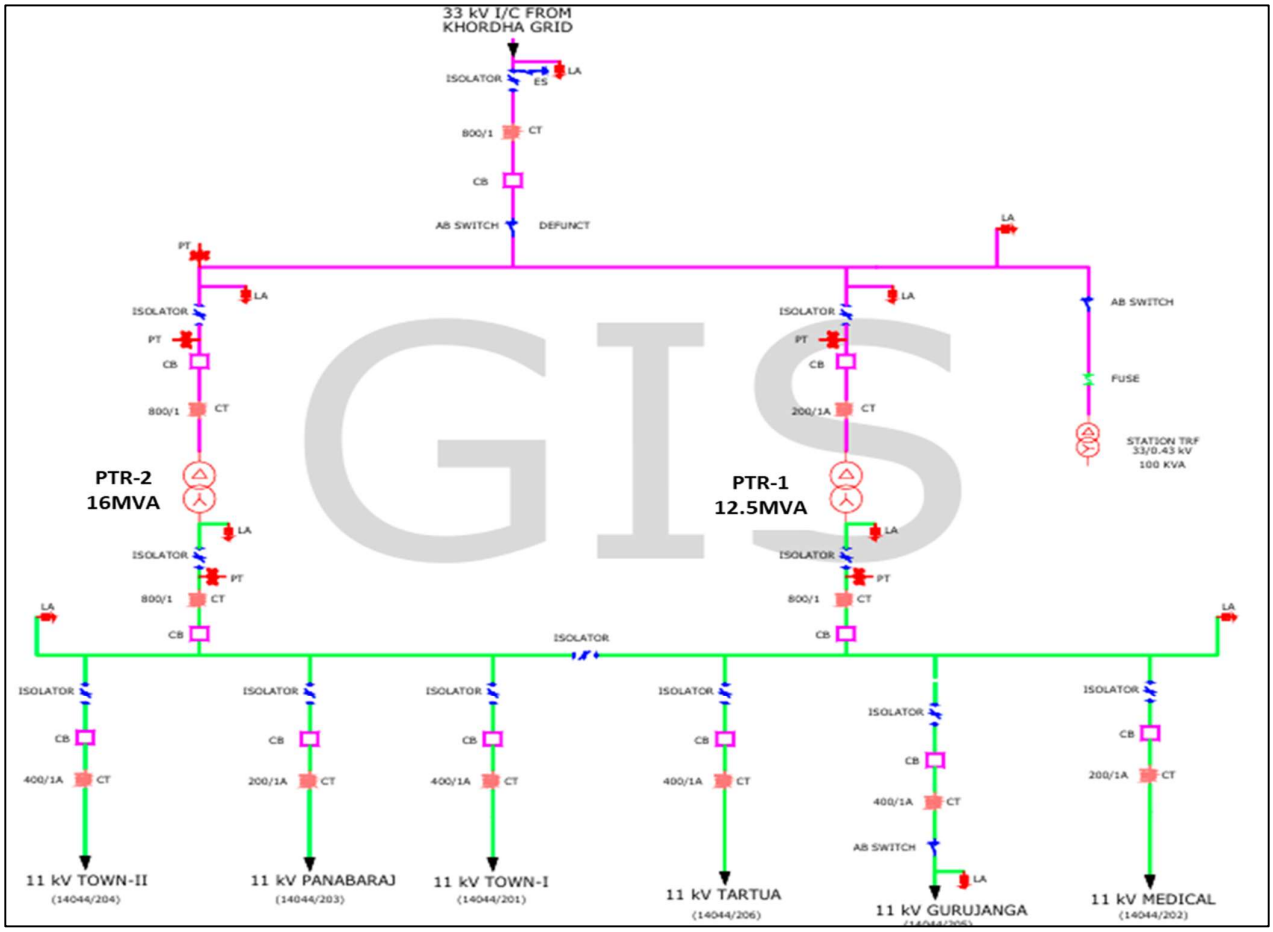
Existing Scenario:

- Loading of 33/11kV Khordha Town/ 10-Pole PTR-1 and 2 are 11.20MVA and 11.43MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (12% load growth per year for 2years), the projected loading of Summer'28 for PTR-1 and 2 would be 14.05MVA and 14.34MVA respectively.
- PTR-1 will be loaded up to 112%, w.r.t, the existing transformer capacity of 12.5MVA in Summer'28.

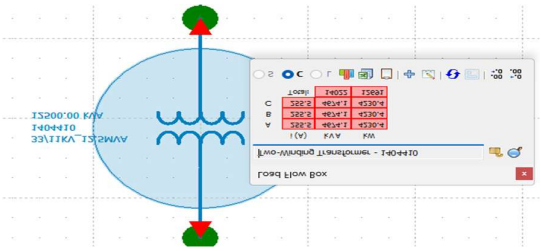
Existing Summer'26 Loading and projected load at Khordha Town/ 10-Pole PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @12%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Khordha Town/ 10-Pole	PTR-1	12.5	11.20	90%	90%-100%	14.05	112%	≥100%
2		PTR-2	16	11.43	71%	70%-90%	14.34	90%	90%-100%

Existing SLD of Khordha Town/ 10-Pole 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-1 is presently loaded to 90% under the AS-IS scenario and is projected to reach 112% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 6,500 consumers during peak demand periods.

Technical Justification

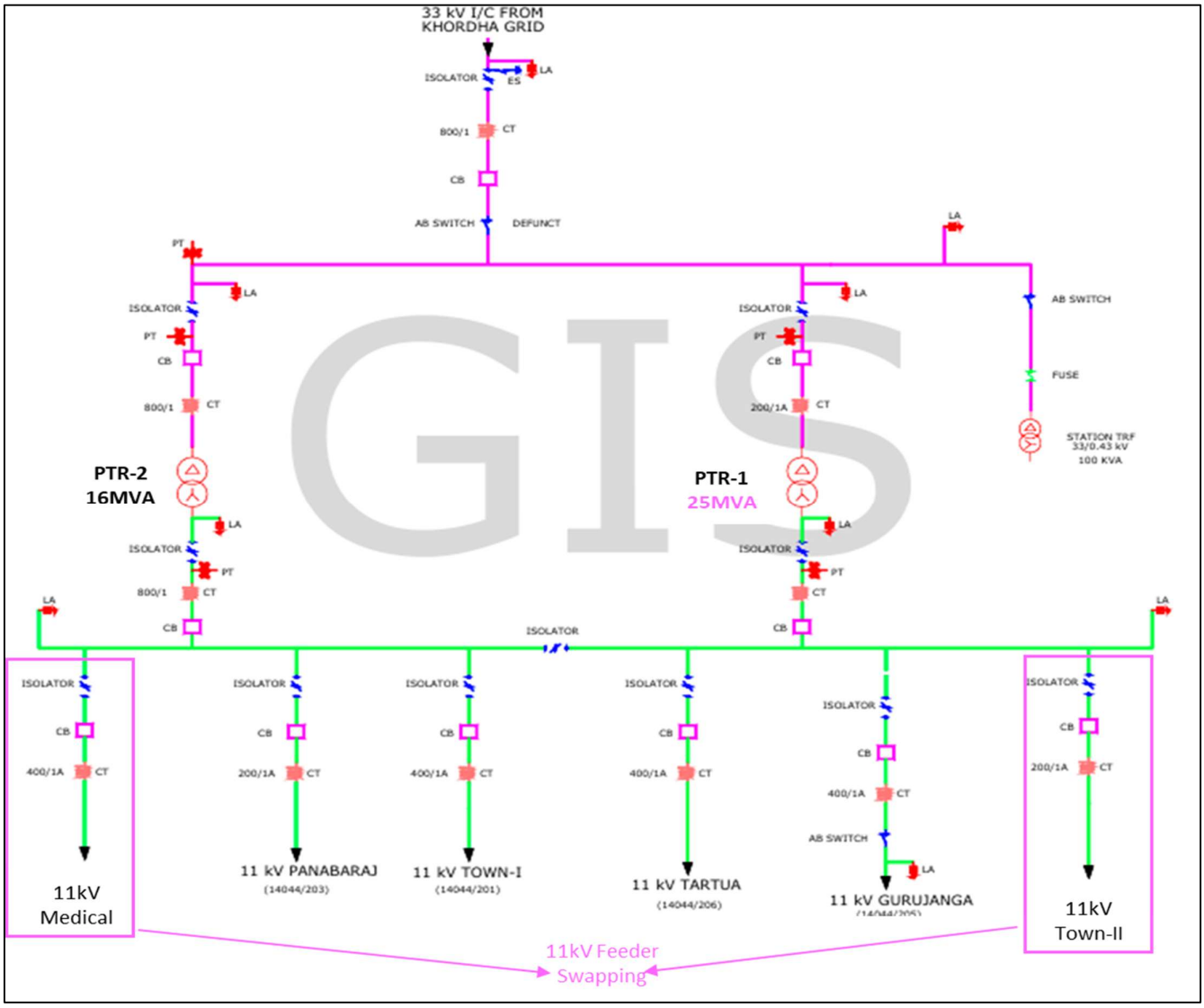
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, there are 2nos. PTRs and the PTR loading are 90% and 71% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth and upcoming high value consumer loads, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-1 from 12.5MVA to 20/25MVA. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

Proposed Scenario:

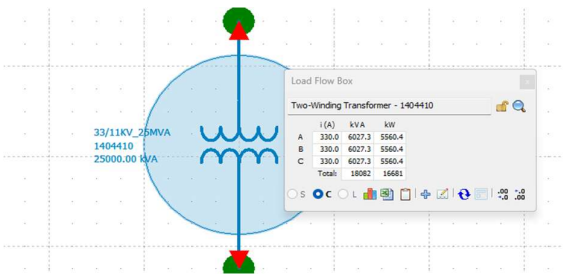
- Augmentation of PTR-1 from 12.5MVA to 20/25MVA at Khordha Town/ 10-Pole PSS is proposed to meet the full load of Khordha Town/ 10-Pole PSS at peak load condition after 2years load growth.
- In order to accommodate the PTR capacity of 25MVA and the corresponding full-load current, the CT ratio is proposed to be upgraded.
- 11kV feeder swapping of 11kV Town-2 feeder (3.43MVA load) from PTR-2 with 11kV Medical feeder (0.23MVA load) from PTR-1 is proposed to mitigate the anticipated overloading of PTR-2 due to load growth over the next two years and to achieve better load balancing between the PTRs.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @12%) Summer'28			Projected Load (5yrs. Load Growth @12% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Khordha Town/ 10-Pole	PTR-1	25	18.06	72%	70%-90%	25.38	102%	≥100%
2		PTR-2	16	10.32	65%	50%-70%	14.50	91%	90%-100%

Proposed SLD of Khordha Town/ 10-Pole 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1no. PTR-1 from 12.5MVA to 20/25MVA.
- Supply and installation of 1no. 11kV Outdoor CT (Set).

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-2
Name of the Division :-	KHD
Name of the Sub-Division : -	Khordha
Name of the Section : -	Khordha no.-1
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at Khorda-10 Pole PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at Khorda 10 Pole PSS.	3,73,48,473.23
PART C: Dismantling portion	1,33,029.04
Total Amount	**₹ 3,74,81,502.28**
Total Amount (in Cr.)	**₹ 3.75**
Total Estimated Cost is Rs. 3.75 Cr. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 3.75cr. (For detailed BoQ refer Annexure-22.6).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Cost Benefit Analysis:

Load in Summer' 26 (MVA)	Load in Summer' 28 (MVA)	Additional load due to load growth (in MVA)	Total Load Added (in MW)	Benefit on account of Fixed Charges from New Loads (in INR)	Benefit on account of Energy Charges from New Loads (in INR) with Load Factor 10%	Total Benefit (in INR)	Calculations	Value	Unit
A	B	C=B-A	D=Cx0.95	E=Dx1000x12xFixed Charges for 1 kW(Rs)	F=Dx1000x365x24x0.1x(Avg. Selling Price - Avg. Purchase Price)	G=E+F			
22.63	28.39	5.76	5.47	₹ 13,12,530	₹ 1,14,70,758	₹ 1,27,83,287	Total Scheme Cost (incl. Taxes)	3.75	Cr.
							Pay Back Period of Scheme (H=Total Project Cost/G)	2.93	Years
							% Rate of Return	34.11	%

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumer.
- To ensure reliable power supply to the consumers.

7.0 Power Transformer overloading mitigation at Balugaon Substation

Proposal:

Augmentation of existing 1no. 33/11kV 8MVA Power Transformer (PTR-1) to 1no. 12.5/16MVA at Balugaon 33/11kV Substation in BAED division of BBSR-2 circle to mitigate overloading condition.

Requirement/ Need of the Proposal:

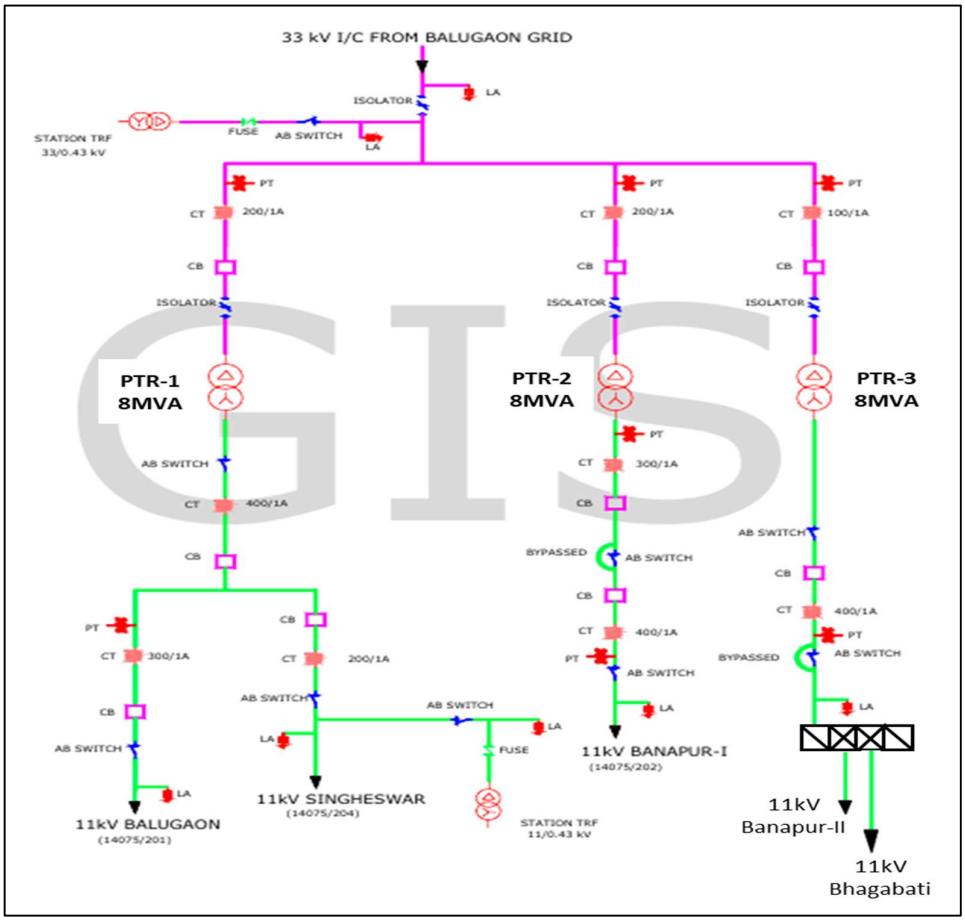
Existing Scenario:

- Loading of 33/11kV Balugaon substation PTR-1, 2 and 3 are 7.16MVA, 2.36MVA and 6.10MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (12% load growth per year for 2years), the projected loading of Summer'28 for PTR-1, 2 and 3 would be 8.98MVA, 2.96MVA and 7.65MVA respectively.
- PTR-1 will be loaded up to 112%, w.r.t, the existing transformer capacity of 8MVA in Summer'28.

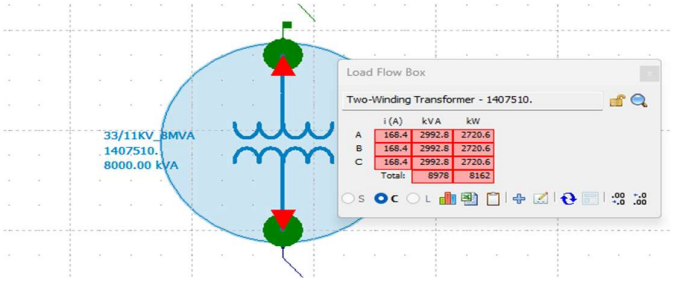
Existing Summer'26 Loading and projected load at Balugaon PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @12%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Balugaon	PTR-1	8	7.16	89.5%	70%-90%	8.98	112%	≥100%
2		PTR-2	8	2.36	30%	0-50%	2.96	37%	0-50%
3		PTR-3	8	6.10	76%	50%-70%	7.65	96%	90%-100%

Existing SLD of Balugaon 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-1 is presently loaded to 89.5% under the AS-IS scenario and is projected to reach 112% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 12,500 consumers during peak demand periods.

Technical Justification

- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, there are 3nos. PTRs and the PTR loading are 89.5%, 30% and 76% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth and upcoming high value consumer loads, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-1 from 8MVA to 12.5/16MVA. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

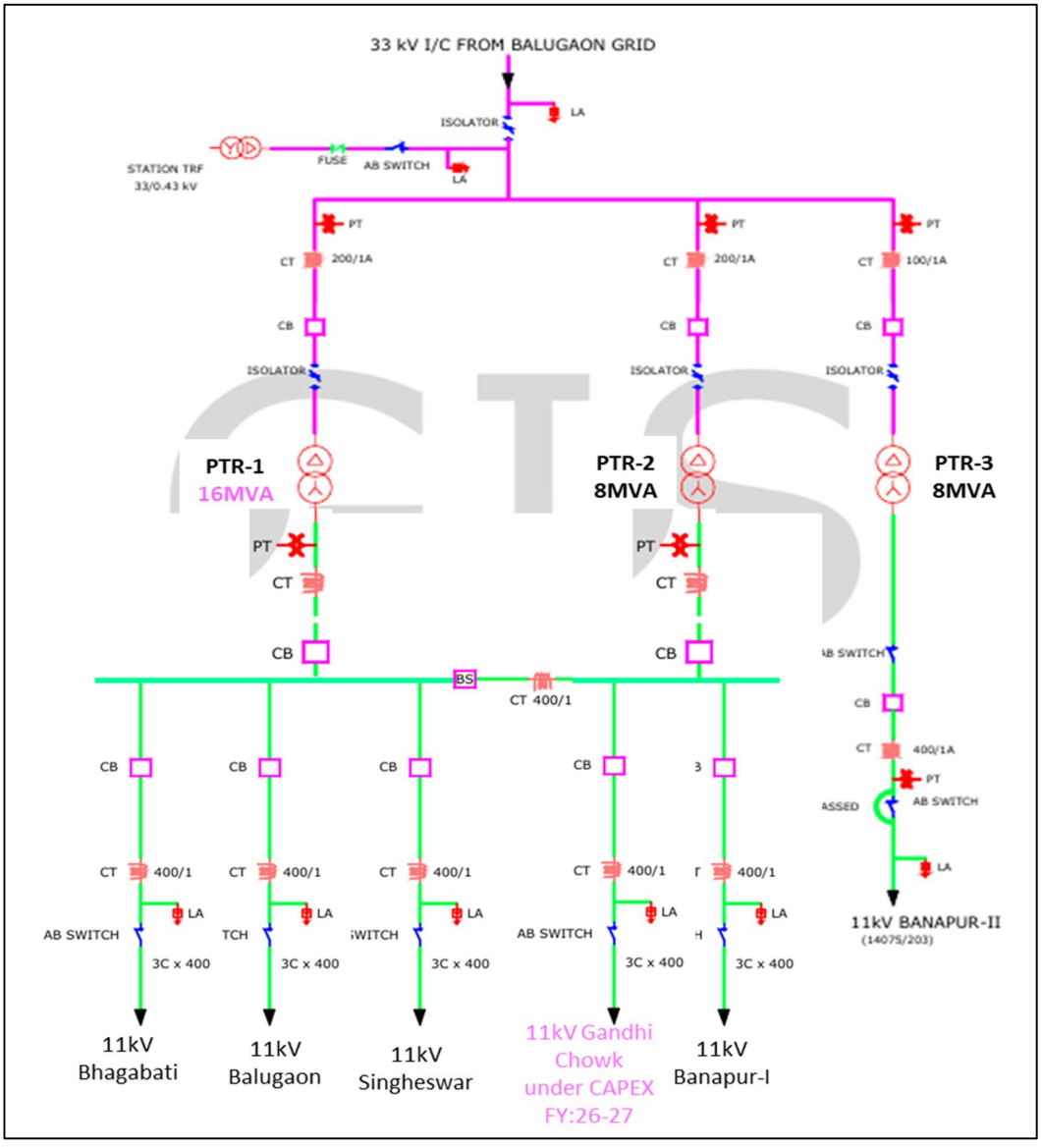
Proposed Scenario:

- Augmentation of PTR-1 from 8MVA to 12.5/16MVA at Balugaon PSS is proposed to meet the full load of Balugaon PSS at peak load condition after 2years load growth.
- In order to accommodate the PTR capacity of 12.5/16MVA and the corresponding full-load current, the CT ratio is proposed to be upgraded.
- Due to the unavailability of spare 11kV feeder panel at Balugaon substation, it is proposed for swapping of 11kV feeder panel from 33/11kV Delta PSS.

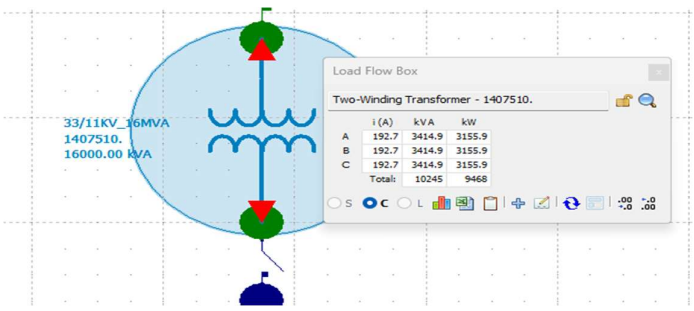
- 11kV feeder swapping of 11kV Bhagabati feeder (3MVA) from PTR-3 (under RMU) to PTR-1 along with 11kV Balugaon feeder bifurcation (under CAPEX FY:2026-27) and swapping of proposed 11kV Gandhi Chowk feeder (2MVA) to PTR-2 is proposed to mitigate the anticipated overloading of PTR-3 due to load growth over the next two years and to achieve better load balancing between the PTRs.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @12%) Summer'28			Projected Load (5yrs. Load Growth @12% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Balugaon	PTR-1	16	10.24	64%	70%-90%	14.38	90%	90%-100%
2		PTR-2	8	5.47	68%	0-50%	7.69	96%	0-50%
3		PTR-3	8	3.88	49%	50%-70%	5.45	68.2%	70%-90%

Proposed SLD of Balugaon 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1no. PTR-1 from 8MVA to 12.5/16MVA.
- Supply and installation of 1no. 11kV Outdoor CT (Set).

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-2
Name of the Division :-	BAED
Name of the Sub-Division : -	Balugaon
Name of the Section : -	Balugaon
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Balugaon PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Balugaon PSS.	4,34,08,056.48
PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable without spare run for O/G Feeders.	11,25,671.41
PART C: Dismantling portion	1,54,415.58
Total Amount	**₹ 4,46,88,143.46**
Total Amount (in Cr.)	**₹ 4.47**
Total Estimated Cost is Rs. 4.47 Cr. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 4.47cr. (For detailed BoQ refer Annexure-22.7).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Cost Benefit Analysis:

Load in Summer'26 (MVA)	Load in Summer'28 (MVA)	Additional load due to load growth (in MVA)	Total Load Added (in MW)	Benefit on account of Fixed Charges from New Loads (in INR)	Benefit on account of Energy Charges from New Loads (in INR) with Load Factor 10%	Total Benefit (in INR)	Calculations	Value	Unit
A	B	C=B-A	D=Cx 0.95	E=Dx1000x12xFixed Charges for 1 kW(Rs)	F=Dx1000x365x24x0.1x (Avg. Selling Price - Avg. Purchase Price)	G=E+F			
15.62	19.59	3.97	3.77	₹ 9,05,955	₹ 79,17,526	₹ 88,23,481	Total Scheme Cost (incl. Taxes)	4.47	Cr.
							Pay Back Period of Scheme (H=Total Project Cost/G)	5.06	Years
							% Rate of Return	19.74	%

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumer.
- To ensure reliable power supply to the consumers.

8.0 Supply and Installation of 11kV Switchgear Panel Board at Delta Substation for power evacuation through 11kV feeders

Proposal:

Proposal for Supply and Installation of 11kV switchgear panel board (15nos. Panels- 2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) at Delta 33/11kV Substation in BCDD-1 for power evacuation through 11kV feeders. Construction of 1no. new 11kV feeder (2.4Ckm UG line from Delta PSS to Sushree Villa) from Delta PSS through proposed 11kV bay for load diversion of existing 11kV Baramunda-Delta Feeder load emanating from 33/11kV Baramunda PSS.

Construction of 1no. new 11kV feeder (2Ckm UG line from Delta PSS to Bhamara Petrol Pump) from Delta PSS through proposed 11kV bay for load diversion of 11kV IRC-3 Feeder load emanating from 33/11kV Nayapalli PSS.

Requirement/ Need of the Proposal:

Existing Scenario:

- Loading of 33/11kV Delta substation PTR-1 and 2 are 8.15MVA and 5.10MVA respectively at peak load condition of Summer'26. Considering load growth for 2years (10% load growth per year for 2years), the projected loading of Summer'28 for PTR-1 and 2 would be 9.86MVA and 6.18MVA respectively.
- In Summer'26, under PTR swapping scheme 2nos. PTRs are already augmented from 8MVA to 12.5MVA under OPEX. However, the existing switch boards have no spare 11kV feeder bay panels available for the other outgoing feeders for power evacuation. Therefore, in the interim arrangement, feeder splitting is done through RMU arrangement at the substation.
- In CAPEX FY: 27-28, additional feeders are proposed for power evacuation from Delta PSS. Additionally, 1no. feeder is proposed for new consumer (OB&CC) connection for which 11kV feeder bay panels are not available at the substation.
- 11kV Baramunda-Delta feeder is emanating from 33/11kV Baramunda PSS. Total length of this feeder is 5.2Ckm and the peak load is 4.19MVA. Conductor size of 11kV Baramunda-Delta feeder is 100sq.mm & the feeder is 81% loaded w.r.t the current carrying capacity of the conductor and 107% loaded considering 15% load growth for urban feeders.
- 11kV IRC-3 feeder is emanating from 33/11kV Nayapalli PSS. Total length of this feeder is 6.7Ckm and the peak load is 6.29MVA. Conductor size of 11kV IRC-3 feeder is 100sq.mm & the feeder is 121% loaded w.r.t the current carrying capacity of the conductor and 161% loaded considering 15% load growth for urban feeders.
- This feeder is completely feeding urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

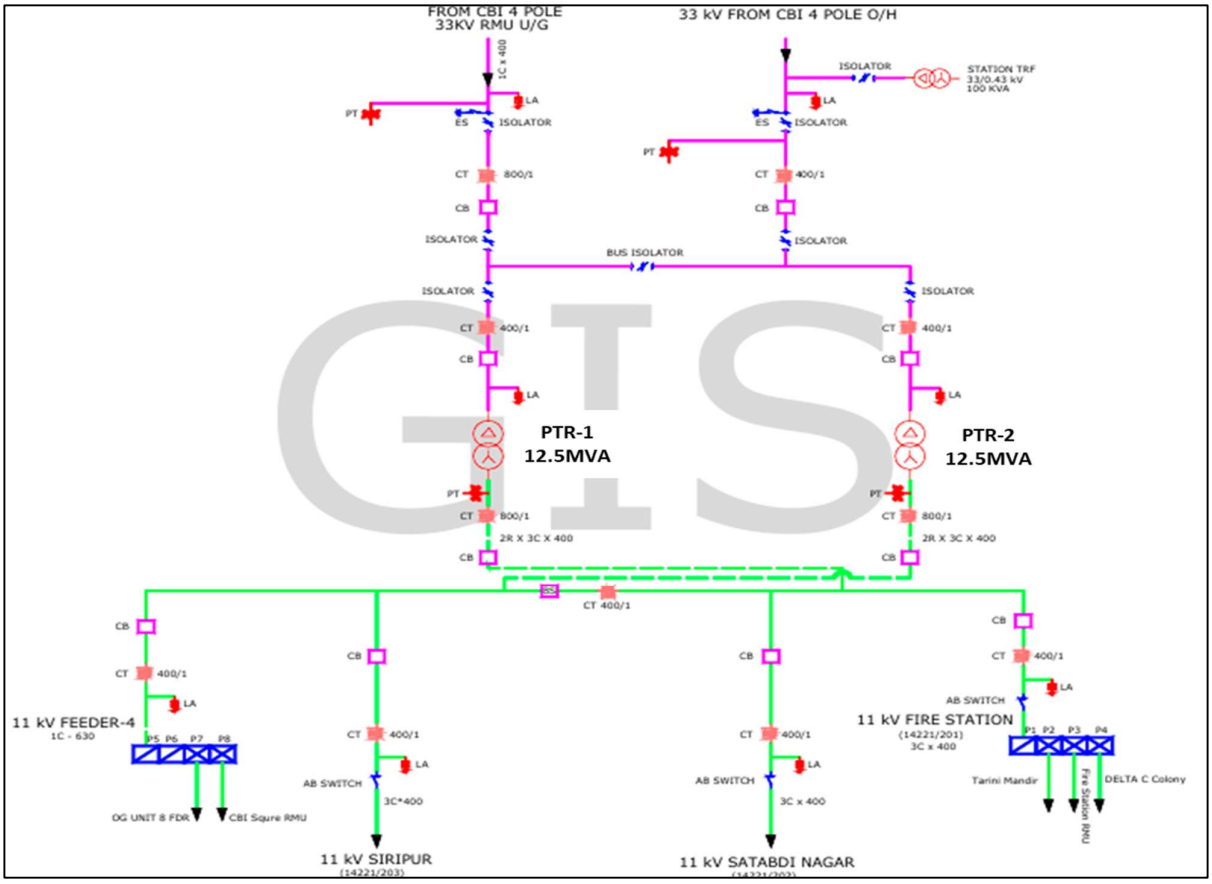
Existing Summer'26 Loading and projected load at Delta PTR, 11kV Baramunda-Delta Feeder and 11kV IRC-3 Feeder:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @10%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Delta	PTR-1	8	8.15	102%	≥100%	12.16	152%	≥100%
2		PTR-2	8	5.10	64%	50%-70%	11.14	139%	≥100%

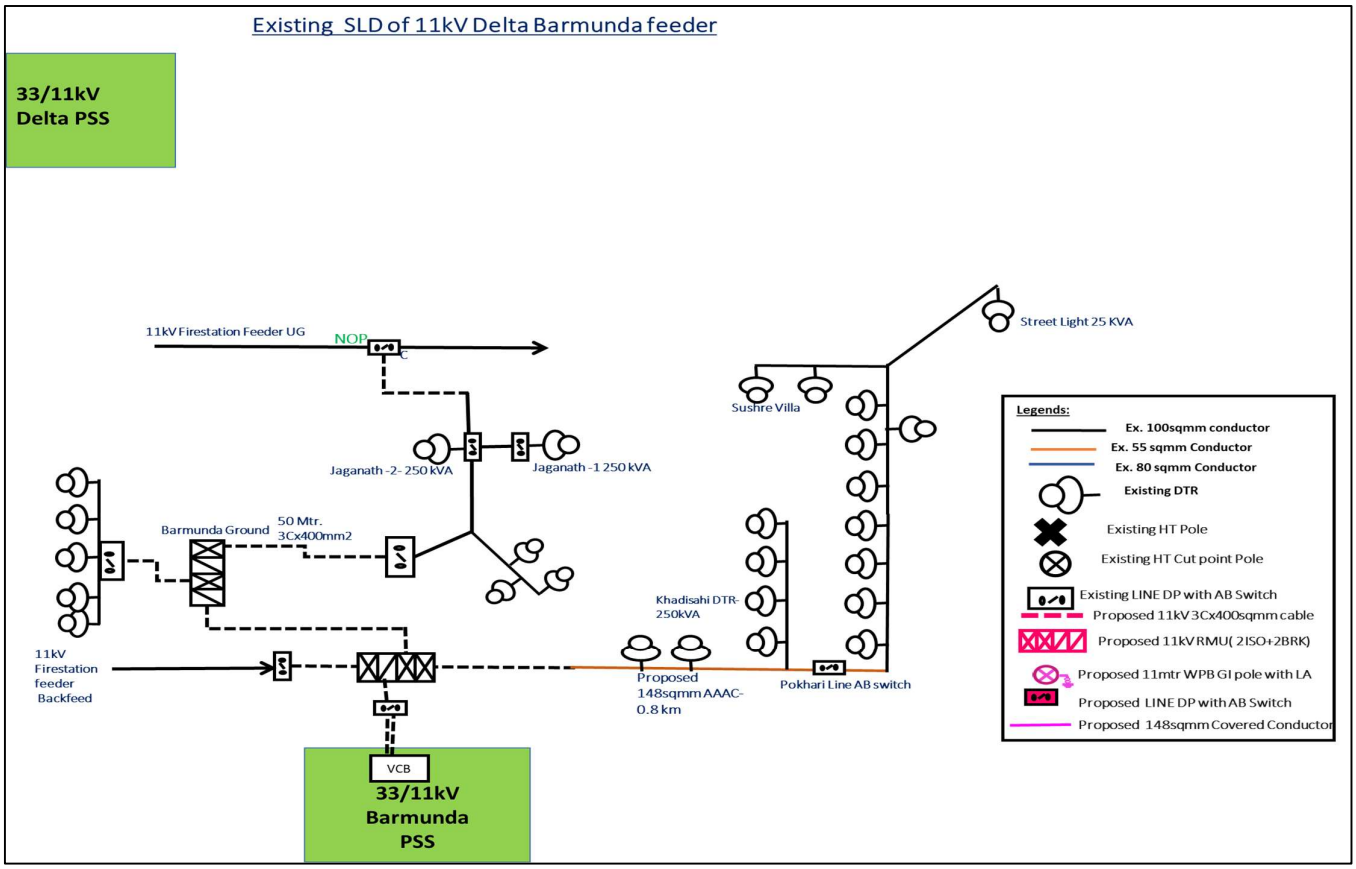
Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading	Feeder Over loading Status
Baramunda	Baramunda-Delta	5.18	4.19	81%	5.54	107%	Overload

Name of the PSS	11kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Projected load Summer'28 (MVA)	% Loading	Feeder Over loading Status
Nayapalli	IRC-3	5.18	6.29	121%	8.32	161%	Overload

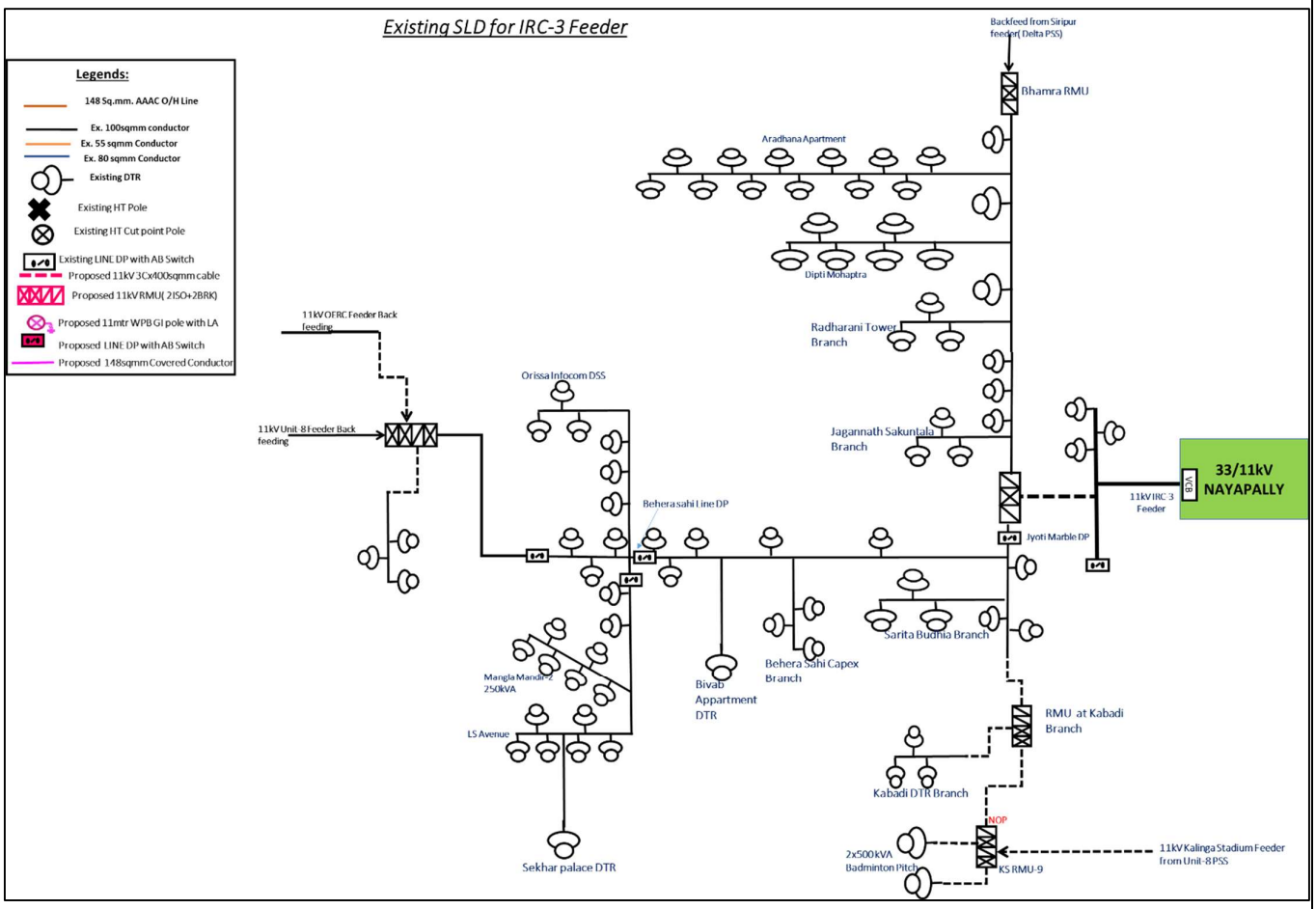
Existing SLD of Delta 33/11kV PSS:



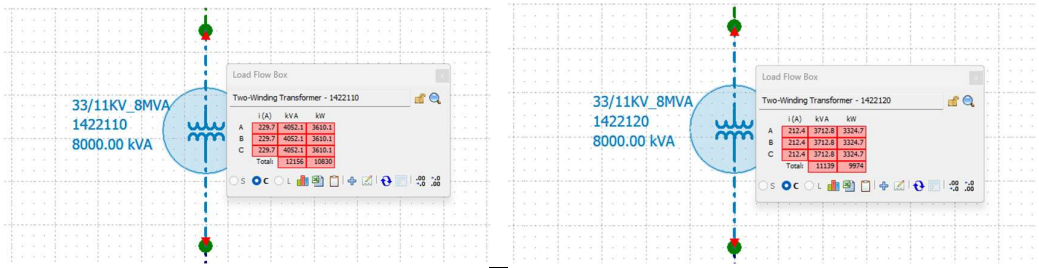
Existing SLD of 11kV Baramunda-Delta Feeder:



Existing SLD of 11kV IRC-3 Feeder:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: Due to loading of PTR in Summer'26, the 2nos. PTRs were overloaded. In order to mitigate the overloading issue, nos. 8MVA PTRs were swapped with 12.5MVA PTRs under OPEX scheme. However, the switchgear panel board is not adequate for power evacuation of 11kV feeders. So, the switchgear panel and associated accessories are taken under CAPEX to enable power evacuation from the substation. Additionally, 2nos. new 11kV feeders are proposed for power evacuation from Delta substation for overloading mitigation and 1no. 11kV feeder is proposed to cater the load of new consumer. In order to enable the power evacuation from the substation, switchgear panel board and associated accessories are proposed.

Since the 11kV Baramunda-Delta feeder and 11kV IRC-3 feeder loading has reached 81% and 121% loading respectively in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 107% and 161% respectively. In case the issue is not addressed, there will be load shedding of 5600nos. consumers for prolonged period.

Technical Justification

- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- Due to loading of PTR in Summer'26, the 2nos. PTRs were overloaded. In order to mitigate the overloading issue, nos. 8MVA PTRs were swapped with 12.5MVA PTRs under OPEX scheme. However, the switchgear panel board is not adequate for power evacuation of 11kV feeders. So, the switchgear panel and associated accessories are taken under CAPEX to enable power evacuation from the substation. Additionally, 2nos. new 11kV feeders are proposed for power evacuation from Delta substation for overloading mitigation and 1no. 11kV feeder is proposed to cater the load of new consumer. In order to enable the power evacuation from the substation, switchgear panel board and associated accessories are proposed.
- In AS IS scenario, PTR-2 loading is 86% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-2 from 5MVA to 8MVA (under OPEX) and PTR-1 from 5MVA to 12.5MVA (under OPEX). After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.

- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.
- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the 11kV Baramunda-Delta feeder is 81% loaded w.r.t the current carrying capacity and 11kV IRC-3 feeder is 121% loaded w.r.t the current carrying capacity. The feeder loadings are not N-1 complaint.

Proposed Scenario:

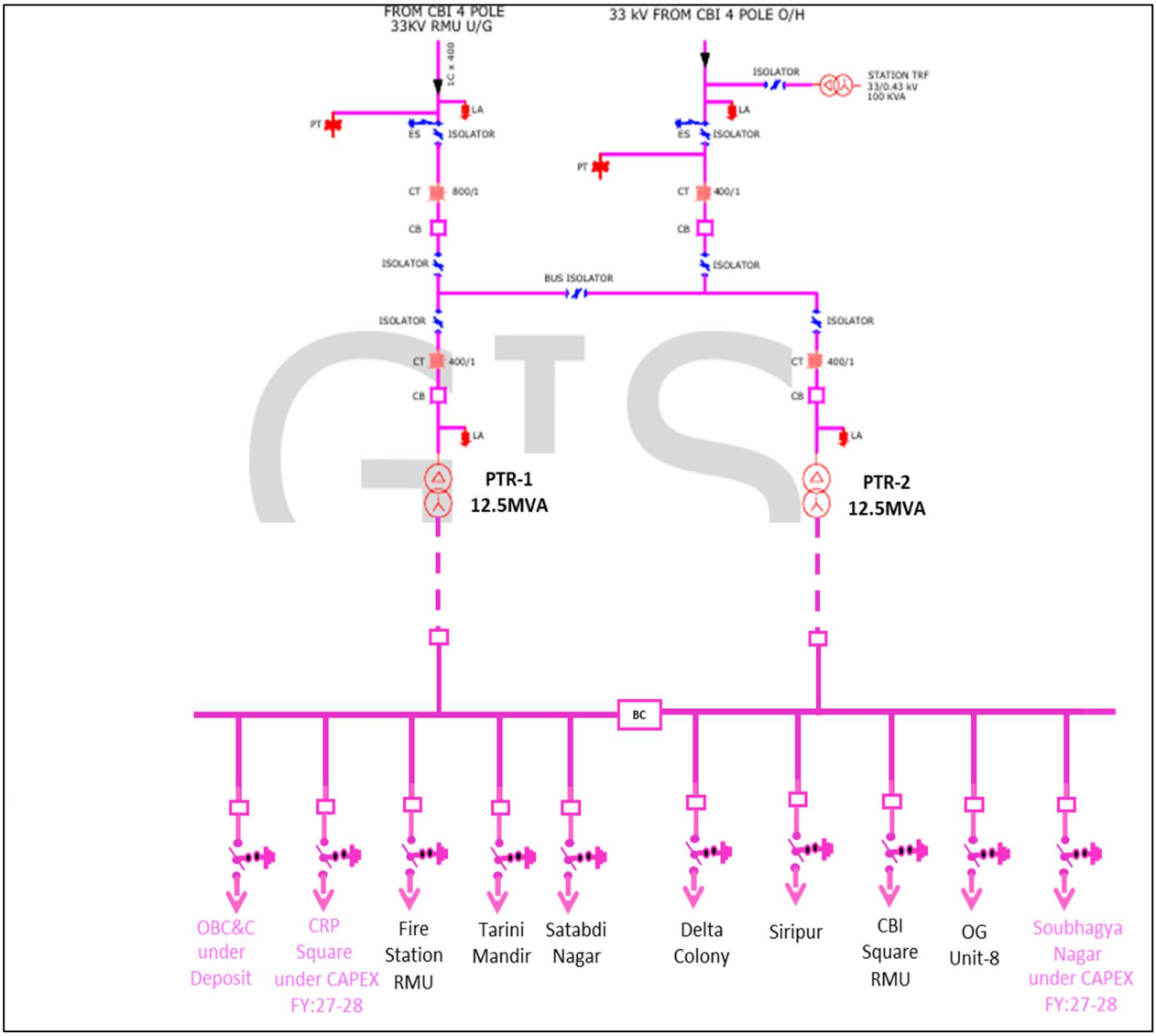
- For power evacuation in existing scenario there is no spare 11kV bay is available at Delta PSS. 11kV switchgear panel board is required to be installed at Delta PSS to facilitate power evacuation through existing and proposed 11kV outgoing feeders from the 33/11kV substation.
- Since existing control room cannot accommodate new switchgear panel, it is proposed for extension of existing control room to accommodate the switchgear panel.
- 2nos. new 11kV feeders are proposed under CAPEX FY: 2027-28, to mitigate the overloading of the 11kV feeders IRC-3 feeder (emanating from Nayapalli PSS) and 11kV Delta-Baramunda feeder (emanating from Baramunda PSS).
- It is proposed to construct of 2.4Ckm new line using 3Cx400sqmm UG cable from Delta PSS to Sushree Villa and 2Ckm new line using 3Cx400sqmm UG cable from Delta PSS to Bhamara Petrol Pump.
- 1no. new consumer of OBC&C (0.875MVA load) is proposed from new 11kV feeder bay.
- 11kV feeder reconfiguration is done to achieve better load balancing between the PTRs.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @10%) Summer'28			Projected Load (5yrs. Load Growth @10% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Delta	PTR-1	12.5	11.09	89%	70%-90%	14.76	118%	≥100%
2		PTR-2	12.5	11.15	89%	70%-90%	14.84	119%	≥100%

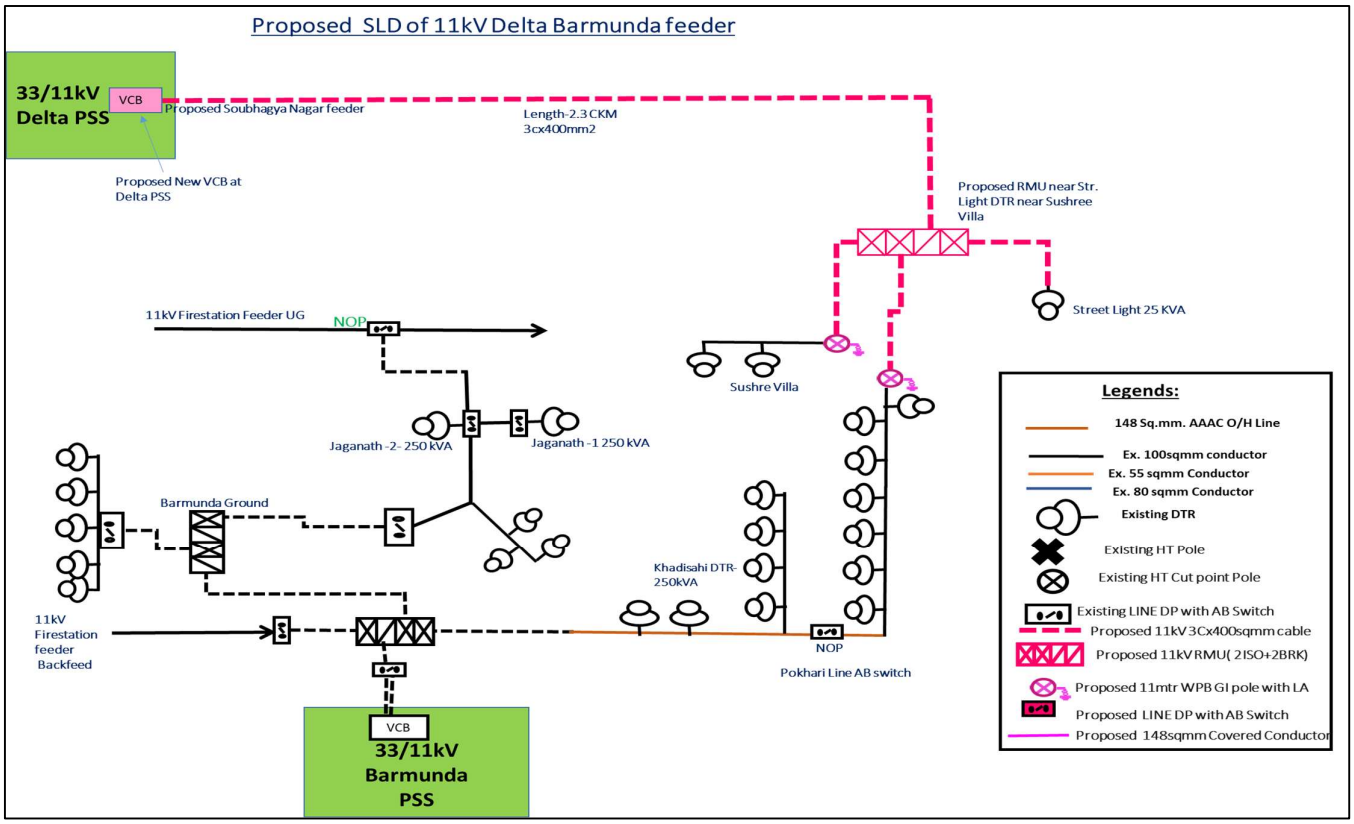
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer-28 Loading without Proposal	% Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer-28	Feeder Status
Baramunda	Baramunda-Delta	5.18	5.54	107%	3.54	68%	OK
Delta	Soubhagya Nagar	5.75	_	_	2	35%	OK

Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer-28 Loading without Proposal	% Proposed Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer-28	Feeder Status
Nayapalli	IRC-3	5.18	8.32	161%	3.82	74%	OK
Delta	Unit-8	5.18	_	_	2.00	39%	OK
Delta	CRP	5.75	_	_	2.50	43%	OK

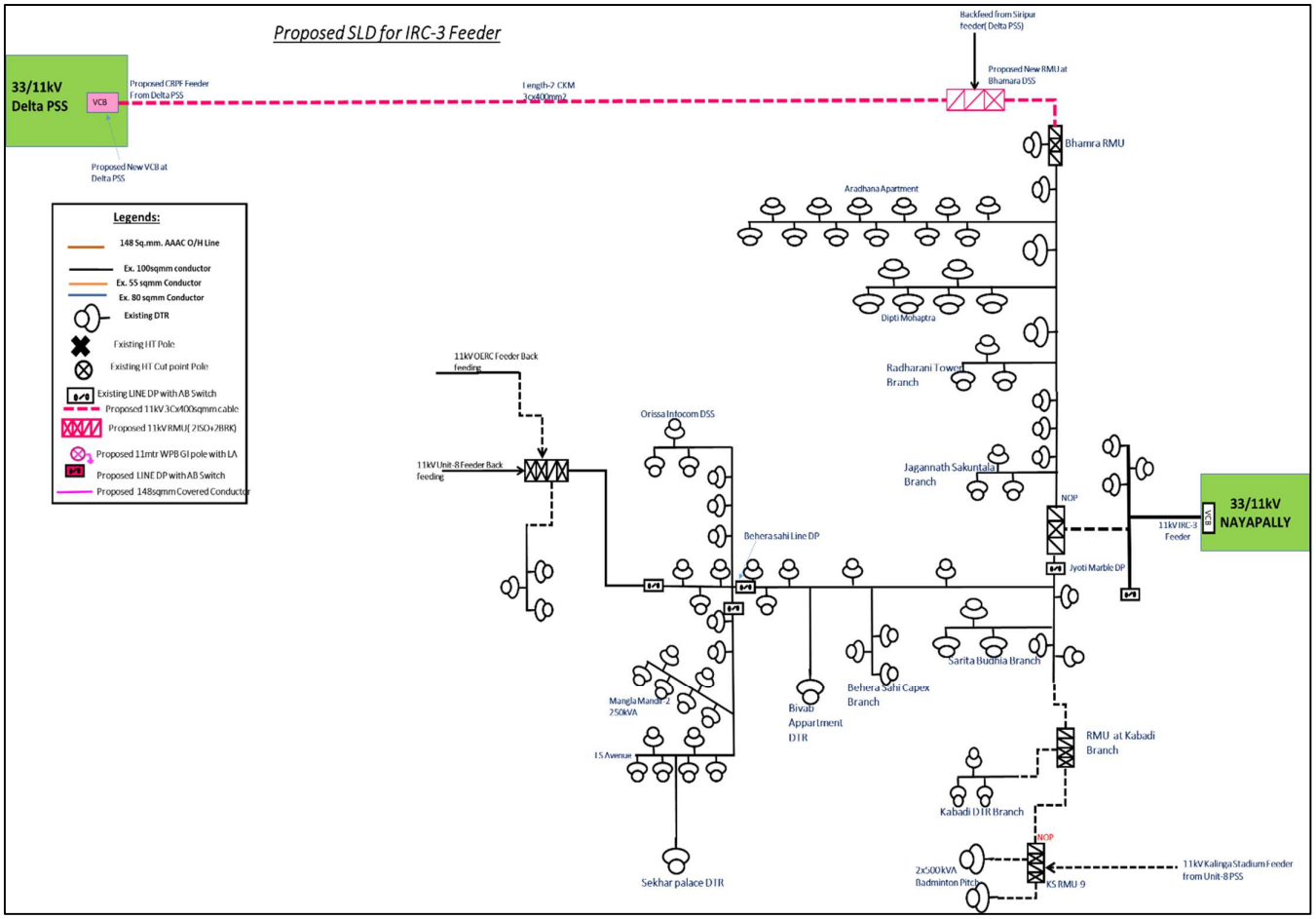
Proposed SLD of Delta 33/11kV PSS:



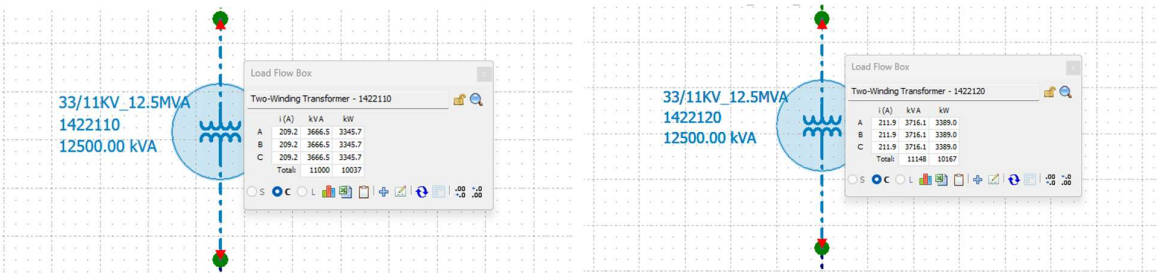
Proposed SLD of 11kV Baramuda-Delta Feeder:



Proposed SLD of 11kV IRC-3 Feeder:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Installation of 11kV switchgear panel board (15nos. Panels- 2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) at Delta 33/11kV Substation.
- Construction of 2.4Ckm new line using 3Cx400sqmm UG cable from Delta PSS to Sushree Villa and 2Ckm new line using 3Cx400sqmm UG cable from Delta PSS to Bhamara Petrol Pump.

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BCDD-1
Name of the Division :-	BCDD-1
Name of the Sub-Division : -	Sub division-1
Name of the Section : -	Delta
Name of the Work :-	A. Supply and Installation of 11 kV Panel Board along with Control Room Building extension at Delta PSS B. Proposal for Bifurcation of existing 11kV Baramunda Delta feeder. C. Proposal for Bifurcation of existing 11kV IRC-3 feeder.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
Installation of 11 kV Panel Board along with Control Room Building extension at Delta PSS	1,95,14,569.72
1. Laying of 11kV UG cable of length-2 CKM using 3Cx400mm2 XLPE UG cable from Delta PSS to near Bhamara Petrol Pump. 2. Installation of 1 No. of RMU at Bhamara Petrol Pump.	1,81,49,110.55
1. Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Delta PSS to near Sushree Villa. 2. Installation of 1 No. of RMU at St. Light DTR near Sushree Villa.	2,18,76,737.54
Total Amount	**5,95,40,417.80**
Total Amount (in Cr.)	**₹ 5.95**
Total Estimated Cost is Rs. 5.95 Cr. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 5.95cr. (For detailed BoQ refer Annexure-22.8).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Reduction of electrocution risk and public safety hazards.

e) Safe operation and isolation of the feeder.

f) Protection of electrical assets and personnel.

g) Maintain voltage and quality standards.

Benefit to the System and Consumers:

- Improved Reliability thereby overloading mitigation.
- To cater future load growth of the consumer.
- Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
- The above arrangement will help to release power supply to upcoming potential consumers.

9.0 Power Transformer overloading mitigation at Gurujanga Substation

Proposal:

Proposal for overloading mitigation of PTR-2 at Gurujanga PSS along with installation of 33kV and 11kV indoor switchgear panel board at Gurujanga 33/11kV Substation in KHD.

Requirement/ Need of the Proposal:

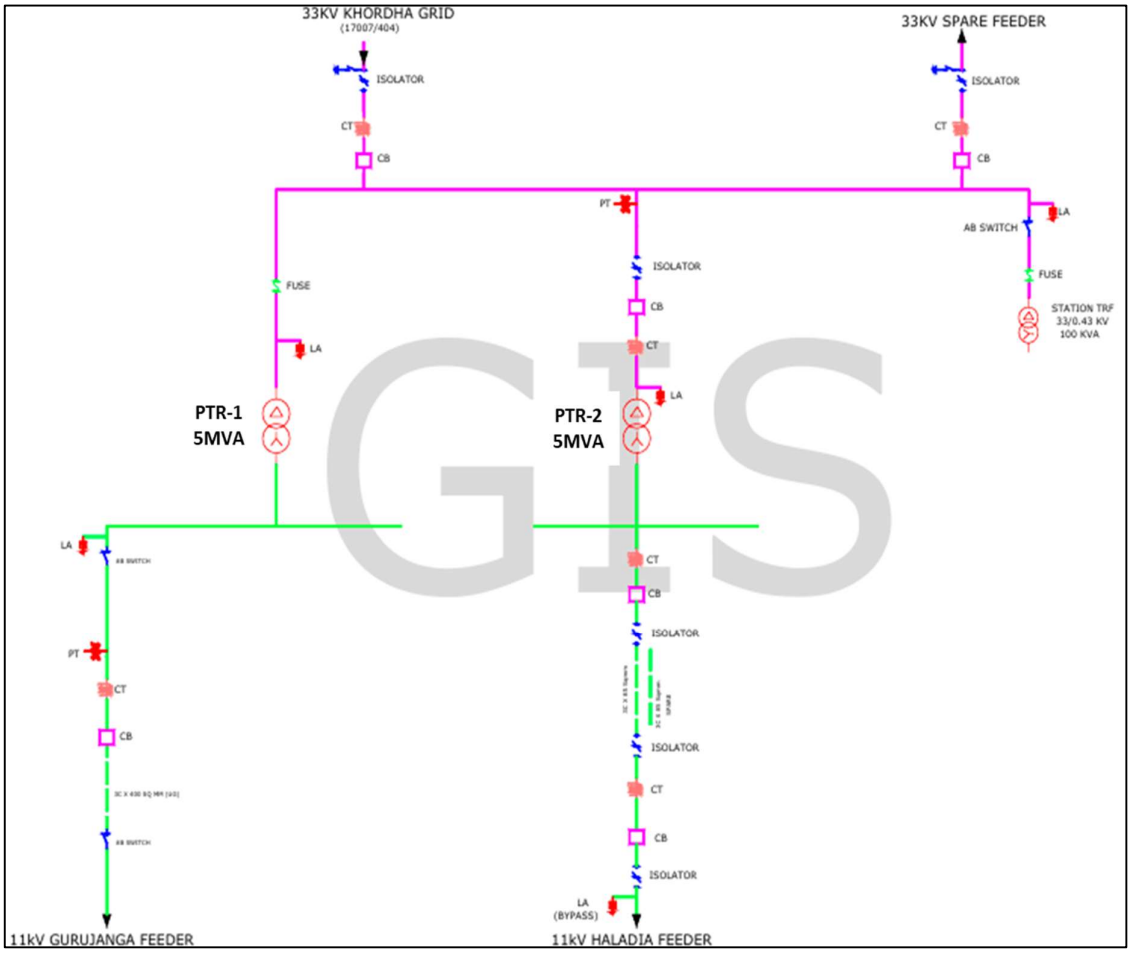
Existing Scenario:

- Loading of 33/11kV Gurujanga substation PTR-2 is 4.29MVA at peak load condition of Summer'26. Considering load growth for 2years (12% load growth per year for 2years), the projected loading of Summer'28 for PTR-2 would be 5.38MVA.
- PTR-2 will be loaded up to 108%, w.r.t, the existing transformer capacity of 5MVA in Summer'28.
- The PTR-1, 5MVA is sick and faulty.

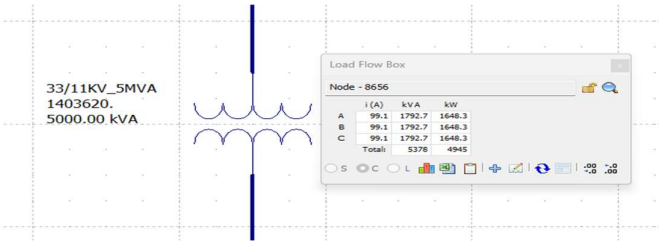
Existing Summer'26 Loading and projected load at Gurujanga PTR:

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	AS IS (Summer'26)			Projected Load (2yrs. Load Growth @12%) Summer'28		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Gurujanga	PTR-1	5	0.00	0%	0-50%	0.00	0%	0-50%
2		PTR-2	5	4.29	86%	70%-90%	5.38	108%	≥100%

Existing SLD of Gurujanga 33/11kV PSS:



Load Flow Study in Cyme Software:



Priority and Timeline of the Project:

Priority: The existing 33/11kV PTR-2 is presently loaded to 86% under the AS-IS scenario and is projected to reach 108% by Summer-2028 considering the anticipated load growth. Sustained operation at such high loading levels may result in excessive thermal stress, accelerated ageing of insulation, reduced transformer service life and increased risk of operational failures. Failure to address the projected overloading may necessitate prolonged load shedding affecting approximately 6,200 consumers during peak demand periods.

Technical Justification

- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, Power Transformer "Loading above 70% after load sharing within substation without N-1 conditions or with nearby sub-station" is required for augmentation.
- In AS IS scenario, PTR-2 loading is 86% against the installed capacity. There is no scope available for further load transfer to other PTR in the same PSS and to the nearby PSS. Moreover, with 2years load growth, the PTRs will be loaded more than 100% w.r.t the rated capacity. To avoid the overloading and failure of PTR due to continuous sustained overloading, it is proposed to augment the PTR-2 from 5MVA to 8MVA (under OPEX) and PTR-1 from 5MVA to 12.5MVA (under OPEX) along with 11kV feeder load diversion. After commissioning, other loaded PTRs load will be balanced to keep the PTR loading within limit.
- Overloading of a 33/11kV power transformer leads to excessive heating of windings and insulating oil, accelerating insulation deterioration, increasing technical losses, causing voltage drops and reducing transformer life. It can also result in frequent relay tripping, interruption of power supply, damage to associated equipment and increased risk of fire or catastrophic transformer failure. Therefore, transformer augmentation is essential to ensure reliable operation, maintain safety standards and accommodate present and future load demand.

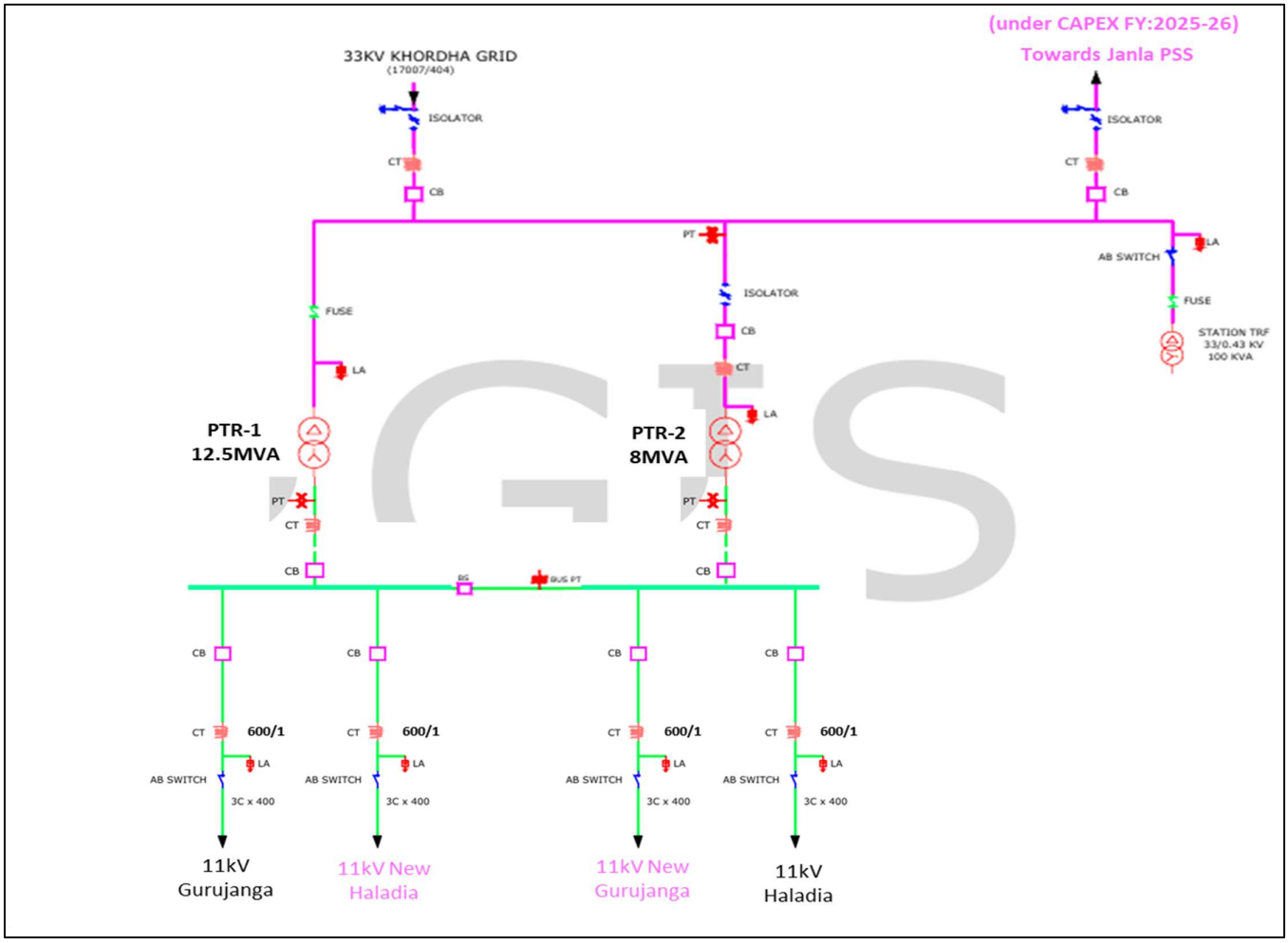
Proposed Scenario:

- PTR-2 is proposed for PTR swapping from 5MVA to 8MVA (under OPEX) and PTR-1 is proposed for PTR swapping from 5MVA to 12.5MVA (under OPEX). For power evacuation in existing scenario there is no spare 11KV bay is available at Gurujanga PSS. 11kV switchgear panel board is required to install at Gurujanga PSS to facilitate power evacuation through proposed 11kV outgoing feeders from the 33/11kV substation.
- It is proposed for swapping of 33kV switchgear panel board and 11kV switchgear panel board from 33/11kV Samanga PSS to Gurujanga PSS.

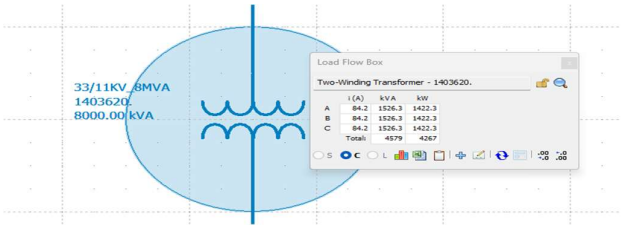
- Since existing control room cannot accommodate new switchgear, it is proposed for construction of Control Room Building to accommodate the switchgear panel.
- It is proposed to divert the load of 11kV Gurujanga feeder emanating from 33/11kV Khordha Town/ 10-Pole substation (PTR-1, 12.5MVA) of 5.03MVA load to Gurujanga PSS (under OPEX) with 2nos. feeders namely 11kv Gurujanga feeder and 11kV New Gurujanga feeder.
- Further, it is proposed for 11kV Haladia feeder bifurcation by construction 1no. new 11kV Feeder (3.5MVA) from Gurujanga PSS in order to mitigate 11kV Haladia feeder overloading mitigation (under CAPEX FY: 2026-27).
- 11kV feeder reconfiguration is done to achieve better load balancing between the PTRs.

Sl. No.	Name of 33/11kV PSS	PTR No.	PTR Rating (MVA)	Projected Load (2yrs. Load Growth @12%) Summer'28			Projected Load (5yrs. Load Growth @12% for 5years) Summer'31		
				Peak Load (MVA)	%Loading	%Loading Range	Peak Load (MVA)	%Loading	%Loading Range
1	Gurujanga	PTR-1	12.5	7.11	57%	50%-70%	9.99	80%	70%-90%
2		PTR-2	8	4.58	57%	50%-70%	6.43	80%	70%-90%

Proposed SLD of Gurujanga 33/11kV PSS:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Construction of Control Room Building.
- Installation of 33kV and 11kV Switchgear panel board.

Proposed Cost with Estimate Break-up:

Name of the Circle :-	BBSR-2
Name of the Division :-	KHD
Name of the Sub-Division : -	Khordha
Name of the Section : -	Khordha no.-2
Name of the Work :-	Construction of Control Room Building and Installation of 33kV and 11kV Panel Board at Gurujanga PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Construction of Control Room Building and Installation of 33 kV and 11 kV Panel Board at Gurujanga PSS.	2,89,66,902.85
PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.	10,86,285.91
PART- C Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS.	8,12,293.79
PART- D Construction of 3 no. of 11 kV DP with Isolator and Earth Switch at PSS.	11,67,051.26
PART E: Dismantling portion	9,04,949.85
Total Amount	**3,29,37,483.66**
Total Amount (in Cr.)	**₹ 3.29**
Total Estimated Cost is Rs. 3.29 Cr. (On TPCODL CAPEX Scheme)	

Cost Estimate: ₹ 3.29cr. (For detailed BoQ refer Annexure-22.9).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Enhanced network reliability and safety.

c) Compliance with load growth requirements.

d) Protection of electrical assets and personnel.

e) Maintain statutory voltage and quality standards.

Benefit to the System and Consumers:

- To mitigate overloading condition on power transformers.
- To cater future load growth of the consumers.
- To ensure reliable power supply o the consumers.

ANNEXURE-22.1	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-1
Name of the Sub-Division : -	Sub Division-1
Name of the Section : -	Power House-1
Name of the Work :-	Augmentation of Power Transformer (PTR-2) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Unit-8 PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-2) from 12.5 MVA to 20/25 MVA along with accessories at 33/11kV Unit-8 PSS.	3,58,92,317.10
PART B: Dismantling Portion	1,33,029.04
Total Amount	**₹ 3,60,25,346.14**
Total Amount (in Cr.)	**₹ 3.60**
Total estimated cost is Rs. 3.60 Crore. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.1

PART A:

Augmentation of Power Transformer (PTR-2) from 12.5 MVA to 20/25 MVA along with accessories at 33/11kV Unit-8 PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Transformer and Accessories**				-
1.1	20/25 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA	1.00	2,35,73,775.89	2,35,73,775.89
2	**Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	900.00	71.94	64,746.00
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	200.00	71.94	14,388.00
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	1,300.00	10,400.00
3	**33kV and 11kV Power and Control, XLPE cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	200.00	1,278.81	2,55,762.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	7,280.00	21,840.00
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	7,521.00	22,563.00
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	1,438.00	4,31,400.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,260.00	49,560.00
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,518.00	51,108.00
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	126.69	6,334.50
4.2	7 Core x 2.5 mm^2	M	50.00	203.16	10,158.00
4.3	10 Core x 2.5 mm^2	M	50.00	273.73	13,686.50
4.4	12 Core x 2.5 mm^2	M	50.00	344.91	17,245.50
4.5	16 Core x 2.5 mm2	M	50.00	400.00	20,000.00
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	147.00	7,350.00
5	11 kV Indoor CT upgradation (1600/1A) (suitable for existing GIS panel board)	Set	1.00	14,00,000.00	14,00,000.00
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,59,70,317.39**
EREC TION					-
1	**Erection, Commissioning, Testing of Transformer and RMU**				-
1.1	20/25 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories		1.00	3,40,000.00	3,40,000.00
2	**Erection, Laying of Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.15	43,660.00	6,671.31
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.08	43,660.00	3,638.33
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	3,784.73	30,277.84
3	**Laying of 33kV and 11kV Power and Control cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	200.00	96.66	19,332.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	2,129.37	6,388.11
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	2,129.37	6,388.11

3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	96.66	28,998.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.2	7 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.3	10 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.4	12 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.5	16 Core x 2.5 mm2	M	50.00	16.57	828.50
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	47.87	2,393.50
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**4,73,782.15**
					-
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,59,70,317.39**
A2	**Applicable Taxes to make it Landed Cost @18%**				**46,74,657.13**
A	**Total landed Cost (A=A1 + A2)**				**3,06,44,974.52**
B	Stock , Storage & Insurance @ 3 % of A				**9,19,349.24**
C	Sub - Total (A+B)				**3,15,64,323.76**
D	Contingency @ 3 % of C				**9,46,929.71**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**23,67,324.28**
G	**Sub - Total (C+D+E+F)**				**3,48,78,577.75**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				4,73,782.15
H2	Total Cost for CIVIL WORKS				-
H3	**Total Cost for Erection & Civil works (H1+H2)**				**4,73,782.15**
H4	**Applicable Taxes to make it Landed Cost @18%**				**85,280.79**
H	**Total landed Cost (H=H3 + H4)**				5,59,062.94
I	**Total Cost (G+H)**				3,54,37,640.69
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**3,54,37,640.69**
L	CESS @ 1% of K				3,54,376.41
M	**Total Cost (K+L)**				3,57,92,017.10
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**3,58,92,317.10**

ANNEXURE-22.1					
PART B: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	200	8.10	1,620.27
2	Dismantling of 12.5/8MVA 33/11kV PTR	EA	1	1,10,000.00	1,10,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,11,620.27**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,091.65**
A				**Total landed Cost (A=A1+ A2)**	**1,31,711.92**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,31,711.92
D				**CESS @ 1% of C**	1,317.12
E				**Grand Total (C+D)**	1,33,029.04

ANNEXURE-22.2	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-1
Name of the Division :-	BCDD-1
Name of the Sub-Division : -	Temple
Name of the Section : -	Badagada
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA and upgradation of 11kV Indoor CT suitable for existing GIS panel board along with accessories at 33/11kV Badagada PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at 33/11kV Badagada PSS.	3,58,92,317.10
PART B: Dismantling Portion	1,33,029.04
Total Amount	**₹ 3,60,25,346.14**
Total Amount (in Cr.)	**₹ 3.60**
Total estimated cost is Rs. 3.60 Crore. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.2

PART A:

Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at 33/11kV Badagada PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Transformer and Accessories**				-
1.1	20/25 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA	1.00	2,35,73,775.89	2,35,73,775.89
2	**Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	900.00	71.94	64,746.00
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	200.00	71.94	14,388.00
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	1,300.00	10,400.00
3	**33 and 11 kv Power and Control, XLPE cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	200.00	1,278.81	2,55,762.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	7,280.00	21,840.00
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	7,521.00	22,563.00
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	1,438.00	4,31,400.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,260.00	49,560.00
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,518.00	51,108.00
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	126.69	6,334.50
4.2	7 Core x 2.5 mm^2	M	50.00	203.16	10,158.00
4.3	10 Core x 2.5 mm^2	M	50.00	273.73	13,686.50
4.4	12 Core x 2.5 mm^2	M	50.00	344.91	17,245.50
4.5	16 Core x 2.5 mm2	M	50.00	400.00	20,000.00
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	147.00	7,350.00
5	11 kV Indoor CT upgradation (1600/1A) (suitable for existing GIS panel board)	Set	1.00	14,00,000.00	14,00,000.00
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,59,70,317.39**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of Transformer and RMU**				-
1.1	20/25 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories		1.00	3,40,000.00	3,40,000.00
2	**Erection, Laying of Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.15	43,660.00	6,671.31
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.08	43,660.00	3,638.33
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	3,784.73	30,277.84
3	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	200.00	96.66	19,332.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	2,129.37	6,388.11
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	2,129.37	6,388.11

3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	96.66	28,998.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.2	7 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.3	10 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.4	12 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.5	16 Core x 2.5 mm2	M	50.00	16.57	828.50
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	47.87	2,393.50
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**4,73,782.15**
					-
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,59,70,317.39**
A2	**Applicable Taxes to make it Landed Cost @18%**				**46,74,657.13**
A	**Total landed Cost (A=A1 + A2)**				**3,06,44,974.52**
B	Stock , Storage & Insurance @ 3 % of A				**9,19,349.24**
C	Sub - Total (A+B)				**3,15,64,323.76**
D	Contingency @ 3 % of C				**9,46,929.71**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**23,67,324.28**
G	**Sub - Total (C+D+E+F)**				**3,48,78,577.75**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				4,73,782.15
H2	Total Cost for CIVIL WORKS				-
H3	**Total Cost for Erection & Civil works (H1+H2)**				**4,73,782.15**
H4	**Applicable Taxes to make it Landed Cost @18%**				**85,280.79**
H	**Total landed Cost (H=H3 + H4)**				5,59,062.94
I	**Total Cost (G+H)**				3,54,37,640.69
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**3,54,37,640.69**
L	CESS @ 1% of K				3,54,376.41
M	**Total Cost (K+L)**				3,57,92,017.10
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**3,58,92,317.10**

ANNEXURE-22.2					
PART B: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	200	8.10	1,620.27
2	Dismantling of 12.5/8MVA 33/11kV PTR	EA	1	1,10,000.00	1,10,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,11,620.27**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,091.65**
A				**Total landed Cost (A=A1+ A2)**	**1,31,711.92**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,31,711.92
D				**CESS @ 1% of C**	1,317.12
E				**Grand Total (C+D)**	1,33,029.04

ANNEXURE-22.3	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	Cuttack
Name of the Division :-	AED
Name of the Sub-Division : -	Athagarh
Name of the Section : -	Athagarh-1
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16MVA along with accessories at Athagarh PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Athagarh PSS.	3,19,47,230.96
PART B: Supply & laying of 11 kV 3C, 400sqmm U/G Cable without spare run for O/G Feeders.	10,42,276.53
PART C: Dismantling portion	1,54,415.58
Total Amount	**₹ 3,31,43,923.06**
Total Amount (in Cr.)	**₹ 3.31**
Total estimated cost is Rs. 3.31 Crore. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.3

PART A:

Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Athagarh PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Transformer and Accessories**				-
1.1	12.5/16 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA	1.00	1,92,15,911.00	1,92,15,911.00
2	**Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	900.00	71.94	64,746.00
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	200.00	71.94	14,388.00
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	1,300.00	10,400.00
3	**33 and 11 kv Power and Control, XLPE cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	200.00	1,278.81	2,55,762.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	7,280.00	21,840.00
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	7,521.00	22,563.00
8.5	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf	EA		2,060.00	-
8.6	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf (Touchproof)	EA		1,830.00	-
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	300.00	1,438.00	4,31,400.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,260.00	49,560.00
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,518.00	51,108.00
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	126.69	6,334.50
4.2	7 Core x 2.5 mm^2	M	50.00	203.16	10,158.00
4.3	10 Core x 2.5 mm^2	M	50.00	273.73	13,686.50
4.4	12 Core x 2.5 mm^2	M	50.00	344.91	17,245.50
4.5	16 Core x 2.5 mm2	M	50.00	400.00	20,000.00
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	147.00	7,350.00
5	11 kV Out door CT Set	Set	1.00	1,50,000.00	1,50,000.00
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,03,62,452.50**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of Transformer and RMU**				-
1.1	12.5/16 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories		1.00	3,40,000.00	3,40,000.00
2	**Erection, Laying of Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.15	43,660.00	6,671.31
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.08	43,660.00	3,638.33
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	3,784.73	30,277.84
3	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	200.00	96.66	19,332.00

3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	2,129.37	6,388.11
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	2,129.37	6,388.11
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	300.00	96.66	28,998.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.2	7 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.3	10 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.4	12 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.5	16 Core x 2.5 mm2	M	50.00	16.57	828.50
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	47.87	2,393.50
5	Erection of 11 kV Outdoor CT Set	Set	1.00	15,000.00	15,000.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**4,88,782.15**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	PTR Foundation suitable for 20 MVA Power Transformer	EA	1.00	8,00,000.00	8,00,000.00
2	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
3	RCC CABLE TRENCH	RM	50.00	26,500.00	13,25,000.00
4	Chainlink Fencing of Switchyard	RM	20.00	4,570.00	91,400.00
5	BOT AND NIFPS FOUNDATION	EA	1.00	3,91,000.00	3,91,000.00
	Sub-Total for CIVIL WORKS (In Rs.)				**30,57,400.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,03,62,452.50**
A2	**Applicable Taxes to make it Landed Cost @18%**				**36,65,241.45**
A	**Total landed Cost (A=A1 + A2)**				**2,40,27,693.95**
B	Stock , Storage & Insurance @ 3 % of A				**7,20,830.82**
C	Sub - Total (A+B)				**2,47,48,524.77**
D	Contingency @ 3 % of C				**7,42,455.74**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**18,56,139.36**
G	**Sub - Total (C+D+E+F)**				**2,73,47,119.87**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				4,88,782.15
H2	Total Cost for CIVIL WORKS				30,57,400.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**35,46,182.15**
H4	**Applicable Taxes to make it Landed Cost @18%**				**6,38,312.79**
H	**Total landed Cost (H=H3 + H4)**				41,84,494.94
I	**Total Cost (G+H)**				3,15,31,614.81
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**3,15,31,614.81**
L	CESS @ 1% of K				3,15,316.15
M	**Total Cost (K+L)**				3,18,46,930.96
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**3,19,47,230.96**

ANNEXURE-22.3

PART B: Supply & laying of 11 kV 3C, 400sqmm U/G Cable without spare run for O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***287***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	287	2,375.00	6,81,625.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**7,26,265.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	287	110.00	31,570.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**47,570.00**

A1	**Sub Total (Supply Portion)**	**7,26,265.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,30,727.70**
A	**Total Landed Cost (A=A1 + A2)**	**8,56,992.70**
B	Stock, Storage & Insurance @ 3 % of A	25,709.78
C	**Sub Total (A+B)**	**8,82,702.48**
D	Contingency @ 3 % of C	26,481.07
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	66,202.69
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**9,75,386.24**
I1	Sub Total (Erection Portion + Civil Portion)	47,570.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**8,562.60**
I	**Total landed Cost (I=I1+ I2)**	**56,132.60**
J	**Total Cost (H+I)**	**10,31,518.84**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**10,31,518.84**
M	CESS 1% of L	10,315.19
N	**Grand Total (L+M)**	**10,41,834.03**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	-
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**10,42,276.53**

ANNEXURE-22.3					
PART C: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	200	8.10	1,620.27
2	Dismantling of 12.5/8MVA 33/11kV PTR	EA	1	1,10,000.00	1,10,000.00
3	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,29,565.01**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,321.70**
A				**Total landed Cost (A=A1+ A2)**	**1,52,886.71**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,52,886.71
D				**CESS @ 1% of C**	1,528.87
E				**Grand Total (C+D)**	1,54,415.58

ANNEXURE-22.4	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-2
Name of the Division :-	PED
Name of the Sub-Division : -	Puri S/D-2
Name of the Section : -	Sadar
Name of the Work :-	Installation of 1 No. of 16/20 MVA PTR, 33kV and 11kV Switchgear Panel Board along with expansion of existing Control Room Building at Samanga PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Installation of 1 No. of 16/20 MVA PTR, 33kV and 11kV Switchgear Panel Board along with expansion of existing Control Room Building at Samanga PSS.	8,53,61,181.95
PART B: Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders.	14,21,551.91
PART C: Dismantling portion	6,68,607.41
Total Amount	**₹ 8,74,51,341.28**
Total Amount (in Cr.)	**₹ 8.75**
Total estimated cost is Rs. 8.75 Crore. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.4

PART A:

Installation of 1 No. of 16/20 MVA PTR, 33kV and 11kV Switchgear Panel Board along with expansion of existing Control Room Building at Samanga PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**33 kV Indoor Switch Panel Board**				
1.1	33 kV 1250 A Indoor AIS Panel Board with 12 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA	1.00	1,10,43,128.00	1,10,43,128.00
2	**11 kV Indoor Switch Panel Board**				-
2.1	11kv 2000A VCB with 16 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA	1.00	1,16,19,630.00	1,16,19,630.00
3	**SCADA**		1.00		-
4.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
4.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
4.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
4.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
4.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
4.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
4.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
4.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
4.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
4.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
4.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
4.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
4.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
4.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
4.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
4.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
4.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
5	**Transformer and Accessories**				-
6	16/20 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA	1.00	2,16,61,981.00	2,16,61,981.00
5.1	RTCC UNIT DC 24-48V	EA	2.00	3,00,000.00	6,00,000.00
6	**Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	20615.00	71.94	14,83,043.10
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	3600.00	71.94	2,58,984.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	1,300.00	52,000.00
7	**33, 11 and Station Trf Structure**				-
7.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	77.62	41,293.84
7.2	(100 x 50 x5) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	77.62	17,809.13
7.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	90.00	45,000.00
7.4	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	613.86	6,138.60
7.5	LTDB for 100KVA, 33/0.433kV Station Transformer	EA	1.00	32,714.34	32,714.34

8	**33 and 11 kv Power and Control, XLPE cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	1,278.81	7,67,286.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	7,280.00	65,520.00
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	7,521.00	67,689.00
8.4	Supply of 33kV, 3Core, 95sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA) For Station Trf	M	50.00	1,757.00	87,850.00
8.5	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf	EA	2.00	2,060.00	4,120.00
8.6	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf (Touchproof)	EA	2.00	1,830.00	3,660.00
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	600.00	1,438.00	8,62,800.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,260.00	74,340.00
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,518.00	76,662.00
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	200.00	126.69	25,338.00
9.2	7 Core x 2.5 mm^2	M	200.00	203.16	40,632.00
9.3	10 Core x 2.5 mm^2	M	200.00	273.73	54,746.00
9.4	12 Core x 2.5 mm^2	M	200.00	344.91	68,982.00
9.5	16 Core x 2.5 mm2	M	200.00	400.00	80,000.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	200.00	147.00	29,400.00
10	**1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	805.08	40,254.00
10.2	XLPE 4 Core x 95 mm2	M	50.00	499.41	24,970.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	268.02	13,401.00
10.4	XLPE 4 Core 16 mm2	M	50.00	125.29	6,264.50
10.5	XLPE 2 Core 16 mm2	M	50.00	62.53	3,126.50
11	**Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**5,07,00,701.60**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of 33kV Equipment for (INDOOR Sub-Station)**				-
1.1	33 kV 1250 A Indoor AIS Panle Board with 12 nos. of Switchgear Panel (3 Nos. for incoming, 2 Nos. of PTR, 2 Nos. for Bus Coupler, 3 Nos. for Bus PT) as per technical specification	EA	1.00	9,60,000.00	9,60,000.00
3	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
3.1	11kv 2000A VCB with 16 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT) as per technical specification	EA	1.00	12,32,000.00	12,32,000.00
4	**Erection, Commissioning, Testing of SCADA**				-
4.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
5	**Erection, Commissioning, Testing of Transformer and RMU**				-
5.1	7.5/ 8 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories	EA	1.00	3,00,000.00	3,00,000.00
5.2	20/25 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories		1.00	3,40,000.00	3,40,000.00
5.2	100 KVA 11/0.433kV Energy efficient Station Transformer along with HT & LT cable connection	EA	1.00	10,229.00	10,229.00
5.3	ITC RTCC UNIT DC 24-48V	EA	1.00	10,000.00	10,000.00

5.4	Services of FRTU Panel, Communication and Other Supplied System	EA	1.00	6,755.00	6,755.00
6	**Erection, Laying of Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	3.50	43,660.00	1,52,810.00
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	1.50	43,660.00	65,490.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	3,784.73	1,51,389.20
7	**Erection of System GI 33, 11 and Station Trf Structure**				-
7.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	13.50	7,182.00
7.2	(100 x 50 x6) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	27.62	6,337.13
7.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	135.00	67,500.00
7.4	Supply & Erection of GI Pipe of dia. 150mm, Class-B	M	200.00	1,496.91	2,99,382.00
7.5	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	306.87	3,068.70
7.6	LTDB for 100KVA, 33/0.433kV Station Transformer along with all cable connection & fixing	EA	1.00	748.76	748.76
8	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	600.00	96.66	57,996.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	2,129.37	19,164.33
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	2,129.37	19,164.33
8.4	Laying, Commissioning & Testing of 33kV, 3Core, 1Run, 95sqmm, XLPE insulation (extruted type) UG cable with spare by open trench method.	M	50.00	100.17	5,008.50
8.5	Erection of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.6	Erection of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	600.00	96.66	57,996.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.2	7 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.3	10 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.4	12 Core x 2.5 mm^2	M	200.00	16.57	3,314.00
9.5	16 Core x 2.5 mm2	M	200.00	16.57	3,314.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	200.00	47.87	9,574.00
10	**Laying of 1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	50.00	73.65	3,682.50
10.2	XLPE 4 Core x 95 mm2	M	50.00	47.87	2,393.50
10.3	XLPE 4 Core x 35 mm2	M	50.00	47.87	2,393.50
10.4	XLPE 4 Core 16 mm2	M	50.00	47.87	2,393.50
10.5	XLPE 2 Core 16 mm2	M	50.00	47.87	2,393.50
11	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00

13	**Fire Detection Alarm System**				-
13.1	SITC of Main Fire ALARM Control Panel (Ul /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
13.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96
13.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
13.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
13.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
13.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
13.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
13.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
13.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50
13.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
13.11	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**43,62,285.29**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	Construction of 100kVA 11/0.4 kV station Trf. Plinth	EA	1.00	2,15,000.00	2,15,000.00
2	Extension of existing Control Room	LS	1.00	50,00,000.00	50,00,000.00
3	PTR Foundation suitable for 20 MVA Power Transformer	EA	1.00	8,00,000.00	8,00,000.00
4	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
5	RCC CABLE TRENCH	RM	50.00	26,500.00	13,25,000.00
6	ROAD WORK	RM	30.00	11,500.00	3,45,000.00
7	Chainlink Fencing of Switchyard	RM	100.00	4,570.00	4,57,000.00
8	Compound Wall	RM	20.00	17,520.00	3,50,400.00
9	BOT AND NIFPS FOUNDATION	EA	1.00	3,91,000.00	3,91,000.00
10	Area Development work with Filling for (50X40X2mtr)	Sqm	100.00	1,389.00	1,38,900.00
	Sub-Total for CIVIL WORKS (In Rs.)				**94,72,300.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**5,07,00,701.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**91,26,126.29**
A	**Total landed Cost (A=A1 + A2)**				**5,98,26,827.89**
B	Stock , Storage & Insurance @ 3 % of A				**17,94,804.84**
C	Sub - Total (A+B)				**6,16,21,632.73**
D	Contingency @ 3 % of C				**18,48,648.98**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**46,21,622.45**
G	**Sub - Total (C+D+E+F)**				**6,80,91,904.17**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				43,62,285.29
H2	Total Cost for CIVIL WORKS				94,72,300.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**1,38,34,585.29**

H4	**Applicable Taxes to make it Landed Cost @18%**	**24,90,225.35**
H	**Total landed Cost (H=H3 + H4)**	1,63,24,810.64
I	**Total Cost (G+H)**	8,44,16,714.81
J	Other Overhead /(including Supervision Charges) @ 6 % of I	
K	Total Estimated Capital Cost i.e. I+J	**8,44,16,714.81**
L	CESS @ 1% of K	8,44,167.15
M	**Total Cost (K+L)**	8,52,60,881.95
N	Inspection Charges (As per Gov. Notification)	85,000.00
O	GST @ 18% of N	15,300.00
P	Total Inspection Charges with GST (N+O)	1,00,300.00
Q	**Total Estimate to be deposit (M+P)**	**8,53,61,181.95**

ANNEXURE-22.4

PART B: Supply & laying of 0.4 KM 11 kV 3C, 400sqmm U/G Cable without spare run for 11 kV O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***400***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	400	2,375.00	9,50,000.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**9,94,640.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	400	110.00	44,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**60,000.00**
	Sub Total (Civil Portion) (in Rs.)				**-**
A1	**Sub Total (Supply Portion)**				**9,94,640.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,79,035.20**
A	**Total Landed Cost (A=A1 + A2)**				**11,73,675.20**
B	Stock, Storage & Insurance @ 3 % of A				35,210.26
C	**Sub Total (A+B)**				**12,08,885.46**
D	Contingency @ 3 % of C				36,266.56
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				90,666.41
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**13,35,818.43**

I1	Sub Total (Erection Portion + Civil Portion)	60,000.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**10,800.00**
I	**Total landed Cost (I=I1+ I2)**	**70,800.00**
J	**Total Cost (H+I)**	**14,06,618.43**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**14,06,618.43**
M	CESS 1% of L	14,066.18
N	**Grand Total (L+M)**	**14,20,684.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	360.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**735.00**
T	GST @ 18% on Total Inspection Fees (S)	132.30
U	Total Inspection Fees including GST (S+T)	867.30
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**14,21,551.91**

ANNEXURE-22.4

PART C: Dismantling portion

SL. No.	Description	Unit	Quantity	Rate	Amount
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	5000	8.10	40,506.84
2	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer below 100KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1	3,262.64	3,262.64
3	Dismantling of 12.5/8MVA 33/11kV PTR	EA	2	1,10,000.00	2,20,000.00
4	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	11	18,003.04	1,98,033.44
5	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
6	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	5	1,200.00	6,000.00
7	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
8	Dismantling of Lightening Arrester(LA	EA	12	162.12	1,945.44
A1	**Sub Total (Civil Portion) (in Rs.)**				**5,61,006.39**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,00,981.15**
A	**Total landed Cost (A=A1+ A2)**				**6,61,987.53**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				6,61,987.53
D	**CESS @ 1% of C**				6,619.88
E	**Grand Total (C+D)**				6,68,607.41

ANNEXURE-22.5	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-2
Name of the Division :-	PED
Name of the Sub-Division : -	Puri S/D-1
Name of the Section : -	Baliapanda
Name of the Work :-	Augmentation of Power Transformer (PTR-3) from 8 MVA to 16/20 MVA along with accessories at Baliapanda PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-3) from 8 MVA to 16/20 MVA along with accessories at Baliapanda PSS.	3,27,84,820.84
PART B: Dismantling portion	1,54,415.58
Total Amount	**₹ 3,29,39,236.42**
Total Amount (in Cr.)	**₹ 3.29**
Total Estimated Cost is Rs. 3.29 Cr. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.5

PART A:

Augmentation of Power Transformer (PTR-3) from 8 MVA to 16/20 MVA along with accessories at Baliapanda PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Transformer and Accessories**				-
1.1	16/20 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA	1.00	2,16,61,981.00	2,16,61,981.00
2	**Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	700.00	71.94	50,358.00
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	150.00	71.94	10,791.00
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	1,300.00	10,400.00
3	**33 and 11 kv Power and Control, XLPE cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	150.00	1,278.81	1,91,821.50
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	7,280.00	21,840.00
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	7,521.00	22,563.00
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	200.00	1,438.00	2,87,600.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,260.00	49,560.00
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,518.00	51,108.00
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	126.69	6,334.50
4.2	7 Core x 2.5 mm^2	M	50.00	203.16	10,158.00
4.3	10 Core x 2.5 mm^2	M	50.00	273.73	13,686.50
4.4	12 Core x 2.5 mm^2	M	50.00	344.91	17,245.50
4.5	16 Core x 2.5 mm2	M	50.00	400.00	20,000.00
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	147.00	7,350.00
5	11 kV Out door CT Set	Set	1.00	1,50,000.00	1,50,000.00
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,25,82,797.00**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of Transformer and RMU**				-
1.1	20 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories		1.00	3,40,000.00	3,40,000.00
2	**Erection, Laying of Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.12	43,660.00	5,188.79
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.06	43,660.00	2,728.75
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	3,784.73	30,277.84
3	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	150.00	96.66	14,499.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	2,129.37	6,388.11

3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	2,129.37	6,388.11
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	200.00	96.66	19,332.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.2	7 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.3	10 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.4	12 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.5	16 Core x 2.5 mm2	M	50.00	16.57	828.50
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	47.87	2,393.50
5	Erection of 11 kV Outdoor CT Set	Set	1.00	15,000.00	15,000.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**4,71,891.06**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	PTR Foundation suitable for 20 MVA Power Transformer	EA	1.00	8,00,000.00	8,00,000.00
2	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
	Sub-Total for CIVIL WORKS (In Rs.)				**12,50,000.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,25,82,797.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**40,64,903.46**
A	**Total landed Cost (A=A1 + A2)**				**2,66,47,700.46**
B	Stock , Storage & Insurance @ 3 % of A				**7,99,431.01**
C	Sub - Total (A+B)				**2,74,47,131.47**
D	Contingency @ 3 % of C				**8,23,413.94**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**20,58,534.86**
G	**Sub - Total (C+D+E+F)**				**3,03,29,080.28**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				4,71,891.06
H2	Total Cost for CIVIL WORKS				12,50,000.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**17,21,891.06**
H4	**Applicable Taxes to make it Landed Cost @18%**				**3,09,940.39**
H	**Total landed Cost (H=H3 + H4)**				20,31,831.45
I	**Total Cost (G+H)**				3,23,60,911.72
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**3,23,60,911.72**
L	CESS @ 1% of K				3,23,609.12
M	**Total Cost (K+L)**				3,26,84,520.84
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**3,27,84,820.84**

ANNEXURE-22.5					
PART B: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	200	8.10	1,620.27
2	Dismantling of 12.5/8MVA 33/11kV PTR	EA	1	1,10,000.00	1,10,000.00
3	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
A1	**Sub Total (Civil Portion) (in Rs.)**				**1,29,565.01**
A2	**Applicable Taxes to make it Landed Cost @18%**				**23,321.70**
A	**Total landed Cost (A=A1+ A2)**				**1,52,886.71**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				1,52,886.71
D	**CESS @ 1% of C**				1,528.87
E	**Grand Total (C+D)**				1,54,415.58

ANNEXURE-22.6	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-2
Name of the Division :-	KHD
Name of the Sub-Division : -	Khordha
Name of the Section : -	Khordha no.-1
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at Khorda-10 Pole PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at Khorda 10 Pole PSS.	3,73,48,473.23
PART C: Dismantling portion	1,33,029.04
Total Amount	**₹ 3,74,81,502.28**
Total Amount (in Cr.)	**₹ 3.75**
Total Estimated Cost is Rs. 3.75 Cr. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.6

PART A:
Augmentation of Power Transformer (PTR-1) from 12.5 MVA to 20/25 MVA along with accessories at Khorda 10 Pole PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Transformer and Accessories**				-
1.1	20/25 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System	EA	1.00	2,35,73,775.89	2,35,73,775.89
2	**Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	900.00	71.94	64,746.00
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	200.00	71.94	14,388.00
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	1,300.00	10,400.00
3	**33 and 11 kv Power and Control, XLPE cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	200.00	1,278.81	2,55,762.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	7,280.00	21,840.00
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	7,521.00	22,563.00
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	300.00	1,438.00	4,31,400.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,260.00	49,560.00
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,518.00	51,108.00
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	126.69	6,334.50
4.2	7 Core x 2.5 mm^2	M	50.00	203.16	10,158.00
4.3	10 Core x 2.5 mm^2	M	50.00	273.73	13,686.50
4.4	12 Core x 2.5 mm^2	M	50.00	344.91	17,245.50
4.5	16 Core x 2.5 mm2	M	50.00	400.00	20,000.00
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	147.00	7,350.00
5	11 kV Out door CT Set	Set	1.00	1,50,000.00	1,50,000.00
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,47,20,317.39**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of Transformer and RMU**				-
1.1	20/25 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories		1.00	3,40,000.00	3,40,000.00
2	**Erection, Laying of Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.15	43,660.00	6,671.31
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.08	43,660.00	3,638.33
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	3,784.73	30,277.84
3	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	200.00	96.66	19,332.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	2,129.37	6,388.11
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	2,129.37	6,388.11

3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	300.00	96.66	28,998.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.2	7 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.3	10 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.4	12 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.5	16 Core x 2.5 mm2	M	50.00	16.57	828.50
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	47.87	2,393.50
5.00	Erection of 11 kV Outdoor CT Set	Set	1.00	15,000.00	15,000.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**4,88,782.15**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	PTR Foundation suitable for 20 MVA Power Transformer	EA	1.00	8,00,000.00	8,00,000.00
2	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
3	RCC CABLE TRENCH	RM	20.00	26,500.00	5,30,000.00
4	ROAD WORK	RM	20.00	11,500.00	2,30,000.00
5	Chainlink Fencing of Switchyard	RM	50.00	4,570.00	2,28,500.00
6	BOT AND NIFPS FOUNDATION	EA	1.00	3,91,000.00	3,91,000.00
	Sub-Total for CIVIL WORKS (In Rs.)				**26,29,500.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,47,20,317.39**
A2	**Applicable Taxes to make it Landed Cost @18%**				**44,49,657.13**
A	**Total landed Cost (A=A1 + A2)**				**2,91,69,974.52**
B	Stock , Storage & Insurance @ 3 % of A				**8,75,099.24**
C	Sub - Total (A+B)				**3,00,45,073.76**
D	Contingency @ 3 % of C				**9,01,352.21**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**22,53,380.53**
G	**Sub - Total (C+D+E+F)**				**3,31,99,806.50**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				4,88,782.15
H2	Total Cost for CIVIL WORKS				26,29,500.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**31,18,282.15**
H4	**Applicable Taxes to make it Landed Cost @18%**				**5,61,290.79**
H	**Total landed Cost (H=H3 + H4)**				36,79,572.94
I	**Total Cost (G+H)**				3,68,79,379.44
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**3,68,79,379.44**
L	CESS @ 1% of K				3,68,793.79
M	**Total Cost (K+L)**				3,72,48,173.23
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**3,73,48,473.23**

ANNEXURE-22.6

PART B: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	200	8.10	1,620.27
2	Dismantling of 12.5/8MVA 33/11kV PTR	EA	1	1,10,000.00	1,10,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,11,620.27**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,091.65**
A				**Total landed Cost (A=A1+ A2)**	**1,31,711.92**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,31,711.92
D				**CESS @ 1% of C**	1,317.12
E				**Grand Total (C+D)**	1,33,029.04

ANNEXURE-22.7	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-2
Name of the Division :-	BAED
Name of the Sub-Division : -	Balugaon
Name of the Section : -	Balugaon
Name of the Work :-	Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Balugaon PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Balugaon PSS.	4,34,08,056.48
PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable without spare run for O/G Feeders.	11,25,671.41
PART C: Dismantling portion	1,54,415.58
Total Amount	**₹ 4,46,88,143.46**
Total Amount (in Cr.)	**₹ 4.47**
Total Estimated Cost is Rs. 4.47 Cr. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.7

PART A:

Augmentation of Power Transformer (PTR-1) from 8 MVA to 12.5/16 MVA along with accessories at Balugaon PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Transformer and Accessories**				-
1.1	12.5/16 MVA, 33/11kV Power Transformer DYn11 (Outdoor Installation) with Accessories including NIDS System		1.00	1,92,15,911.00	1,92,15,911.00
2	**Substation Earthing System GI**				-
2.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	900.00	71.94	64,746.00
2.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	200.00	71.94	14,388.00
2.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	1,300.00	10,400.00
3	**33 and 11 kv Power and Control, XLPE cables**				-
3.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	200.00	1,278.81	2,55,762.00
3.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	7,280.00	21,840.00
3.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	7,521.00	22,563.00
3.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	1,438.00	4,31,400.00
3.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,260.00	49,560.00
3.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	8,518.00	51,108.00
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	126.69	6,334.50
4.2	7 Core x 2.5 mm^2	M	50.00	203.16	10,158.00
4.3	10 Core x 2.5 mm^2	M	50.00	273.73	13,686.50
4.4	12 Core x 2.5 mm^2	M	50.00	344.91	17,245.50
4.5	16 Core x 2.5 mm2	M	50.00	400.00	20,000.00
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	147.00	7,350.00
5	11 kV Out door CT Set	Set	1.00	1,50,000.00	1,50,000.00
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**2,03,62,452.50**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
1.1	11kV Switchgear panel board	EA	1.00	19,25,000.00	19,25,000.00
2	**Erection, Commissioning, Testing of Transformer and RMU**				-
2.1	20 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories		1.00	3,40,000.00	3,40,000.00
3	**Erection, Laying of Substation Earthing System GI**				-
3.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.15	43,660.00	6,671.31
3.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.08	43,660.00	3,638.33
3.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	8.00	3,784.73	30,277.84
4	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
4.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	200.00	96.66	19,332.00

4.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	3.00	2,129.37	6,388.11
4.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	3.00	2,129.37	6,388.11
4.4	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300.00	96.66	28,998.00
4.5	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
4.6	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	6.00	2,129.37	12,776.23
5	**Control Cables (Copper Armoured)**				-
5.1	4 Core x 2.5 mm^2	M	50.00	16.57	828.50
5.2	7 Core x 2.5 mm^2	M	50.00	16.57	828.50
5.3	10 Core x 2.5 mm^2	M	50.00	16.57	828.50
5.4	12 Core x 2.5 mm^2	M	50.00	16.57	828.50
5.5	16 Core x 2.5 mm2	M	50.00	16.57	828.50
5.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	47.87	2,393.50
6	Erection of 11 kV Outdoor CT Set	Set	1.00	15,000.00	15,000.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**24,13,782.15**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	**CONTROL ROOM BUILDING ALONG WITH ALL INTERNAL SERVICE (Area 22mtrX12mtr)**	EA	1.00	76,00,000.00	76,00,000.00
2	PTR Foundation suitable for 20 MVA Power Transformer	EA	1.00	8,00,000.00	8,00,000.00
3	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
4	RCC CABLE TRENCH	RM	50.00	26,500.00	13,25,000.00
5	Chainlink Fencing of Switchyard	RM	40.00	4,570.00	1,82,800.00
6	BOT AND NIFPS FOUNDATION	EA	1.00	3,91,000.00	3,91,000.00
	Sub-Total for CIVIL WORKS (In Rs.)				**1,07,48,800.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**2,03,62,452.50**
A2	**Applicable Taxes to make it Landed Cost @18%**				**36,65,241.45**
A	**Total landed Cost (A=A1 + A2)**				**2,40,27,693.95**
B	Stock , Storage & Insurance @ 3 % of A				**7,20,830.82**
C	Sub - Total (A+B)				**2,47,48,524.77**
D	Contingency @ 3 % of C				**7,42,455.74**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**18,56,139.36**
G	**Sub - Total (C+D+E+F)**				**2,73,47,119.87**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				24,13,782.15
H2	Total Cost for CIVIL WORKS				1,07,48,800.00
H3	**Total Cost for Erection & Civil works (H1+H2)**				**1,31,62,582.15**
H4	**Applicable Taxes to make it Landed Cost @18%**				**23,69,264.79**
H	**Total landed Cost (H=H3 + H4)**				1,55,31,846.94
I	**Total Cost (G+H)**				4,28,78,966.81
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**4,28,78,966.81**
L	CESS @ 1% of K				4,28,789.67
M	**Total Cost (K+L)**				4,33,07,756.48
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**4,34,08,056.48**

ANNEXURE-22.7

PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable without spare run for O/G Feeders.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	300	2,375.00	7,12,500.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	8,260.00	49,560.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	2,900.00	17,400.00
	Sub Total (Supply Portion) (in Rs.)				**7,79,460.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	300	110.00	33,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	12	2,000.00	24,000.00
	Sub Total (Erection Portion) (in Rs.)				**57,000.00**
A1	**Sub Total (Supply Portion)**				**7,79,460.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,40,302.80**
A	**Total Landed Cost (A=A1 + A2)**				**9,19,762.80**
B	Stock, Storage & Insurance @ 3 % of A				27,592.88
C	**Sub Total (A+B)**				**9,47,355.68**
D	Contingency @ 3 % of C				28,420.67
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				71,051.68
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**10,46,828.03**
I1	Sub Total (Erection Portion + Civil Portion)				57,000.00
I2	**Applicable Taxes to make it Landed Cost @18%**				**10,260.00**
I	**Total landed Cost (I=I1+ I2)**				**67,260.00**
J	**Total Cost (H+I)**				**11,14,088.03**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**11,14,088.03**

M	CESS 1% of L	11,140.88
N	**Grand Total (L+M)**	**11,25,228.91**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	-
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**11,25,671.41**

ANNEXURE-22.7					
PART C: Dismantling portion					
SL. No.	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	200	8.10	1,620.27
2	Dismantling of 12.5/8MVA 33/11kV PTR	EA	1	1,10,000.00	1,10,000.00
3	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	10	1,794.47	17,944.73
A1	**Sub Total (Civil Portion) (in Rs.)**				**1,29,565.01**
A2	**Applicable Taxes to make it Landed Cost @18%**				**23,321.70**
A	**Total landed Cost (A=A1+ A2)**				**1,52,886.71**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				1,52,886.71
D	**CESS @ 1% of C**				1,528.87
E	**Grand Total (C+D)**				1,54,415.58

ANNEXURE-22.8	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BCDD-1
Name of the Division :-	BCDD-1
Name of the Sub-Division : -	Sub division-1
Name of the Section : -	Delta
Name of the Work :-	A. Supply and Installation of 11 kV Panel Board along with Control Room Building extension at Delta PSS B. Proposal for Bifurcation of existing 11kV Baramunda Delta feeder. C. Proposal for Bifurcation of existing 11kV IRC-3 feeder.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
Installation of 11 kV Panel Board along with Control Room Building extension at Delta PSS	1,95,14,569.72
1. Laying of 11kV UG cable of length-2 CKM using 3Cx400mm2 XLPE UG cable from Delta PSS to near Bhamara Petrol Pump. 2. Installation of 1 No. of RMU at Bhamara Petrol Pump.	1,81,49,110.55
1. Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Delta PSS to near Sushree Villa. 2. Installation of 1 No. of RMU at St. Light DTR near Sushree Villa.	2,18,76,737.54
Total Amount	**5,95,40,417.80**
Total Amount (in Cr.)	**₹ 5.95**
Total Estimated Cost is Rs. 5.95 Cr. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.8

Installation of 11 kV Panel Board along with Control Room Building extension at Delta PSS

Sl. No.	DESCRIPTION OF ITEMS	UNIT	Quantity	Basic Unit price (In Rs.)	Total (In Rs.)
SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
1	**11 kV Indoor Switch Panel Board**				-
1.1	11kv 2000A VCB with 15 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT, 0 Adapter) as per technical specification	EA	1.00	1,16,19,630.00	1,16,19,630.00
2	**SCADA**		1.00		-
2.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
2.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
2.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
2.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
2.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
2.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
2.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
2.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
2.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
2.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
2.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
2.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
2.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
2.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
2.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
2.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
2.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
3	**Substation Earthing System GI**				-
3.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	600.00	71.94	43,164.00
3.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	200.00	71.94	14,388.00
3.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	4.00	1,300.00	5,200.00
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	126.69	6,334.50
4.2	7 Core x 2.5 mm^2	M	50.00	203.16	10,158.00
4.3	10 Core x 2.5 mm^2	M	50.00	273.73	13,686.50
4.4	12 Core x 2.5 mm^2	M	50.00	344.91	17,245.50
4.5	16 Core x 2.5 mm2	M	50.00	400.00	20,000.00
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	147.00	7,350.00
5	**1.1 kV XLPE Power Cables**				-
5.1	XLPE 4 Core 16 mm2	M	50.00	125.29	6,264.50
5.2	XLPE 2 Core 16 mm2	M	50.00	62.53	3,126.50
6	**Battery & Battery Charger**				-
6.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
6.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**1,32,08,485.59**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-

1	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
1.1	11kv 2000A VCB with 15 panel board Switchgear (2 incoming, 10 Outgoing, 1 Bus coupler, 2 Bus PT, 0 Adapter) as per technical specification	EA	1.00	11,55,000.00	11,55,000.00
2	**Erection, Commissioning, Testing of SCADA**				-
2.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
3	**Erection, Laying of Substation Earthing System GI**				-
3.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	0.10	43,660.00	4,447.54
3.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	0.08	43,660.00	3,638.33
3.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	4.00	3,784.73	15,138.92
4	**Control Cables (Copper Armoured)**				-
4.1	4 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.2	7 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.3	10 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.4	12 Core x 2.5 mm^2	M	50.00	16.57	828.50
4.5	16 Core x 2.5 mm2	M	50.00	16.57	828.50
4.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	50.00	47.87	2,393.50
5	**Laying of 1.1 kV XLPE Power Cables**				-
5.1	XLPE 4 Core 16 mm2	M	50.00	47.87	2,393.50
5.2	XLPE 2 Core 16 mm2	M	50.00	47.87	2,393.50
6	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-
6.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
6.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**12,56,634.35**
					-
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**1,32,08,485.59**
A2	**Applicable Taxes to make it Landed Cost @18%**				**23,77,527.41**
A	**Total landed Cost (A=A1 + A2)**				**1,55,86,013.00**
B	Stock , Storage & Insurance @ 3 % of A				**4,67,580.39**
C	Sub - Total (A+B)				**1,60,53,593.39**
D	Contingency @ 3 % of C				**4,81,607.80**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				
F	Transportation @ 7.5% of C				**12,04,019.50**
G	**Sub - Total (C+D+E+F)**				**1,77,39,220.69**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS				12,56,634.35
H2	Total Cost for CIVIL WORKS				-
H3	**Total Cost for Erection & Civil works (H1+H2)**				**12,56,634.35**
H4	**Applicable Taxes to make it Landed Cost @18%**				**2,26,194.18**
H	**Total landed Cost (H=H3 + H4)**				14,82,828.53
I	**Total Cost (G+H)**				1,92,22,049.23
J	Other Overhead /(including Supervision Charges) @ 6 % of I				
K	Total Estimated Capital Cost i.e. I+J				**1,92,22,049.23**
L	CESS @ 1% of K				1,92,220.49
M	**Total Cost (K+L)**				1,94,14,269.72
N	Inspection Charges (As per Gov. Notification)				85,000.00
O	GST @ 18% of N				15,300.00
P	Total Inspection Charges with GST (N+O)				1,00,300.00
Q	**Total Estimate to be deposit (M+P)**				**1,95,14,569.72**

ANNEXURE-22.8

1. Laying of 11kV UG cable of length-2 CKM using 3Cx400mm2 XLPE UG cable from Delta PSS to near Bhamara Petrol Pump.
2. Installation of 1 No. of RMU at Bhamara Petrol Pump.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1050***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***1000***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2050	2,375.00	48,68,750.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	7	15,950.00	1,11,650.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA		2,900.00	-
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80-PN8 for laying of 11kV UG cable	M	1050.00	812.00	8,52,600.00
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3WAY 630A LLV WITH FRTU & AUX PT***	***EA***	***1***		
2.1	Supply of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	1	7,51,384.00	7,51,384.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**66,29,313.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2050	110.00	2,25,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	12	2,000.00	24,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1000	2,970.00	29,70,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1050.00	195.00	2,04,750.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	1	12,000.00	12,000.00
	Sub Total (Erection Portion) (in Rs.)				**34,36,250.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				

1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1050		
1.1.a	Earth work excavation of **soil**	M3	882	716.03	6,31,538.46
1.1.b	Earth work excavation of **hard rock**	M3	378	1,759.39	6,65,049.42
1.2	Back filling with excavated soil outside and above the trench	M3	1260	220.00	2,77,200.00
1.3	Road Repair and restoration charges	KM	0.25	92,94,727.82	23,23,681.96
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	68	1,035.17	70,391.56
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.05	10,470.00	21,463.50
	Sub Total (Civil Portion) (in Rs.)				**42,43,966.65**
A1	**Sub Total (Supply Portion)**				**66,29,313.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,93,276.45**
A	**Total Landed Cost (A=A1 + A2)**				**78,22,590.05**
B	Stock, Storage & Insurance @ 3 % of A				2,34,677.70
C	**Sub Total (A+B)**				**80,57,267.75**
D	Contingency @ 3 % of C				2,41,718.03
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				6,04,295.08
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**89,03,431.03**
I1	Sub Total (Erection Portion + Civil Portion)				76,80,216.65
I2	**Applicable Taxes to make it Landed Cost @18%**				**13,82,439.00**
I	**Total landed Cost (I=I1+ I2)**				**90,62,655.65**
J	**Total Cost (H+I)**				**1,79,66,086.68**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,79,66,086.68**
M	CESS 1% of L				1,79,660.87
N	**Grand Total (L+M)**				**1,81,45,747.55**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,850.00**
T	GST @ 18% on Total Inspection Fees (S)				513.00
U	Total Inspection Fees including GST (S+T)				3,363.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,81,49,110.55**

ANNEXURE-22.8

1. Laying of 11kV UG cable of length-2.4 CKM using 3Cx400mm2 XLPE UG cable from Delta PSS to near Sushree Villa.
2. Installation of 1 No. of RMU at St. Light DTR near Sushree Villa.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1000***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***1400***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2400	2,375.00	57,00,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	9	15,950.00	1,43,550.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	2,900.00	8,700.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80-PN8 for laying of 11kV UG cable	M	1000.00	812.00	8,12,000.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**79,71,826.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2400	110.00	2,64,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	17	2,000.00	34,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1400	2,970.00	41,58,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1000.00	195.00	1,95,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**46,66,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	976		
1.1.a	Earth work excavation of **soil**	M3	819.84	716.03	5,87,030.04

1.1.b	Earth work excavation of **hard rock**	M3	351.36	1,759.39	6,18,179.27
1.2	Back filling with excavated soil outside and above the trench	M3	1171.2	220.00	2,57,664.00
1.3	Road Repair and restoration charges	KM	0.3	92,94,727.82	27,88,418.35
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	80	1,035.17	82,813.60
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.4	10,470.00	25,128.00
	Sub Total (Civil Portion) (in Rs.)				**46,13,875.01**
A1	**Sub Total (Supply Portion)**				**79,71,826.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**14,34,928.79**
A	**Total Landed Cost (A=A1 + A2)**				**94,06,755.39**
B	Stock, Storage & Insurance @ 3 % of A				2,82,202.66
C	**Sub Total (A+B)**				**96,88,958.05**
D	Contingency @ 3 % of C				2,90,668.74
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				7,26,671.85
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**1,07,06,448.81**
I1	Sub Total (Erection Portion + Civil Portion)				92,79,875.01
I2	**Applicable Taxes to make it Landed Cost @18%**				**16,70,377.50**
I	**Total landed Cost (I=I1+ I2)**				**1,09,50,252.51**
J	**Total Cost (H+I)**				**2,16,56,701.32**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,16,56,701.32**
M	CESS 1% of L				2,16,567.01
N	**Grand Total (L+M)**				**2,18,73,268.34**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				315.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,940.00**
T	GST @ 18% on Total Inspection Fees (S)				529.20
U	Total Inspection Fees including GST (S+T)				3,469.20
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,18,76,737.54**

ANNEXURE-22.9	
TP CENTRAL ODISHA DISTRIBUTION LTD.	
Name of the Circle :-	BBSR-2
Name of the Division :-	KHD
Name of the Sub-Division : -	Khordha
Name of the Section : -	Khordha no.-2
Name of the Work :-	Construction of Control Room Building and Installation of 33kV and 11kV Panel Board at Gurujanga PSS.
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)
Abstract of Estimate	
Description	**Total**
PART A: Construction of Control Room Building and Installation of 33 kV and 11 kV Panel Board at Gurujanga PSS.	2,89,66,902.85
PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.	10,86,285.91
PART- C Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS.	8,12,293.79
PART- D Construction of 3 no. of 11 kV DP with Isolator and Earth Switch at PSS.	11,67,051.26
PART E: Dismantling portion	9,04,949.85
Total Amount	**3,29,37,483.66**
Total Amount (in Cr.)	**₹ 3.29**
Total Estimated Cost is Rs. 3.29 Cr. (On TPCODL CAPEX Scheme)	

ANNEXURE-22.9

PART A:
Construction of Control Room Building and Installation of 33 kV and 11 kV Panel Board at Gurujanga PSS.

SUPPLY OF FOLLOWING EQUIPMENT & MATERIALS (As per Technical Specification)					
Sl. No.	**DESCRIPTION OF ITEMS**	**UNIT**	**Quantity**	**Basic Unit price (In Rs.)**	**Total (In Rs.)**
1	**Lightning Arrester**				-
1.1	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter) For Transformers - Outdoor type	EA	9.00	13,781.00	1,24,029.00
1.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter For Transformers - Outdoor type	EA	9.00	1,960.16	17,641.44
2	**SCADA**		1.00		-
2.1	Pre-Wired RTU Panel	EA	1.00	2,72,297.17	2,72,297.17
2.2	Managed Layer2 Ethernet Switch (RTU Panel)	EA	2.00	1,43,000.00	2,86,000.00
2.3	Networking Accessories	Set	1.00	8,682.24	8,682.24
2.4	Signal Interface Panel (4G Modem cum Router)	EA	1.00	55,123.45	55,123.45
2.5	CMR with Mounting Base for Digital Inputs	EA	16.00	437.04	6,992.64
2.6	Interposing Relay for Digital Output	EA	8.00	437.04	3,496.32
2.7	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	200.00	150.01	30,002.00
2.8	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	50.00	184.93	9,246.50
2.9	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	50.00	200.18	10,009.00
2.10	4 C X 4 mm2 Copper cable for extension of CT & PT	M	60.00	161.23	9,673.80
2.11	2 C X 4 mm2 Cable for DC Power Supply	M	100.00	139.78	13,978.00
2.12	4P X 0.36 mm2, Armored Communication Cable for MFM	M	100.00	110.17	11,017.00
2.13	Armored CAT6 UTP Cable	M	100.00	73.97	7,397.00
2.14	Un-Armored CAT6 UTP Cable	M	200.00	33.35	6,670.00
2.15	Electronic Earthing and Earth Pit	Set	1.00	15,290.42	15,290.42
2.16	Multi Function Meter	EA	4.00	8,118.36	32,473.44
2.17	Industrial grade Serial Server	EA	1.00	50,591.61	50,591.61
3	**Transformer and Accessories**				-
3.1	RTCC UNIT DC 24-48V	EA	3.00	3,00,000.00	9,00,000.00
5	**Substation Earthing System GI**				-
5.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	Kg	20615.00	71.94	14,83,043.10
5.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	Kg	3600.00	71.94	2,58,984.00
5.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	1,300.00	52,000.00
6	**33, 11 and Station Trf Structure**				-
6.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	77.62	41,293.84
6.2	(100 x 50 x5) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	77.62	17,809.13
6.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	90.00	45,000.00
6.4	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	613.86	6,138.60
7	LTDB for 100KVA, 33/0.433kV Station Transformer	EA	1.00	32,714.34	32,714.34
8	**33 and 11 kv Power and Control, XLPE cables**				-

8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	300.00	1,278.81	3,83,643.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	7,280.00	65,520.00
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	7,521.00	67,689.00
8.4	Supply of 33kV, 3Core, 95sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 9kA and SC rating of Armour in kA- 9kA) For Station Trf	M	50.00	1,757.00	87,850.00
8.5	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf	EA	2.00	2,060.00	4,120.00
8.6	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG Cable kits For Station Trf (Touchproof)	EA	2.00	1,830.00	3,660.00
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	450.00	1,438.00	6,47,100.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,260.00	74,340.00
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	8,518.00	76,662.00
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	100.00	126.69	12,669.00
9.2	7 Core x 2.5 mm^2	M	100.00	203.16	20,316.00
9.3	10 Core x 2.5 mm^2	M	100.00	273.73	27,373.00
9.4	12 Core x 2.5 mm^2	M	100.00	344.91	34,491.00
9.5	16 Core x 2.5 mm2	M	100.00	400.00	40,000.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	147.00	14,700.00
10	**1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	100.00	805.08	80,508.00
10.2	XLPE 4 Core x 95 mm2	M	100.00	499.41	49,941.00
10.3	XLPE 4 Core x 35 mm2	M	100.00	268.02	26,802.00
10.4	XLPE 4 Core 16 mm2	M	100.00	125.29	12,529.00
10.5	XLPE 2 Core 16 mm2	M	100.00	62.53	6,253.00
11	**Battery & Battery Charger**				-
11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	Set	1.00	70,875.00	70,875.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	No	1.00	5,42,122.50	5,42,122.50
	Sub-Total for SUPPLY OF EQUIPMENT & MATERIALS (In Rs.)				**61,56,757.54**
ERECTION, TESTING & COMMISSIONING WORKS OF FOLLOWING EQUIPMENT (As per Technical Specification)					-
1	**Erection, Commissioning, Testing of 33kV Equipment for (INDOOR Sub-Station)**				-
1.1	33 kV 1250 A Indoor AIS Panel Board	EA	1.00	11,60,000.00	11,60,000.00
2	**Lightning Arrester**				-
2.1	30kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester (for 33kV Incoming Line, HT side of 2nos. Power Transformers and 33/0.433kV Station Transformer) - Outdoor Type with Surge Counter	EA	9.00	1,847.36	16,626.24
2.2	12kV, 10kA, Metal Oxide, Class-2 (Station Class), Surge Arrester with out surge counter(For Transformers & Out Going Feeders) - Outdoor type	EA	9.00	1,350.00	12,150.00
3	**Erection, Commissioning, Testing of 11kV Equipment (Indoor Type)**				-
3.1	11 kV Indoor Switch Panel Board	EA	1.00	19,25,000.00	19,25,000.00
4	**Erection, Commissioning, Testing of SCADA**				-
4.1	SCADA FOR Primary Substation	LUM	1.00	59,661.56	59,661.56
5	**Erection, Commissioning, Testing of Transformer and RMU**				-
5.1	7.5/ 8 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories	EA	1.00	3,00,000.00	3,00,000.00
5.2	12.5/16 MVA, 33/11kV Power Transformer (Outdoor Installation) with Accessories	EA	1.00	3,40,000.00	3,40,000.00
5.3	100 KVA 11/0.433kV Energy efficient Station Transformer along with HT & LT cable connection	EA	1.00	10,229.00	10,229.00

5.4	ITC RTCC UNIT DC 24-48V	EA	3.00	10,000.00	30,000.00
5.5	Services of FRTU Panel, Communication and Other Supplied System	EA	1.00	6,755.00	6,755.00
6	**Erection, Laying of Substation Earthing System GI**				-
6.1	Earthing Conductor 75X10 mm (5.89 Kg/Mtr.) GI Flat for laying (spacing maximum **2m both ways**)	KM	3.50	43,660.00	1,52,810.00
6.2	Earthing Conductor: 50X6 mm (2.4Kg./Mtr.) **GI Flat** for Raiser from the burial earth mat to equipment, structure etc.)	KM	1.50	43,660.00	65,490.00
6.3	Earthing Device & Associated Accessories (Heavy duty GI Perforated Pipe of ID=40mm & OD=50mm with 3000mm long for treated Earth Pit) as per Drawing	EA	40.00	3,784.73	1,51,389.20
7	**Erection of System GI 33, 11 and Station Trf Structure**				-
7.1	(125x70x5) mm GI joist 5Mtr (13.3kg / Mtr) (04 nos for one Power Transformer) for supporting of 33kV Cable & 11kV cable (Unit Wt=0.0665 MT) & 10 mm thick MS plate size 250X250 mm at the bottom of the RS Joist duly welded & the MS plate to be suitably grouted to the floor for the rigidity.	Kg	532.00	13.50	7,182.00
7.2	(100 x 50 x6) mm GI Channel (9.56kg / Mtr) (2Mtr - 06 nos for one Power Transformer) for supporting of 33kV & 11kV power Cable (Unit Wt=0.01912 MT)	Kg	229.44	27.62	6,337.13
7.3	GI Nuts & Bolts etc. for column and beam & Equipment Structures	Kg	500.00	135.00	67,500.00
7.4	Supply & Erection of GI Pipe of dia. 150mm, Class-B	M	200.00	1,496.91	2,99,382.00
7.5	High Density Polyethylene (HDPE) pipe 160 mm diameter.	M	10.00	306.87	3,068.70
7.6	LTDB for 100KVA, 33/0.433kV Station Transformer along with all cable connection & fixing	EA	1.00	748.76	748.76
8	**Laying of 11kV 33 and 11 kv Power and Control cables**				-
8.1	33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	300.00	96.66	28,998.00
8.2	Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core (Touch Proof)	EA	9.00	2,129.37	19,164.33
8.3	Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9.00	2,129.37	19,164.33
8.4	Laying, Commissioning & Testing of 33kV, 3Core, 1Run, 95sqmm, XLPE insulation (extruted type) UG cable with spare by open trench method.	M	50.00	100.17	5,008.50
8.5	Erection of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.6	Erection of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 95sqmm, HT UG cable kits	EA	2.00	1,944.33	3,888.66
8.7	11kV, 1Core, 1000sqmm Aluminium, XLPE insulation UG Cable (SC rating of cable in kA-59.4kA and SC rating of Armour in kA-20kA)	M	450.00	96.66	43,497.00
8.8	Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
8.9	Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 1000sqmm, HT UG Cable kits for 1Core	EA	9.00	2,129.37	19,164.34
9	**Control Cables (Copper Armoured)**				-
9.1	4 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.2	7 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.3	10 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.4	12 Core x 2.5 mm^2	M	100.00	16.57	1,657.00
9.5	16 Core x 2.5 mm2	M	100.00	16.57	1,657.00
9.6	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	100.00	47.87	4,787.00
10	**Laying of 1.1 kV XLPE Power Cables**				-
10.1	XLPE 4 Core x 150 mm2	M	100.00	73.65	7,365.00
10.2	XLPE 4 Core x 95 mm2	M	100.00	47.87	4,787.00
10.3	XLPE 4 Core x 35 mm2	M	100.00	47.87	4,787.00
10.4	XLPE 4 Core 16 mm2	M	100.00	47.87	4,787.00
10.5	XLPE 2 Core 16 mm2	M	100.00	47.87	4,787.00
11	**Erection, Commissioning , Wiring & Testing of Battery & Battery Charger**				-

11.1	200 AH maintenance free VRLA Battery (Based on the site requirement 48V or 24V will be provided)	EA	1.00	3,375.00	3,375.00
11.2	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48V or 24V will be provided)	EA	1.00	4,050.00	4,050.00
13	**Fire Detection Alarm System**				-
13.1	SITC of Main Fire ALARM Control Panel (Ul /FM /Ulc/Vds Approved),Intelligent Addressable Modular Fire Alarm Control Panel based on 32 bit microprocessors including the following as per specification.,A. Battery charger,B SMF Batteries for 72 Hrs. back-up,C Enclosure,D. min.240 character LCD display,(Other specification as mentioned),E. The panel should be modular,decentralized, with CPU /master control unit, loop cards, relay and interface card by means of duplicated electronics means hardware redundancy with full functionality.,,F. The panel must provide MODBUS/ RS485 port for integration with SCADA.G. The loop should be capable to have at least 50 elements / devices.,	EA	1.00	2,22,643.20	2,22,643.20
13.2	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For ceiling (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	6.00	3,980.66	23,883.96
13.3	SITC of Intelligent Addressable multi sensor Detector- (Smoke + Fixed Tempt. + Rate of rise tempt.) For trench (UL /FM /ULC/Vds Approved) inclusive base and other installation accessories. (must have inbuilt short circuit isolator,)	EA	2.00	4,078.95	8,157.90
13.4	SITC of Response Indicator (Twin LED transparent type)	EA	2.00	200.11	400.22
13.5	SITC of Addressable manual Call Point (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved)	EA	1.00	4,207.05	4,207.05
13.6	SITC of Electronic Hooter/Multi tone sounder (must have inbuilt short circuit isolator,) (UL /FM /ULC/Vds Approved) Indoor type.	EA	1.00	4,078.72	4,078.72
13.7	SITC of 2 Core X 1.5 sq.mm copper conductor, armored, RED colour FRLS PVC sheathed signal Cable confirming to IS standards and specifications	M	150.00	1,080.50	1,62,075.72
13.8	SITC of Supply & erection of 4C*2.5sqmm copper armoured FRLS cable confirming to IS standard with accessories (Gland, lug, saddle, etc.)	M	15.00	176.67	2,650.11
13.9	SITC of Supply & erection of steel wire reinforced flexible conduct pipe (16MM) with all accessories.	M	15.00	141.10	2,116.50
13.10	SITC of Supply & erection of Surge Arrester.	EA	1.00	5,457.90	5,457.90
13.1	SITC of Lightning arrester Rod in Top of PSS Building along with all accessories	EA	1.00	1,800.00	1,800.00
	Sub-Total for ERECTION,TESTING & COMMISSIONING WORKS (In Rs.)				**52,60,749.03**
					-
Civil Works with supply of all materials like Cement, MS tor rod, Brick, Coarse & Fine Agregrates & Labour,T&P etc.					-
1	Construction of 100kVA 11/0.4 kV station Trf. Plinth	EA	1.00	2,15,000.00	2,15,000.00
2	CONTROL ROOM BUILDING ALONG WITH ALL INTERNAL SERVICE (Area 22mtrX12mtr)	EA	1.00	76,00,000.00	76,00,000.00
3	PTR Foundation suitable for 20 MVA Power Transformer	EA	2.00	8,00,000.00	16,00,000.00
4	FIRE WALL	EA	1.00	4,50,000.00	4,50,000.00
5	RCC CABLE TRENCH	RM	30.00	26,500.00	7,95,000.00
6	ROAD WORK	RM	30.00	11,500.00	3,45,000.00
7	Chainlink Fencing of Switchyard	RM	30.00	4,570.00	1,37,100.00
8	Compound Wall	RM	20.00	17,520.00	3,50,400.00
9	BOT AND NIFPS FOUNDATION	EA	1.00	3,91,000.00	3,91,000.00
10	Area Development work with Filling for (50X40X2mtr)	Sqm	50.00	1,389.00	69,450.00
	Sub-Total for CIVIL WORKS (In Rs.)				**1,19,52,950.00**
A1	**Total Cost for SUPPLY OF EQUIPMENT & MATERIALS**				**61,56,757.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,08,216.36**
A	**Total landed Cost (A=A1 + A2)**				**72,64,973.90**
B	Stock , Storage & Insurance @ 3 % of A				**2,17,949.22**
C	Sub - Total (A+B)				**74,82,923.12**
D	Contingency @ 3 % of C				**2,24,487.69**
E	Tools &Plants Charges @ 2% of C (NOT CONSIDERED)				

F	Transportation @ 7.5% of C	**5,61,219.23**
G	**Sub - Total (C+D+E+F)**	**82,68,630.05**
H1	Total Cost for ERECTION,TESTING & COMMISSIONING WORKS	52,60,749.03
H2	Total Cost for CIVIL WORKS	1,19,52,950.00
H3	**Total Cost for Erection & Civil works (H1+H2)**	**1,72,13,699.03**
H4	**Applicable Taxes to make it Landed Cost @18%**	**30,98,465.83**
H	**Total landed Cost (H=H3 + H4)**	2,03,12,164.85
I	**Total Cost (G+H)**	2,85,80,794.90
J	Other Overhead /(including Supervision Charges) @ 6 % of I	
K	Total Estimated Capital Cost i.e. I+J	**2,85,80,794.90**
L	CESS @ 1% of K	2,85,807.95
M	**Total Cost (K+L)**	2,88,66,602.85
N	Inspection Charges (As per Gov. Notification)	85,000.00
O	GST @ 18% of N	15,300.00
P	Total Inspection Charges with GST (N+O)	1,00,300.00
Q	**Total Estimate to be deposit (M+P)**	**2,89,66,902.85**

ANNEXURE-22.9

PART B: Supply & laying of 0.3 KM 11 kV 3C, 400sqmm U/G Cable with spare run for O/G Feeders.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	300	2,375.00	7,12,500.00
1.2	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
	Sub Total (Supply Portion) (in Rs.)				**7,57,140.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	300	110.00	33,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
	Sub Total (Erection Portion) (in Rs.)				**49,000.00**

A1	**Sub Total (Supply Portion)**	**7,57,140.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,36,285.20**
A	**Total Landed Cost (A=A1 + A2)**	**8,93,425.20**
B	Stock, Storage & Insurance @ 3 % of A	26,802.76
C	**Sub Total (A+B)**	**9,20,227.96**
D	Contingency @ 3 % of C	27,606.84
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	69,017.10
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**10,16,851.89**
I1	Sub Total (Erection Portion + Civil Portion)	49,000.00
I2	**Applicable Taxes to make it Landed Cost @18%**	**8,820.00**
I	**Total landed Cost (I=I1+ I2)**	**57,820.00**
J	**Total Cost (H+I)**	**10,74,671.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**10,74,671.89**

M	CESS 1% of L	10,746.72
N	**Grand Total (L+M)**	**10,85,418.61**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	360.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**735.00**
T	GST @ 18% on Total Inspection Fees (S)	132.30
U	Total Inspection Fees including GST (S+T)	867.30
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**10,86,285.91**

ANNEXURE-22.9

PART- C

Construction of 2 nos. of 33 kV DP with Isolator and Earth Switch at PSS.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	2	2,03,304.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
18	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**5,05,799.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**91,043.97**
A				**Total landed Cost (A=A1 + A2)**	**5,96,843.83**
B				Stock, Storage & Insurance i.e 3% of A	17,905.31
C				**Sub Total (A+B)**	**6,14,749.14**
D				Contigency @ 3% of C	18,442.47
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,586.55
F				Transportation @ 7.5% of C	46,106.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	41,417.90
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,40,559.67**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	8,04,251.28
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**8,04,251.28**
O				CESS 1% of N	8,042.51
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**8,12,293.79**

ANNEXURE-22.9

PART- D

Construction of 3 no. of 11 kV DP with Isolator and Earth Switch at PSS.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	4	2,68,388.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	24	3,312.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**7,09,786.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,27,761.56**
A				**Total landed Cost (A=A1 + A2)**	**8,37,548.02**
B				Stock, Storage & Insurance i.e 3% of A	25,126.44
C				**Sub Total (A+B)**	**8,62,674.46**
D				Contigency @ 3% of C	25,880.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	15,858.79
F				Transportation @ 7.5% of C	64,700.58
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	51,257.12
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**10,34,389.61**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86

3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**11,55,496.30**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**11,55,496.30**
O				CESS 1% of N	11,554.96
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**11,67,051.26**

ANNEXURE-22.9

PART E: Dismantling portion

SL. No.	Description	Unit	Quantity	Rate	Amount
1	Dismantling / Removal of MS Channel. from Double Pole Structure /pole	KG	12000	8.10	97,216.42
2	Dismantling of existing 11/0.4kV, 33/0.4KV, Three Phase Distribution Transformer below 100KVA including removal of HT/LT leads, earth connections and unloading by crane if required.	EA	1	3,262.64	3,262.64
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	170	9.21	1,565.04
4	Dismantling of 3.15/5MVA 33/11kV PTR	EA	2	75,000.00	1,50,000.00
5	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	20	18,003.04	3,60,060.80
6	Demolishing stone rubble masonry manually/ RCC/BRICK WORK/ by mechanical means	M3	50	1,794.47	89,723.67
7	Dismantling of 11 kV /33KV GO/AB Switch/Isolator/DD fuse/fuse set	SET	17	1,200.00	20,400.00
8	Dismantling / Removal of 11KV/33KV CRP Pannel	EA	6	5,114.50	30,687.00
9	Dismantling of all sizes(All Core and all dia) control Cable	M	300	5.11	1,534.35
10	Dismantling of Lightening Arrester(LA	EA	30	162.12	4,863.60
A1				**Sub Total (Civil Portion) (in Rs.)**	**7,59,313.52**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,36,676.43**
A				**Total landed Cost (A=A1+ A2)**	**8,95,989.95**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	8,95,989.95
D				**CESS @ 1% of C**	8,959.90
E				**Grand Total (C+D)**	9,04,949.85

Part- III

(Annexures- 2,4,11,21)

Annexure - 2

Cradle Guard at Road Crossing

Cradle Guard/ UG Cable at Road Crossing for 33 kV and 11 kV Line					
Sl. No.	***Description***	***Unit***	***Cost per Unit (In Cr.)***	***Total Qty.***	***Total Cost (In Cr.)***
1	BOQ for 33 kV Line Protecting Guarding on Double Pole (13 Mtr. WPB) for Road Crossing (Span-40 Mtr.)	EA	***0.040***	***10***	***0.40***
2	BOQ for 11 kV Line Protecting Guarding on Double Pole (11 Mtr. WPB) for Road Crossing (Span-40 Mtr.)	EA	***0.032***	***5***	***0.16***
3	BOQ for 11 kV Line Protecting Guarding on Single Pole (11 Mtr. WPB) for Road Crossing (Span- 30 Mtr.)	EA	***0.016***	***26***	***0.43***
				TOTAL	***1.0***

BOQ for 33 kV Line Protecting Guarding on Double Pole (13 Mtr. WPB) for Road Crossing (Span-40 Mtr.)					
No. of 33 KV Line Protecting Guarding on DP				1	
MATERIALS					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle, flat of different size	KG	78.00	578.974	45,159.97
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	33 kV pin insulator polymer	EA	398.00	6	2,388.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	25.256	1,868.94
15	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
16	No-10 GI wire for lacing	KG	78.00	6.55	510.90
17	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
A1				**Total Cost of materials**	**2,34,369.98**
A2				**Applicable Taxes to make it Landed Cost @18%**	**42,186.60**
A				**Total landed Cost (A=A1 + A2)**	**2,76,556.57**
B				Stock, Storage & Insurance i.e 3% of A	8,296.70
C				**Sub Total (A+B)**	**2,84,853.27**
D				Contigency @ 3% of C	8,545.60
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,988.63
F				Transportation @ 7.5% of C	21,364.00
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,428.31
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,36,437.23**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	4,00,128.83
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total Material +Services (L+M)**	**4,00,128.83**
O				CESS 1% of N	4,001.29
P				**Gross Total Material +Services (N+O)**	**4,04,130.12**

BOQ for 33 kV Line Crossing through U/G Cable and DP without Isolator

No. of 33 KV line Road crossing through U/G Cable	1

MATERIALS

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle, flat of different size	KG	78.00	420.884	32,828.95
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	33 kV pin insulator polymer	EA	398.00	6	2,388.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	25.256	1,868.94
15	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
16	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	3,165.00	100	3,16,500.00
17	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	11,900.00	4	47,600.00
A1	**Total Cost of materials**				**5,80,631.90**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,04,513.74**
A	**Total landed Cost (A=A1 + A2)**				**6,85,145.64**
B	Stock, Storage & Insurance i.e 3% of A				20,554.37
C	**Sub Total (A+B)**				**7,05,700.01**
D	Contigency @ 3% of C				21,171.00
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)				4,618.23
F	Transportation @ 7.5% of C				52,927.50
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,576.27
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**7,99,250.43**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
7	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	115.00	100	11,500.00
8	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
9	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2,970.00	100	2,97,000.00
10	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	1,035.17	2	2,070.34
K1	**Total Civil & Services**				**3,64,976.81**
K2	**Applicable Taxes to make it Landed Cost @18%**				**65,695.83**
K	**Total landed Cost (K=K1+ K2)**				**4,30,672.64**
L	**Total (J+K)**				12,29,923.07
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub-Total Material +Services (L+M)**				**12,29,923.07**
O	CESS 1% of N				12,299.23
P	**Gross Total Material +Services (N+O)**				**12,42,222.30**

BOQ for 11 kV Line Protecting Guarding on Double Pole (11 Mtr. WPB) for Road Crossing (Span-40 Mtr.)

No. of 11 KV Line Protecting Guarding on DP	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	507.858	39,612.92
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
16	No-10 GI wire for lacing	KG	78.00	6.55	510.90
17	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
A1				**Total Cost of materials**	**1,87,742.64**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,793.68**
A				**Total landed Cost (A=A1 + A2)**	**2,21,536.32**
B				Stock, Storage & Insurance i.e 3% of A	6,646.09
C				**Sub Total (A+B)**	**2,28,182.40**
D				Contigency @ 3% of C	6,845.47
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,151.77
F				Transportation @ 7.5% of C	17,113.68
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	6,740.44
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,70,042.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**3,19,733.13**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**3,19,733.13**
O				CESS 1% of N	3,197.33
P				**Gross Total Material +Services (N+O)**	**3,22,930.46**

BOQ for 11 kV Line Protecting Guarding on Single Pole (11 Mtr. WPB) for Road Crossing (Span- 30 Mtr.)

No. of 11 KV Line Protecting Guarding on SP	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	186.9	14,576.17
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type) for Pole	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
16	No-10 GI wire for lacing	KG	78.00	4.9125	383.18
17	No-8 GI wire for guard wire	KG	78.00	23.04	1,797.12
18	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1				**Total Cost of materials**	**95,127.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**17,123.02**
A				**Total landed Cost (A=A1 + A2)**	**1,12,250.89**
B				Stock, Storage & Insurance i.e 3% of A	3,367.53
C				**Sub Total (A+B)**	**1,15,618.42**
D				Contigency @ 3% of C	3,468.55
E				Tools & Plants @ 2% of C	2,106.43
F				Transportation @ 7.5% of C	8,671.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,522.94
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,36,892.33**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
6	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
K1				**Total Civil & Services**	**21,891.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,940.41**
K				**Total landed Cost (K=K1+ K2)**	**25,831.55**
L				**Total (J+K)**	**1,62,723.89**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**1,62,723.89**
O				CESS 1% of N	1,627.24
P				**Gross Total Material +Services (N+O)**	**1,64,351.12**

BOQ for 11 kV Line Crossing through U/G Cable and DP without AB Switch

No. of 11 KV line Road crossing through U/G Cable	1

MATERIALS

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
16	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2,375.00	100	2,37,500.00
17	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2,900.00	4	11,600.00
A1				**Total Cost of materials**	**4,19,673.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**75,541.14**
A				**Total landed Cost (A=A1 + A2)**	**4,95,214.16**
B				Stock, Storage & Insurance i.e 3% of A	14,856.42
C				**Sub Total (A+B)**	**5,10,070.59**
D				Contigency @ 3% of C	15,302.12
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	38,255.29
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,79,404.48**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
7	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	110.00	100	11,000.00
8	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2,000.00	4	8,000.00
9	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2,970.00	100	2,97,000.00
10	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	1,035.17	2	2,070.34
K1				**Total Civil & Services**	**3,52,611.17**
K2				**Applicable Taxes to make it Landed Cost @18%**	**63,470.01**
K				**Total landed Cost (K=K1+ K2)**	**4,16,081.18**
L				**Total (J+K)**	**9,95,485.66**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**9,95,485.66**
O				CESS 1% of N	9,954.86
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**10,05,440.52**

Location of Cradle Guard/UG Cable at Road Crossing for 33 kV line-

			TOTAL	10			10	
Sl. No.	**Circle**	**Sub-Division**	**Name of 33 kV feeder**	**No.of locations**	**Locations**	**Remarks**	**Through O/H with DP**	**Through U/G Cable**
1	BBSR 1	Periphery	GODISAHI O/G	1	BARANG BLOCK CHOWK	OH	1	
2	BBSR 1	Nayapalli	ASSOTECH	1	DUMDUMA CHOWK	OH	1	
3	BBSR 1	Periphery	GODISAHI O/G	1	GODISAHI REVNUE	OH	1	
4	BBSR 1	Nayapalli	XAVIER (DOORADRSHAN PART)	1	TECH MAHINDRA	OH	1	
5	BBSR 1	Nayapalli	KRISHNA PLAZZA	1	BIG BAZAR	OH	1	
6	BBSR 1	Periphery	GODISAHI O/G	1	SRI SRI UNIVERCITY	OH	1	
7	BBSR 1	Nimapada	NIMAPADA	1	NIMAPADA BRIDGE	OH	1	
8	BBSR 1	Kakatpur	KAKATPUR O/G	1	GADAAMARPRASAD	OH	1	
9	BBSR 1	Nimapada	NIMAPADA	1	NIMAPADA BUS STAND	OH	1	
10	BBSR 1	Nimapada	BALAKATI	1	PRATAPSASAN GRID	OH	1	

Location of Cradle Guard/UG Cable at Road Crossing for 11 kV line-

			TOTAL				5	26	0
Sl. No.	**Circle**	**Sub-Division**	**Name of 11kV Feeder**	**No.of locations**	**Locations**	**Remarks**	**Through O/H with DP**	**Through O/H with SP**	**Through U/G Cable**
1	BBSR-1	KAKATPUR	ASTARANGA	5	NUAGADA ROAD, TAHSIL FRONT, BLOCK FRONT, COURT FRONT , DURGA MANDAP FRONT, NARENDRA STADIUM FRONT, MAHAVIR FRONT	Road Xing	5		
2	PARADEEP	AUL	11kv Olaver	1	NEAR NEW BUS STAND	Road Xing		1	
3	PARADEEP	AUL	11V Olaver	1	NEAR FIRE STATION	Road Xing		1	
4	PARADEEP	AUL	11kv Olaver	1	GANJA ROAD	Road Xing		1	
5	PARADEEP	AUL	11kv Olaver	1	ASHOK BAZAR NEAR TAHASIL OFFICE	Road Xing		1	
6	PARADEEP	AUL	11kv Olaver	1	NEAR INDANE OFFICE	Road Xing		1	
7	PARADEEP	AUL	11KV GIRIA	1	NEAR PSS, RAJKANIKA	Road Xing		1	
8	PARADEEP	AUL	11KV GIRIA	1	AT CHANDANPOKHRI CHOWK	Road Xing		1	
9	PARADEEP	AUL	11KV OSTIA	1	NEAR PSS, RAJKANIKA	Road Xing		1	
10	PARADEEP	AUL	11KV OSTIA	11	THROUGH THE RAJKANIKA MARKET	Market High Public Movement		11	
11	CUTTACK	SISHUBHWAN	JUDGE COURT	1	INFORM OF SBI MAIN BRANCH	Road Xing		1	
12	CUTTACK	SISHUBHWAN	CITY	3	GOURISANKAR PARKGANGAMAMDIR ROADPADHIARY PATHAGARH	Road Xing		3	
13	CUTTACK	SISHUBHWAN	HATIPOKHARI	3	CITY HOSPITALAHARA KENDRADARGHABZAR P.S	Road Xing		3	

Annexure - 4

Defective AB Cable Replacement

Scope of Work Proposed					
Sl. No.	***Description***	***Per Unit***	***Cost per Unit (In Cr.)***	**Qty**	**Total Cost (In Cr.)**
1	Defective AB Cable Replacement - LT ABC 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.11	**3.6**	0.39
2	Defective AB Cable Replacement LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	kM	0.09	**6.6**	0.60
Total				**10.2**	**1.0**

Defective AB Cable Replacement - LT ABC 4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)				1	
Dead End 95-150 sq. mm (9/ KM)				9	
Suspension 95-150 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×95 mm² (P)+1C×95 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	422.00	1050.00	4,43,100.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	30	27,600.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	156	17,640.48
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	5	6,500.00
14	Coil Earthing	EA	164.00	5	820.00
15	Danger plate (LT)	EA	180.00	10	1,800.00
16	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**5,74,877.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,03,477.87**
A				**Total landed Cost (A=A1 + A2)**	**6,78,354.95**
B				Stock, Storage & Insurance i.e 3% of A	20,350.65
C				**Sub Total (A+B)**	**6,98,705.60**
D				Contigency @ 3% of C	20,961.17
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	13,366.97
F				Transportation @ 7.5% of C	52,402.92
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	62,422.95
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**8,56,683.42**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of LT AB Cable	M	23.02	1,050.00	24,171.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,78,804.96**
K2				Applicable Taxes to make it Landed Cost @18%	32,184.89
K				**Total landed Cost (K=K1+ K2)**	**2,10,989.86**
L				**Total (J+K)**	**10,67,673.28**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**10,67,673.28**
O				CESS 1% of N	10,676.73
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**10,78,350.01**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	225.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,350.00**
U				GST @ 18% on Total Inspection Fees (T)	243.00
V				Total Inspection Fees including GST (T+U)	1,593.00
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**10,79,943.01**

Defective AB Cable Replacement LT ABC 4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole	
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)	1
Dead End upto 70 sq. mm (9/ KM)	9
Suspension upto 70 sq. mm (21/ KM)	21

MATERIALS FOR LT AB Cable Line

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×70 mm² (P)+1C×70 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	311.00	1050.00	3,26,550.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	30	27,600.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	156	17,640.48
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	5	6,500.00
14	Coil Earthing	EA	164.00	5	820.00
15	Danger plate (LT)	EA	180.00	10	1,800.00
16	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1	**Total Cost of materials**				**4,58,327.08**
A2	**Applicable Taxes to make it Landed Cost @18%**				**82,498.87**
A	**Total landed Cost (A=A1 + A2)**				**5,40,825.95**
B	Stock, Storage & Insurance i.e 3% of A				16,224.78
C	**Sub Total (A+B)**				**5,57,050.73**
D	Contigency @ 3% of C				16,711.52
E	Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)				10,533.87
F	Transportation @ 7.5% of C				41,778.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to				48,257.47
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				8,823.80
J	**Sum of (C to I)**				**6,83,156.20**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of LT AB Cable	M	23.02	1,050.00	24,171.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1	**Total Civil & Services**				**1,78,804.96**
K2	Applicable Taxes to make it Landed Cost @18%				32,184.89
K	**Total landed Cost (K=K1+ K2)**				**2,10,989.86**
L	**Total (J+K)**				**8,94,146.06**
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub-Total (L+M)**				**8,94,146.06**
O	CESS 1% of N				8,941.46
P	**Gross Total Material +Services (N+O) for LT AB Cable Line**				**9,03,087.52**
Q	Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.				375.00
R	Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km				225.00
S	Inspection Fee of Drawing Checking and Approval				750.00
T	**Total Inspection Fees (Q+R+S)**				**1,350.00**
U	GST @ 18% on Total Inspection Fees (T)				243.00
V	Total Inspection Fees including GST (T+U)				1,593.00
W	**Gross Total Material, Services and Inspection Fees (P+V)**				**9,04,680.52**

Defective AB Cable Replacement - LT ABC 4C×50 mm² (P)+1C×50 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole					
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)				1	
Dead End upto 70 sq. mm (9/ KM)				9	
Suspension upto 70 sq. mm (21/ KM)				21	
MATERIALS FOR LT AB Cable Line					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×50 mm² (P)+1C×50 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	228.00	1050.00	2,39,400.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	30	27,600.00
10	Insulated piercing connector.Type-A-main 50 to 150 sq.mm & Tap-50 to 150 sq.mm	EA	113.08	156	17,640.48
11	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13		-
12	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
13	Insulated piercing connector.Type-D-main 10 to 50 sq.mm & Tap-1.5 to 10 sq.mm	EA	49.00		-
14	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	5	6,500.00
15	Coil Earthing	EA	164.00	5	820.00
16	Danger plate (LT)	EA	180.00	10	1,800.00
17	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**3,71,177.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**66,811.87**
A				**Total landed Cost (A=A1 + A2)**	**4,37,988.95**
B				Stock, Storage & Insurance i.e 3% of A	13,139.67
C				**Sub Total (A+B)**	**4,51,128.62**
D				Contigency @ 3% of C	13,533.86
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	8,415.43
F				Transportation @ 7.5% of C	33,834.65
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	37,665.26
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**5,53,401.62**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of LT AB Cable	M	23.02	1,050.00	24,171.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,78,804.96**
K2				Applicable Taxes to make it Landed Cost @18%	32,184.89
K				**Total landed Cost (K=K1+ K2)**	**2,10,989.86**
L				**Total (J+K)**	**7,64,391.48**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**7,64,391.48**
O				CESS 1% of N	7,643.91
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**7,72,035.39**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	225.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,350.00**
U				GST @ 18% on Total Inspection Fees (T)	243.00
V				Total Inspection Fees including GST (T+U)	1,593.00
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**7,73,628.39**

Defective AB Cable Replacement - LT ABC 4C×35 mm² (P)+1C×35 mm²(M)+1CX16 mm²(Street Light) and 9 Mtr. PSC pole

AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)	1
Dead End upto 70 sq. mm (9/ KM)	9
Suspension upto 70 sq. mm (21/ KM)	21

MATERIALS FOR LT AB Cable Line

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	9 Mtr. long PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	4C×35 mm² (P)+1C×35 mm²(M)+1CX16 mm²(Street Light) (LT AB Cable)	M	167.00	1050.00	1,75,350.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	30	27,600.00
10	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13	156	9,692.28
11	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
12	Insulated piercing connector.Type-D-main 10 to 50 sq.mm & Tap-1.5 to 10 sq.mm	EA	49.00		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	5	6,500.00
14	Coil Earthing	EA	164.00	5	820.00
15	Danger plate (LT)	EA	180.00	10	1,800.00
16	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**2,99,178.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**53,852.20**
A				**Total landed Cost (A=A1 + A2)**	**3,53,031.08**
B				Stock, Storage & Insurance i.e 3% of A	10,590.93
C				**Sub Total (A+B)**	**3,63,622.01**
D				Contigency @ 3% of C	10,908.66
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	6,665.30
F				Transportation @ 7.5% of C	27,271.65
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	28,914.59
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**4,46,206.02**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of LT AB Cable	M	23.02	1,050.00	24,171.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,78,804.96**
K2				Applicable Taxes to make it Landed Cost @18%	32,184.89
K				**Total landed Cost (K=K1+ K2)**	**2,10,989.86**
L				**Total (J+K)**	**6,57,195.88**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**6,57,195.88**
O				CESS 1% of N	6,571.96
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**6,63,767.83**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	225.00
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,350.00**
U				GST @ 18% on Total Inspection Fees (T)	243.00
V				Total Inspection Fees including GST (T+U)	1,593.00
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**6,65,360.83**

Defective AB Cable Replacement - 2X35 + 1X25 and 9 Mtr. PSC pole	
AB Cable LT Line Length In KM with 33 Mtr. Span (Ref. Drawing No.- TPCODL-…….)	1
Dead End upto 70 sq. mm (9/ KM)	9
Suspension upto 70 sq. mm (21/ KM)	21

MATERIALS FOR LT AB Cable Line

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	9 Mtr. long 300 Kg. PSC Pole	EA	3,630.00	10	36,300.00
2	GI flat for danger plate and anticlimbing device	KG	78.00	18	1,380.60
3	LT Stay set Complete	SET	736.00	9	6,624.00
4	7/12 SWG GI stay wire, Grade -2	KG	79.00	108.0	8,532.00
5	LT stay Clamp	EA	350.00	9	3,150.00
6	LT Stay insulator	EA	19.00	9	171.00
7	**LT Accessories with Eye hook and Clamp**				
7.i.	Pole clamp for EYE hook for (XLPE Aerial bunched Cable)	EA	240.00	39	9,360.00
7.ii.	EYE hook for XLPE Aerial bunched Cable	EA	75.00	18	1,350.00
7.iii.	Dead End Clamp suitable for messenger XLPE Aerial bunched Cable	EA	217.00	18	3,906.00
7.iv.	Suspension Clamp with EYE hook for ABC	PAA	193.00	21	4,053.00
8	2X35 + 1X25 (LT AB Cable)	M	84.00	1050.00	88,200.00
9	10 WAY LT SERVICE Distb.Box	EA	920.00	30	27,600.00
10	Insulated piercing connector.Type-B-main 25 to 150 sq.mm & Tap-6 to 35 sq.mm	EA	62.13	156	9,692.28
11	Insulated piercing connector.Type-C-main 16 to 95 sq.mm & Tap-1.5 to 16 sq.mm	EA	33.90		-
12	Insulated piercing connector.Type-D-main 10 to 50 sq.mm & Tap-1.5 to 10 sq.mm	EA	49.00		-
13	GI Pipe Earthing (each 5th pole to earth)	EA	1,300.00	5	6,500.00
14	Coil Earthing	EA	164.00	5	820.00
15	Danger plate (LT)	EA	180.00	10	1,800.00
16	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.00	370.00
A1				**Total Cost of materials**	**2,12,028.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**38,165.20**
A				**Total landed Cost (A=A1 + A2)**	**2,50,194.08**
B				Stock, Storage & Insurance i.e 3% of A	7,505.82
C				**Sub Total (A+B)**	**2,57,699.90**
D				Contigency @ 3% of C	7,731.00
E				Tools & Plants @ 2% of C (Except LT Stay Set / GI Pipe earthing)	4,546.86
F				Transportation @ 7.5% of C	19,327.49
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	18,322.38
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	8,823.80
J				**Sum of (C to I)**	**3,16,451.43**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	9	20,713.73
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.75	24,933.19
3	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
7	Dismantling of LT AB Cable	M	23.02	1,050.00	24,171.00
8	Shifting and providing connection of service cable, 1-phase in LV distribution box/IPC as per specification and drawing	EA	550	80	44,000.00
9	Shifting and providing connection of service cable, 3-phase in LV distribution box/IPC as per specification and drawing	EA	1220	20	24,400.00
K1				**Total Civil & Services**	**1,78,804.96**
K2				Applicable Taxes to make it Landed Cost @18%	32,184.89
K				**Total landed Cost (K=K1+ K2)**	**2,10,989.86**
L				**Total (J+K)**	**5,27,441.29**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**5,27,441.29**
O				CESS 1% of N	5,274.41
P				**Gross Total Material +Services (N+O) for LT AB Cable Line**	**5,32,715.70**
Q				Inspection Fee of Over Head Line (LV)-Rs. 375 upto 1 KM.	375.00
R				Inspection Fee of Over Head Line (LV)- Rs. 225/ Additional Km	-
S				Inspection Fee of Drawing Checking and Approval	750.00
T				**Total Inspection Fees (Q+R+S)**	**1,125.00**
U				GST @ 18% on Total Inspection Fees (T)	202.50
V				Total Inspection Fees including GST (T+U)	1,327.50
W				**Gross Total Material, Services and Inspection Fees (P+V)**	**5,34,043.20**

Location Proposed for LT ABC against damaged/ Burnt Cable

							6.6	3.6
Circle	**Division**	**Subdivision**	**SECTION**	**Name of DSS**	**DSS Capacity**	**Remarks**	**4CX70 Sqmm**	**4CX95 Sqmm**
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	RANASINGHPUR VILLAGE 250	500	Cable Damaged		0.4
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	BEGUNIA MASJID 250	500	Cable Damaged		0.4
BBSR-1	BED	RASULGARH	KALPANA-II	GOPABANDHU CLUB 500	500	Cable Damaged		0.25
BBSR-1	BED	RASULGARH	KALPANA-1	Laxmivihar 250kva	250	Cable Damaged		0.25
BBSR-1	BED	RASULGARH	KALPANA-II	OSCAR CITY#2 500	500	Cable Damaged		0.25
BBSR-1	BED	RASULGARH	KALPANA-II	OSCAR CITY#1 500	500	Cable Damaged		0.25
BBSR-1	BED	TEMPLE	Dhauli	PANCHAGAON 250	250	Cable Damaged	0.30	
BBSR-1	BED	RASULGARH	LAXMISAGAR	JAGANNATH NAGAR ROAD 7	250	Cable Damaged		0.25
BBSR-1	BED	RASULGARH	LAXMISAGAR	JAGANNATH NAGAR ROAD 5	500	Cable Damaged		0.25
BBSR-1	BED	RASULGARH	LAXMISAGAR	STAGE 4	250	Cable Damaged		0.25
BBSR-1	BED	RASULGARH	LAXMISAGAR	STAGE 5	500	Cable Damaged		0.25
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	SAMBADIKA 250	250	Cable Damaged	0.30	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	PHASE 4 PARK	500	Cable Damaged	0.30	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	SUBASH NAGAR NO 1 250	500	Cable Damaged	0.30	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	PHASE 3 PARK 500	100	Cable Damaged	0.30	
BBSR-1	BED	TEMPLE	Dhauli	BHATTA BHOI SAHI 250	250	Cable Damaged	0.25	
BBSR-1	BED	TEMPLE	Dhauli	AZAD NAGAR 250 NEW	250	Cable Damaged	0.25	
BBSR-1	BED	TEMPLE	Dhauli	MANGALA SAHI 100	100	Cable Damaged	0.25	
BBSR-1	BED	RASULGARH	PHULANKAHRA	GOHALA	100	Cable Damaged	0.25	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	CHITAMANI OLD 500	250	Cable Damaged	0.30	
BBSR-1	BED	RASULGARH	PHULANKAHRA	BHAGYA NAGAR	100	Cable Damaged	0.25	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	JADUPUR NO-2 500	250	Cable Damaged	0.25	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	LABOUR OFFICE 100	250	Cable Damaged	0.25	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	PH-4 PARK 500	250	Cable Damaged	0.20	
BBSR-1	BCDD-2	KHANDAGIRI	DUMDUMA	PH-5 NO-1 500	500	Cable Damaged	0.20	
BBSR-1	BED	TEMPLE	OLD TOWN-3	OLD STATE BANK-2	250	Cable Damaged	0.15	
BBSR-2	BAED	BALUGAON	BALUGAON-1	PATASANI COLONY 250 KVA	250	Cable Damaged	0.40	
BBSR-2	BAED	BALUGAON	BALUGAON-1	FISHARI OFFICE	500	Cable Damaged		0.4
BBSR-2	BAED	BALUGAON	BALUGAON-1	K K NUAGAON	250	Cable Damaged		0.4
BBSR-2	BAED	BALUGAON	BALUGAON-2	AMRITPUR	100	Cable Damaged	0.5	
BBSR-2	BAED	BALUGAON	BALUGAON-2	NILADRI VIHAR	100	Cable Damaged	0.5	
PARADEEP	JED	RAGHUNATHPUR	BIRIDI	SADHEISASANA	100	Cable Damaged	0.50	
PARADEEP	KED-1	KENDRAPADA	NO1 KENDRAPADA	NASADIPUR GOKHASAHI	100	Cable Damaged	0.30	
PARADEEP	KED-1	KENDRAPADA	NO1 KENDRAPADA	SAIBIHAR	100	Cable Damaged	0.30	

ANNEXURE-11

33 kV NETWORK RELIABILITY

33 kV Network Reliability

Summary Of Proposal Details For Reliability Improvement							
Sl. No	***Circle***	***Division***	***GSS Name***	***33kv Feeder Name***	***Proposal Detail***	***Cost (In Cr)***	***Annexure No.***
1	BBSR-I	BCCD-2	Kantabada	Chandaka O/G	Augmentation of 3 CKM line from Bharatpur PSS to Malima Chawk	₹ 0.66	Annexure-11.1
2	BBSR-I	BCCD-1	Satyanagar	Satyanagar to Satyanagar	Construction of 0.6 KM U/G Line from Satyanagar GSS to Satyanagar PSS	₹ 1.60	Annexure-11.2
3	BBSR-I	BCCD-2	Ransinghpur	Assotech	Augmentation of 2 CKM line from AIIMS square to Cosmoplish	₹ 0.51	Annexure-11.3
4	BBSR-I	BCCD-2	Ransinghpur	Kalinganagr to Trident	Augmentation of 2.5 CKM line from Kalinganagr to Trident Galaxy	₹ 0.54	Annexure-11.4
5	BBSR-I	BED	Baliyanta	Baliyanta to Bhingarpur	Construction of New line 10.5 CKM from Baliyanta GSS to Bhingarpur PSS	₹ 6.49	Annexure-11.5
6	BBSR-I	NED	Konark	Sutan	Refurbishment of 33kV Sutan Feeder from Labanya Chhaka to Eco retreat to providing reliable power supply.	₹ 4.50	Annexure-11.6
7	BBSR-I	NED	Dighalo	Dighalo -Gop	Refursbishment and augmentation of 33kV Dighalo-gop Feeder from Dighalo GSS to Gop PSS.	₹ 4.50	Annexure-11.7
8	BBSR-II	BAED	Balugaon	Balugaon	Proposal for augmentation of 33KV Balugaon Feeder from Blaugaon GSS.	₹ 1.53	Annexure-11.8
9	BBSR-II	BAED	Balugaon	Ankulapadar	Provision of 2nd Source to Solari PSS through 33 kV Bay and N-1 Reliability for 33 kV Ankulapadar Feeder	₹ 2.48	Annexure-11.9
10	BBSR-II	BAED	Chandpur	Tangi- Chandpur	Construction of a New 33 kV Interlinking Line between the 33 kV Tangi Feeder and 33 kV Tangi–Chandpur Feeder to Achieve N-1 Connectivity and Improve Network Reliability.	₹ 1.71	Annexure-11.10
11	BBSR-II	PED	Khordha	Delanga	Refurbishment & augmentation of Existing 33kV Delanga feeder.	₹ 7.24	Annexure-11.11
12	BBSR-II	PED	Nayagrah	Binodada	Proposal for refubrishment and augmentation of 33KV Binodpada Feeder.	₹ 0.86	Annexure-11.12
13	BBSR-II	PED	Shamuka	JBPC	Extension of 33kV JBPC feeder from JBPC to Atharnala PSS and Talabania PSS for relibility improvement of Puri town area.	₹ 5.95	Annexure-11.13
14	BBSR-II	NYED	Rajpatana	Dasplla	Refurbishment for 33kV Daspalla feeder from Daspalla PSS to Banigocha PSS, to improve reliability of network and provide quality power supply.	₹ 1.06	Annexure-11.14
15	Cuttack	CED	Phulnakhra	33 kV Phulnakhra Fdr.	Proposal for 33 kV New linking line from Grand Bazar to Dahaliabag PSS-6.5 CKM	₹ 6.04	Annexure-11.15

16	Cuttack	CDD-II	Cuttack	CRRI-1	Proposal for N-1 connectivity for 33/11KV Matagajpur PSS from CRRI-1 Fdr.	₹ 0.74	Annexure-11.16
17	Cuttack	AED	Nuapatna	Tigiria/Athagarh	Proposal for 33 kV linking line of 0.1 KM from Athagarh Fdr. to Tigiria PSS for N-1 connectivity nad augmentation of 2.7 CKM of 33 kV Athagarh Fdr. of Khuntuni GSS.	₹ 1.65	Annexure-11.17
18	Dhenkanal	DED	Gondia	33 kV Nihalprasad Fdr.	Proposal for 33 kV New linking line from 33kv Joranda Fdr to 33kV Nihalprasad Fdr	₹ 0.21	Annexure-11.18
19	Dhenkanal	ANED	Angul	33 kV Angul-2 Fdr.	Proposal for Aug of 33 kV Angul -2 fdr from Angul GSS to Industrial PSS	₹ 0.15	Annexure-11.19
20	Dhenkanal	ANED	Angul	33 kV Ganesh Sponge Fdr.	Proposal for Aug of 33 kV Ganesh Sponge fdr from Angul GSS to Badakera 6-Pole	₹ 2.54	Annexure-11.20
21	Paradeep	KED-II	Kendrapada	New Danpur	Proposal for construction of 13.6 CKM 33 KV line using 232 Sq.mm XLPE AAA Conductor & 1CX630 Sq.mm. XLPE U/G cable for N-1 connectivity between 33/11 kV Korua & Nagaspur PSS	₹ 7.00	Annexure-11.21
22	Paradeep	KED-II	Marsaghai	Mahakalpada	Proposal for construction of 4.8 CKM 33 kV line between 33 kV Luna Fdr. & Thauri Fdr. for N-1 connectivity.	₹ 3.49	Annexure-11.22
23	Paradeep	KED-I	Patamundai	Gogua	Proposal for refurbishment of 6 CKM line of 33 kV Gogua Fdr. and augmentation from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC	₹ 2.36	Annexure-11.23
24	Paradeep	PDP	Paradeep	Tirtol	Proposal for refurbishment of 8.3 CKM line of 33 kV Tirtol Fdr. using to 232 Sq.mm. AAAC for N-1 reliability between 33 kV Tirtol & Gorada Fdr.	₹ 3.81	Annexure-11.24
25	Paradeep	JED	Jagatsinghpur	Naugaon	Proposal for construction of 2 CKM 33 kV O/H line using 232 Sq.mm. AAAC and augmentation of 11.5 CKM line of 33 kV Naugaon Fdr. from 100 Sq.mm. AAAC to 232 Sq.mm. AAAC along with strengthening of 7 CKM 33 kV line & installation of 01 No. of 33 kV O/D bay at Bhatpada PSS.	₹ 7.00	Annexure-11.25
26	Paradeep	JED	Jagatsinghpur	Nabapatna	Proposal for construction of 0.9 CKM line of 33 kV Nabapatna Fdr. using 232 Sq.mm. XLPE AAAC for shifting of line from forest area. (forest area)	₹ 0.45	Annexure-11.26
			Total Cost for Reliability Improvement (Cr.)			**₹ 75.07**	

Proposal for 33 kV Network Reliability

1. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Gothapatna feeder from Chandaka PSS to Malima Chhak

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Gothapatna feeder.

Requirement/ Need of the proposal:

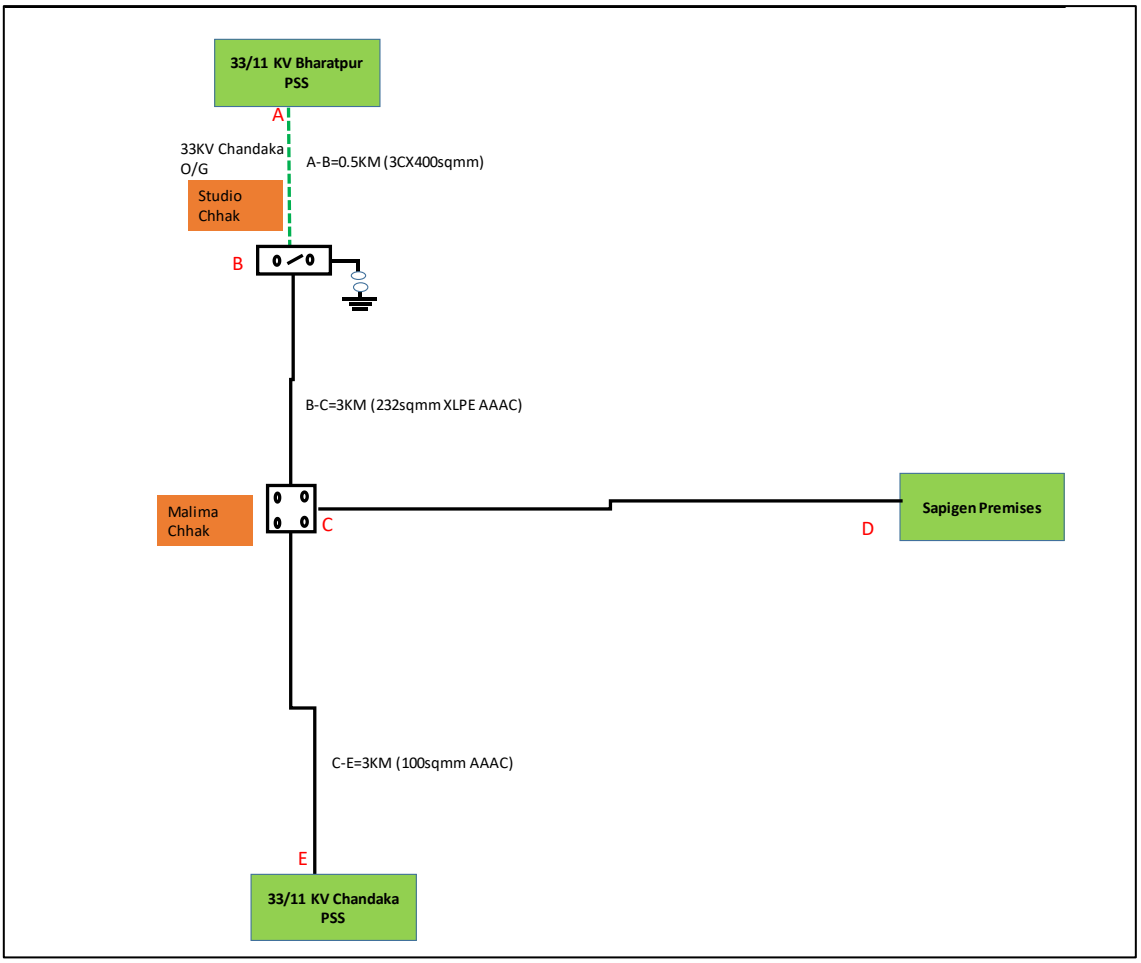
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- Existing 33kV Gothapatna feeder are on U/G+ Bare conductor. The feeder is long and prone to tripping and is in unsafe condition.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- In addition, minimum ground clearance has not been maintained in several places over the feeder.

Existing SLD:



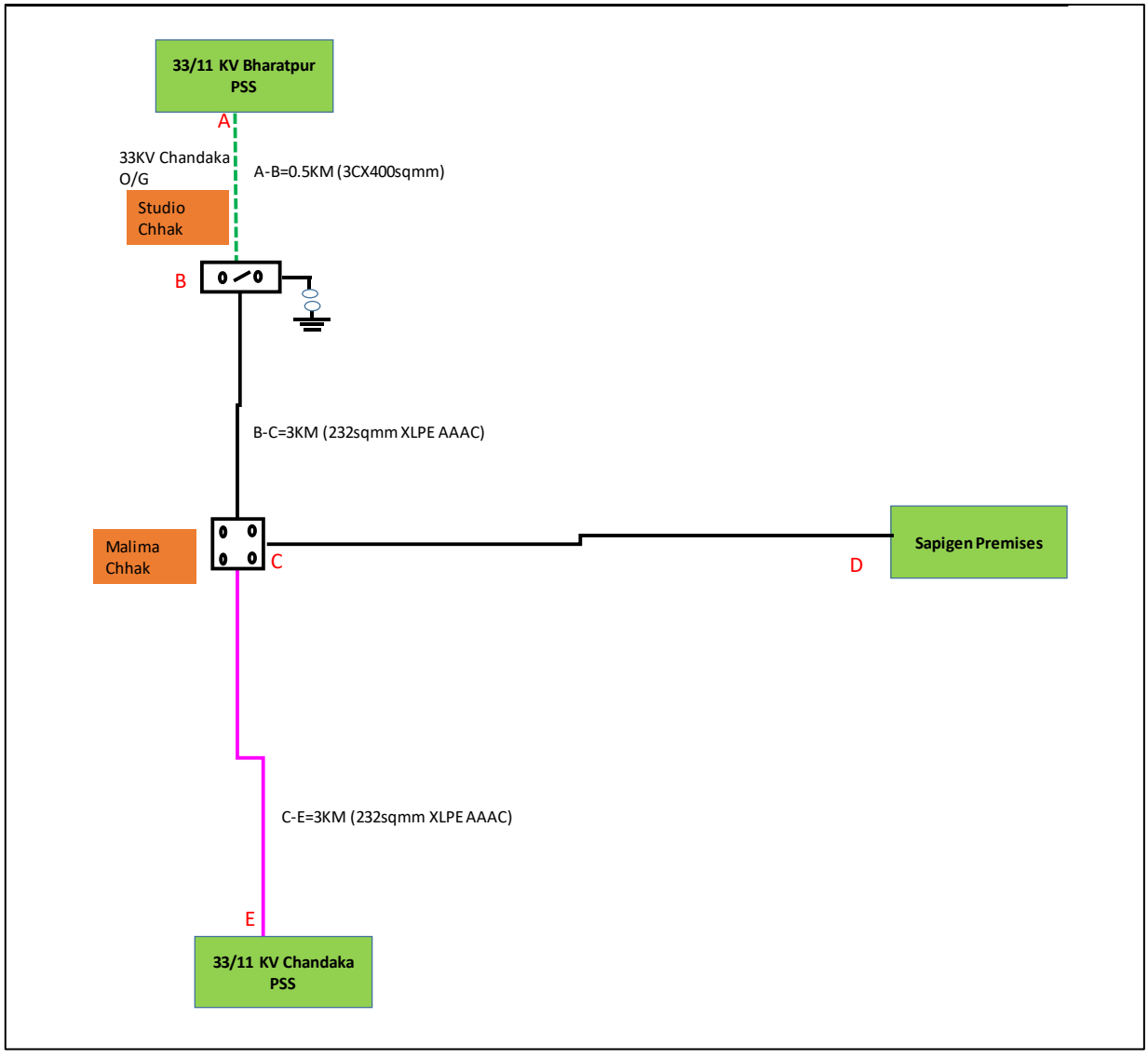
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Gothapatna feeder emanating from Mendhasal GSS are serving 6547 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was 100 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation & refurbishment is proposed for 33kV Gothapatna feeder, to improve safe and reliable power supply.

Proposed SLD:



Scope of Work:

- Augmentation of 33 kV line of 100 Sq.mm. to 232 Sq.mm.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.1			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-2 (BBSR-I)**	
Name of the Work :-		**Augmentation of existing 33 kV Chandaka O/G feeder from Chandaka PSS to Malima Chhak**	
Scope of work:-		**Part-A Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 3KM alongwith intermediate poles.**	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	**A**	**Part-A Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 3KM alongwith intermediate poles.**	**₹ 65,02,503.32**
2	**B**	**Part-B Dismantling**	**₹ 98,746.47**
		Total Amount	**₹ 66,01,249.79**
		Total Amount (In Cr)	**₹ 0.66**
Total estimated cost is Rs. 0.66 Crore. (On TPCODL CAPEX Scheme)			

Cost Estimate: ₹ 0.66 Cr. (For detailed BoQ refer Annexure-11.1).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public

Benefit to the system and consumers:

Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.

2. Proposal for reliability improvement through Power evacuation by constructing new 33kv feeder from Satyanagar GSS to Satyanagar PSS

Proposal:

Proposal for construction of New 33kV underground feeder to Satyanagar PSS and Unit-3 PSS, for enabling reliable power supply by power evacuation form Satyanagar GSS and providing addition 33kV source to PSS.

Requirement/ Need of the proposal:

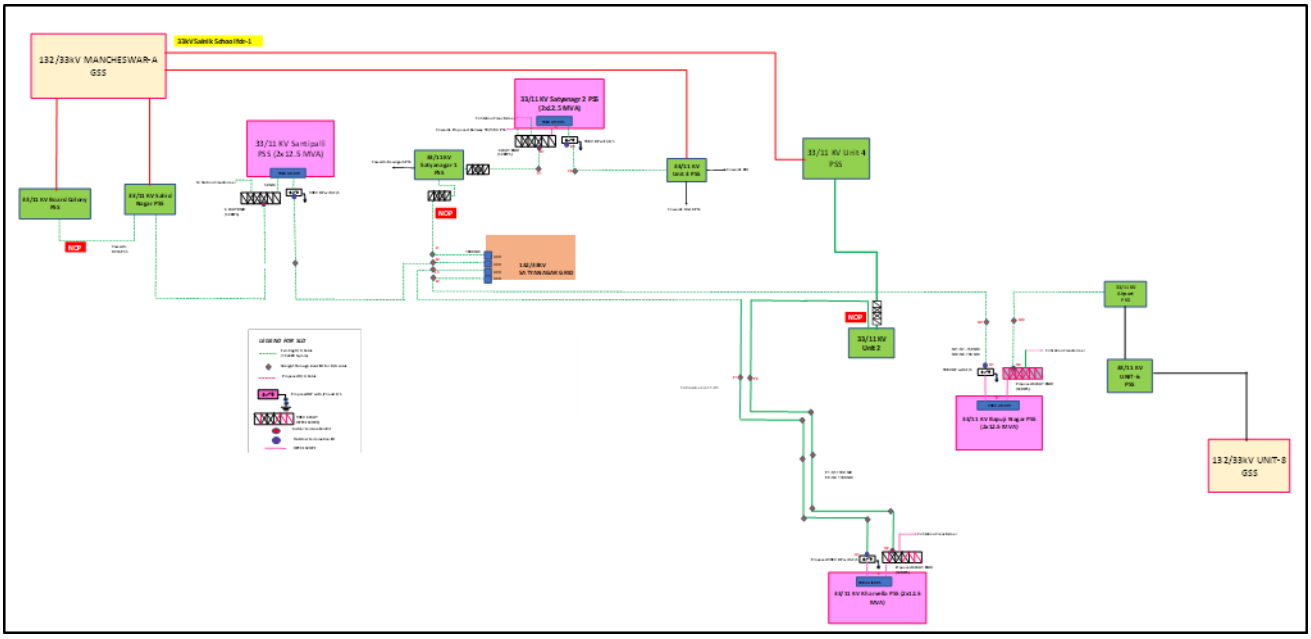
Objective:

To enable reliable power supply by providing additional source connectivity with underground cable and power supply from other GSS to BBSR City Urban Area.

Existing Scenario:

- At present, 33kV Satyanagar feeder is emanating from Satyanagar GSS in underground network providing supply to 33/11kV Satyangar-1 PSS and Satyanagar -2 PSS.
- The feeder is in N-1 condition with 33kv Kharvela Nagar feeder through Unit-3 PSS. Since the feeder is optimally loaded, it is not possible to take the load of 33/11kv Satyanagar -2 PSS in it thereby hampering reliability.

Existing SLD:



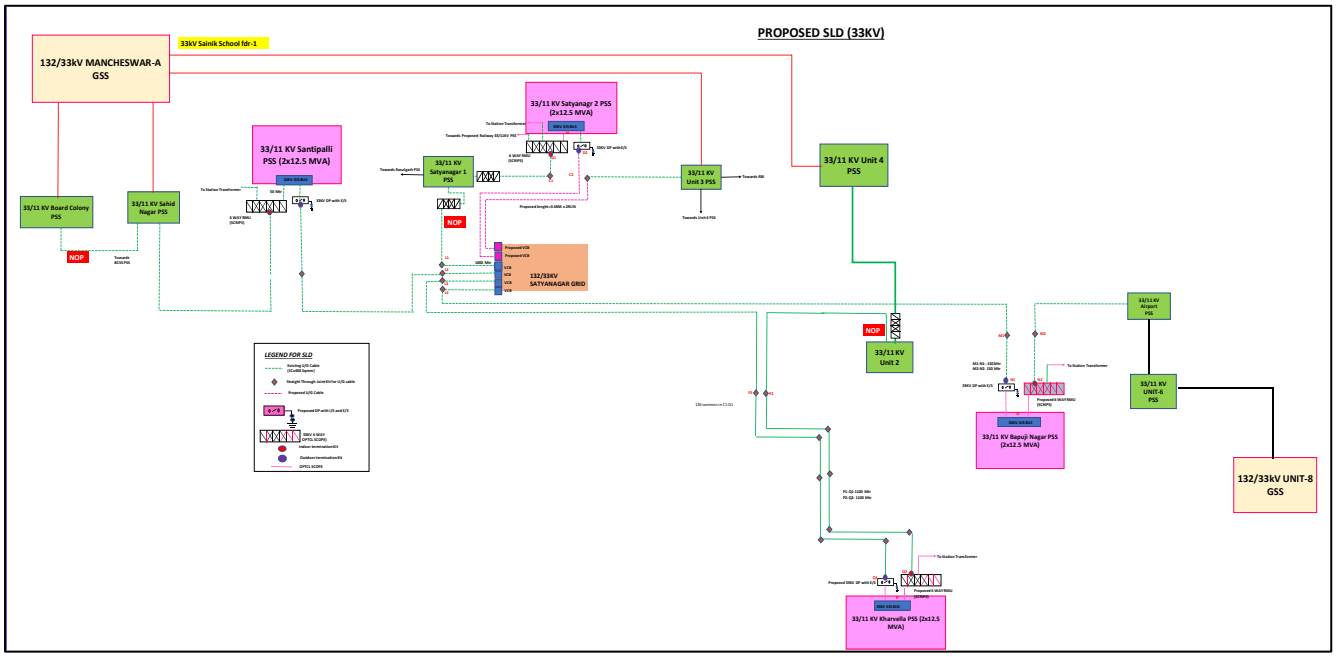
Priority and Timeline of the Project:

Priority: Since at present, the 33Kv Satyanagar feeder emanating from Satyanagar GSS are serving 5486 nos. consumers through existing network. The no. of tripping during the last year was 46 nos. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

Supply and laying of 0.6KM U/G line of 3CX400sqmm from Satyanagar GSS to Satyanagar PSS. 2 no.s of new feeder to be emanated from Satyanagar GSS.

Proposed SLD:



Scope of Work:

Supply and laying of 0.6KM U/G line of 3CX400sqmm from Satyanagar GSS to Satyanagar PSS. 2 no.s of new feeder to be emanated from Satyanagar GSS.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.2			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-1 (BBSR-I)**	
Name of the Work :-		Proposal for 33 kV N-1 reliability to Satyanagar and Unit-3 PSS	
Scope of work:-		Part-A : Supply and laying of 0.6KM U/G line of 3CX400sqmm from Satyanagar GSS to Satyanagar PSS. 2 no.s of new feeder to be emanated from Satyanagar GSS.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A : Supply and laying of 0.6KM U/G line of 3CX400sqmm from Satyanagar GSS to Satyanagar PSS. 2 no.s of new feeder to be emanated from Satyanagar GSS.	₹ 1,59,95,596.26
		Total Amount	**₹ 1,59,95,596.26**
		Total Amount (In Cr)	**₹ 1.60**
Total estimated cost is Rs. 1.60 Crore. (On TPCODL CAPEX Scheme)			

Cost Estimate: ₹ 1.28 Cr. (For detailed BoQ refer Annexure-11.2).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026
ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public

Benefit to the system and consumers:

Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.

3. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Assotech feeder

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Assotech feeder.

Requirement/ Need of the proposal:

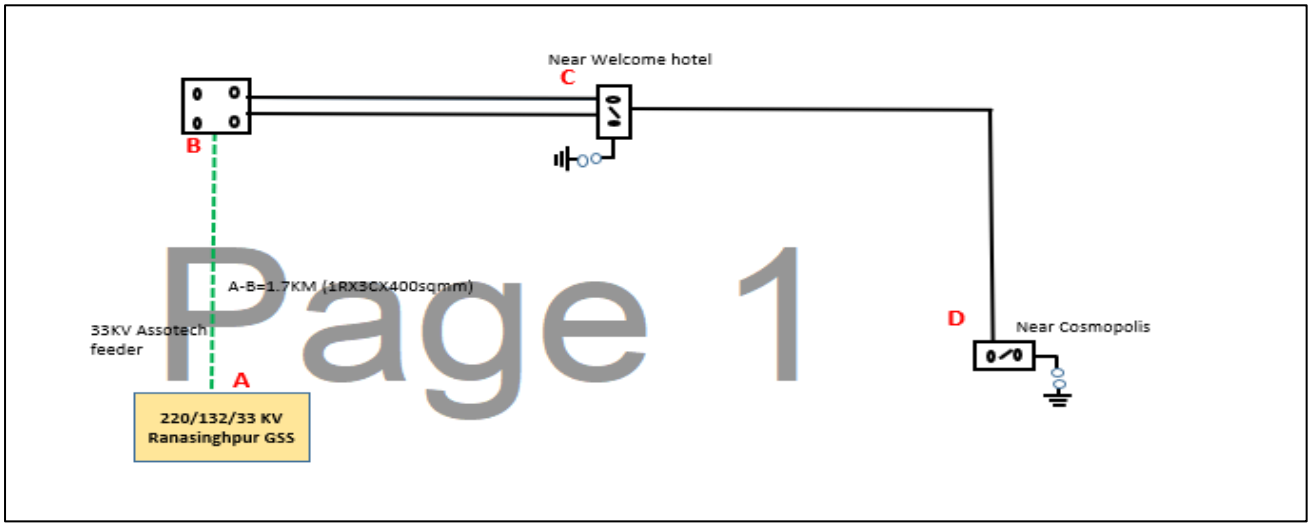
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- Existing 33kV Assoctech are on Bare conductor passing through dense vegetation. The feeder emanating from Ranasinghpur Grid and is in unsafe condition.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- In addition, minimum ground clearance has not been maintained in several places over the feeder.

Existing SLD:



Page 1

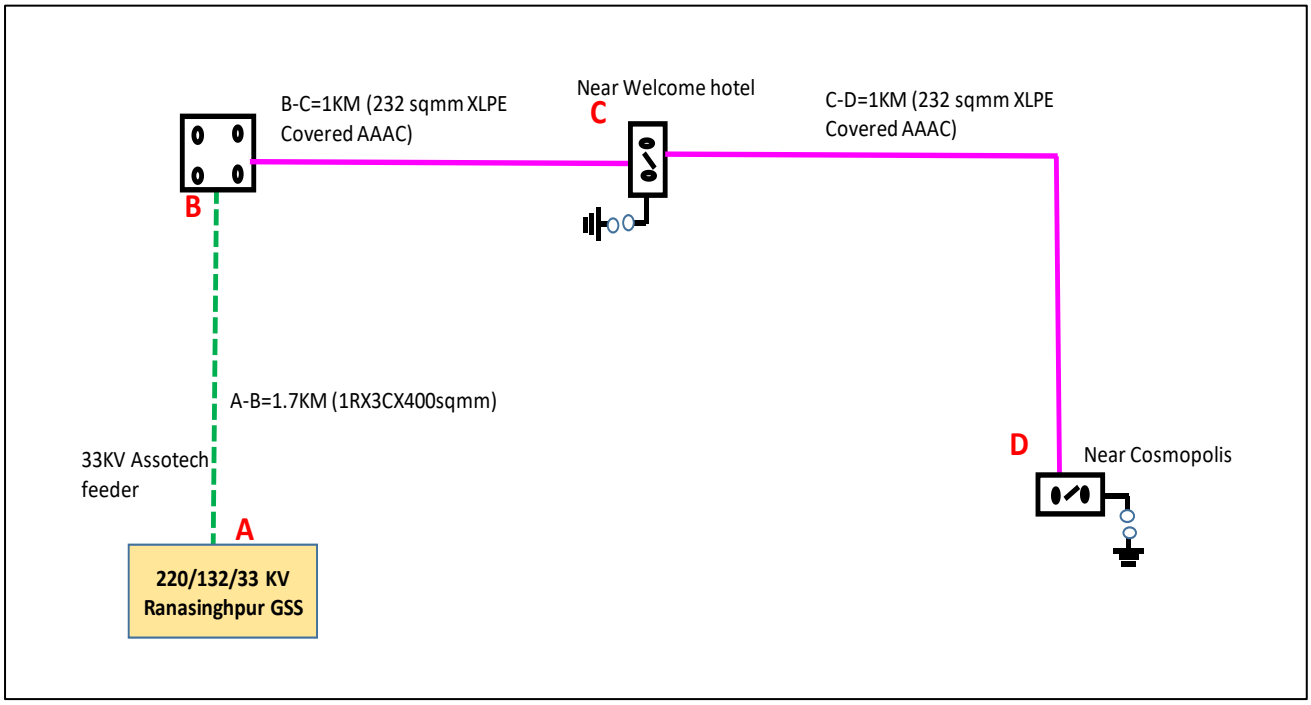
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Assotech feeder emanating from Ranasinghpur GSS are serving 10601 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was 4 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation & refurbishment is proposed for 33kV Assotech feeders from point B to D with XLPE covered conductor to improve safe and reliable power supply.

Proposed SLD:



Scope of Work:

- Augmentation of 2 CKM 33 kV line of 100 Sq.mm. to 232 Sq.mm. XLPE Covered Conductor from 4 pole to Cosmopilis.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.3	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	**BCDD-2 (BBSR-I)**
Name of the Work :-	Augmentation of existing 33 kv Assotech feeder Bare to XLPE Covered Conductor from Ranasinghpur GSS
Scope of work:-	Part-A Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2KM alongwith intermediate poles.
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***
ABSTRACT OF ESTIMATE	

Sl. No.	Part	Description	Amount
1	A	Part-A Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2KM alongwith intermediate poles.	₹ 50,07,287.41
2	B	Part-B Dismantling	₹ 98,746.47
		Total Amount	**₹ 51,06,033.88**
		Total Amount (In Cr)	**₹ 0.51**
Total estimated cost is Rs. 0.51 Crore. (On TPCODL CAPEX Scheme)			

Cost Estimate: ₹ 0.51 Cr. (For detailed BoQ refer Annexure-11.3).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public

Benefit to the system and consumers:

Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.

4. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Vipul feeder from Kalinaganar PSS to Trident Galaxy Apartment

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Vipul feeder.

Requirement/ Need of the proposal:

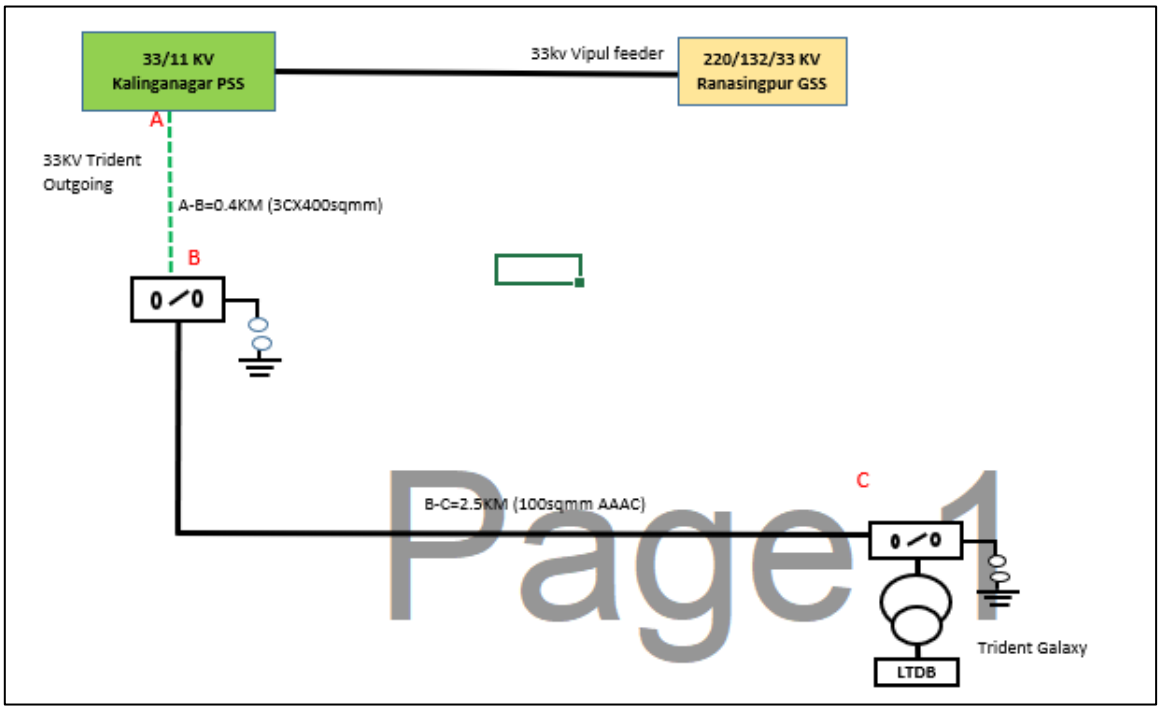
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- Existing 33kV Vipul feeder are on Bare conductor passing through dense vegetation. The feeder emanating from Ranasinghpur Grid and is in unsafe condition.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- In addition, minimum ground clearance has not been maintained in several places over the feeder.

Existing SLD:



Page 1

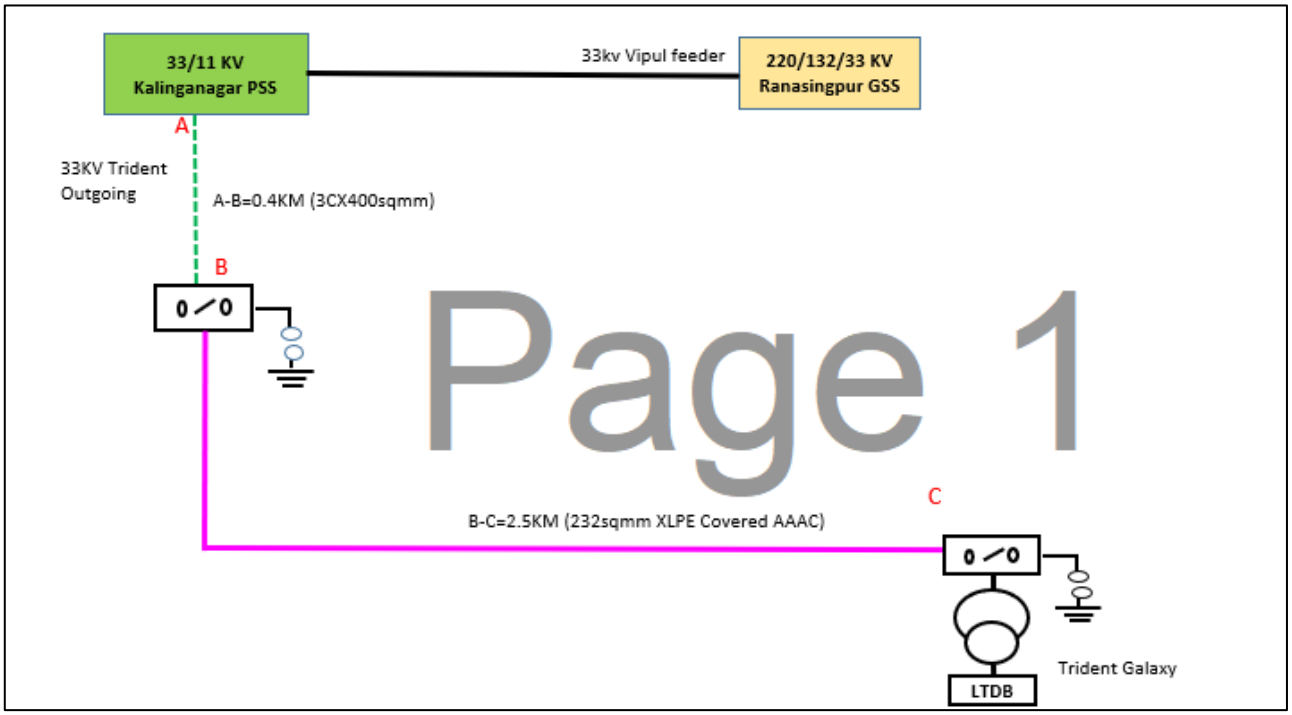
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Vipul feeder emanating from Ranasinghpur GSS are serving 24993 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of tripping during the last year was 34 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation & refurbishment is proposed for 33kV Vipul feeders, to improve safe and reliable power supply.

Proposed SLD:



Scope of Work:

- Augmentation of 2.5 CKM 33 kV line of 100 Sq.mm. to 232 Sq.mm. from Kalinganagar to Trident Galaxy.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.4			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-2 (BBSR-I)**	
Name of the Work :-		Augmentation of existing 33 kV Vipul feeder from Kalinganagar PSS to Trident Galaxy	
Scope of work:-		Part-A Augmentation of existing 100sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2.5KM alongwith intermediate poles.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Augmentation of existing 100sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2.5KM alongwith intermediate poles.	₹ 53,04,561.86

2	B	Part-B Dismantling	₹ 82,288.72
		Total Amount	**₹ 53,86,850.59**
		Total Amount (In Cr)	**₹ 0.54**
Total estimated cost is Rs. 0.54 Crore. (On TPCODL CAPEX Scheme)			

Cost Estimate: ₹ 0.54 Cr. (For detailed BoQ refer Annexure-11.4).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public

Benefit to the system and consumers:

Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.

5. Proposal for reliability improvement through Power evacuation by constructing new 33kv feeder from Balianta GSS to Bhingarpur PSS

Proposal:

Proposal for construction of New 33kV underground feeder to Bhingarpur PSS, for enabling reliable power supply by power evacuation form Balianta GSS and providing addition 33kV source to PSS.

Requirement/ Need of the proposal:

Objective:

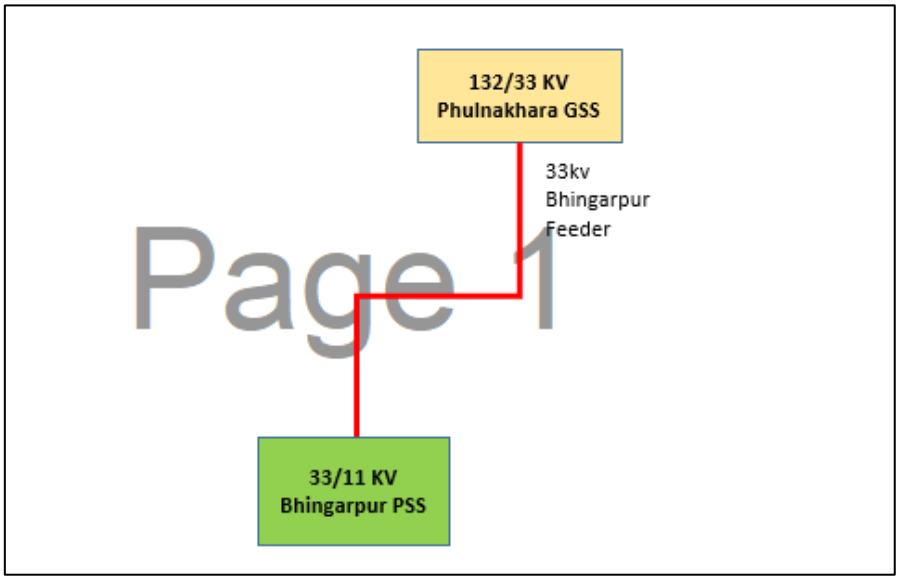
To enable reliable power supply by providing second source connectivity with underground cable and power supply from other GSS to BBSR City Urban Area.

Existing Scenario:

- At present, 33kV Bhingarpur feeder is emanating from Phulnakhara Grid, having 100sq.mm conductor on RSJ Poles. The O/H network is not reliable during inclined whether like Kalbaisakhi and cyclone.
- 33/11kV Bhingarpur PSS having Single 33kV source without n-1 arrangement.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.

- During any breakdown of feeder, the PSS shuts down thereby power failure to all the consumers on the feeder
- In addition, minimum ground clearance has not been maintained in several places over the feeder.

Existing SLD:



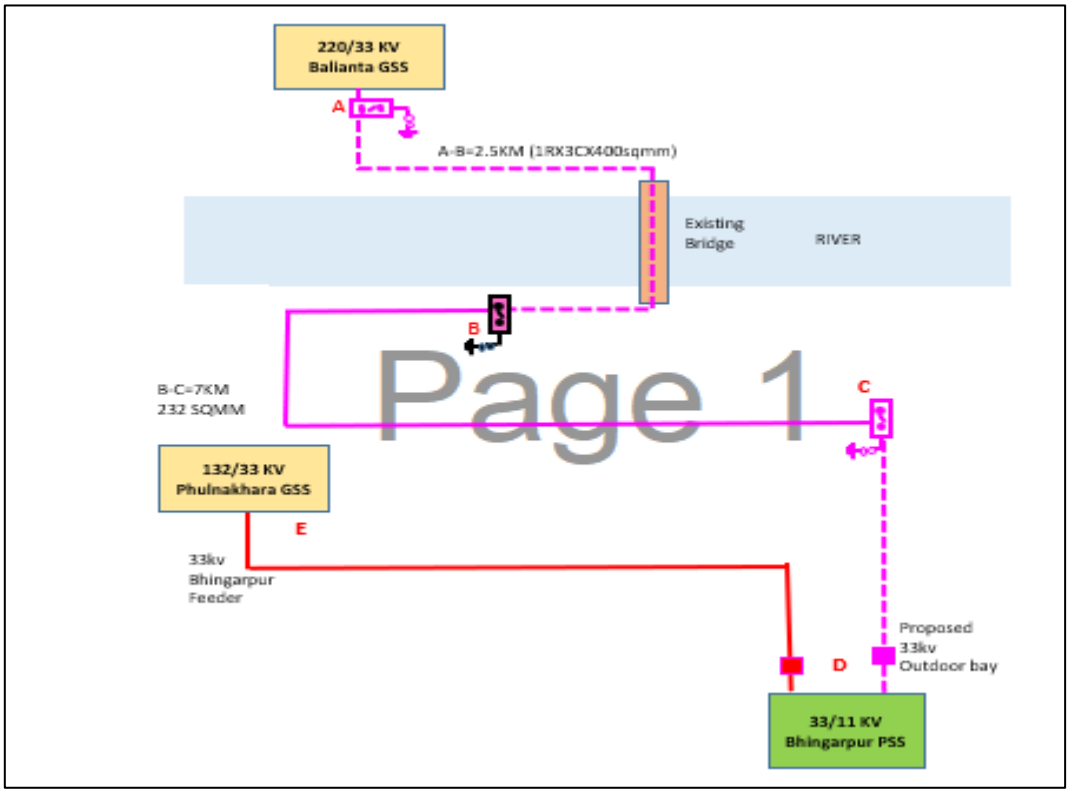
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Bhingarpur feeder emanating from Phulnakhara GSS are serving 6760 nos. consumers through existing network having mixed conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was 51 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Construction of 3CX400sqmm without spare for length- 3.8KM.
- Construction of One No of 33 KV Outdoor Bay at Bhingarpur PSS.
- Construction of 33kv overhead line with 232sqmm for length- 7KM

Proposed SLD:



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Scope of Work:

- Construction of 3CX400sqmm without spare for length- 3.8KM.
- Construction of One No of 33 KV Outdoor Bay at Bhingarpur PSS.
- Construction of 33kv overhead line with 232sqmm for length- 7KM

Proposed Cost with Estimate Break-up:

ANNEXURE-11.5	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	**BED (BBSR-I)**
Name of the Work :-	New 33kV feeder from Balianta GSS to Bhingarpur PSS, for enabling reliable power supply by power evacuation and providing additional 33kV source to Bhingarpur PSS.
Scope of work:-	1. Construction of 3CX400sqmm without spare for length- 3.8KM 2. Construction of One No of 33 KV Outdoor Bay at Bhingarpur PSS Construction of 33kv ovehead line with 232sqmm for length- 7KM
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***

ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A 1. Construction of 3CX400sqmm without spare for length-3.8KM	₹ 3,62,59,336.70
2	B	Part-B :- Construction of One No of 33 KV Outdoor Bay at Bhingarpur PSS	₹ 28,09,149.00
2	C	Part-B Construction of 33kv ovehead line with 232sqmm for length-7KM	₹ 2,58,33,900.80
		Total Amount	**₹ 6,49,02,386.51**
		Total Amount (In Cr)	**₹ 6.49**
Total estimated cost is Rs. 6.49 Crore. (On TPCODL CAPEX Scheme)			

Cost Estimate: ₹ 6.49 Cr. (For detailed BoQ refer Annexure-11.5).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public

Benefit to the system and consumers:

Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.

6. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Sutan Feeder:

Proposal:

Proposal for augmentation and refurbishment of 33kV Sutan feeder.

Requirement/ Need of the proposal:

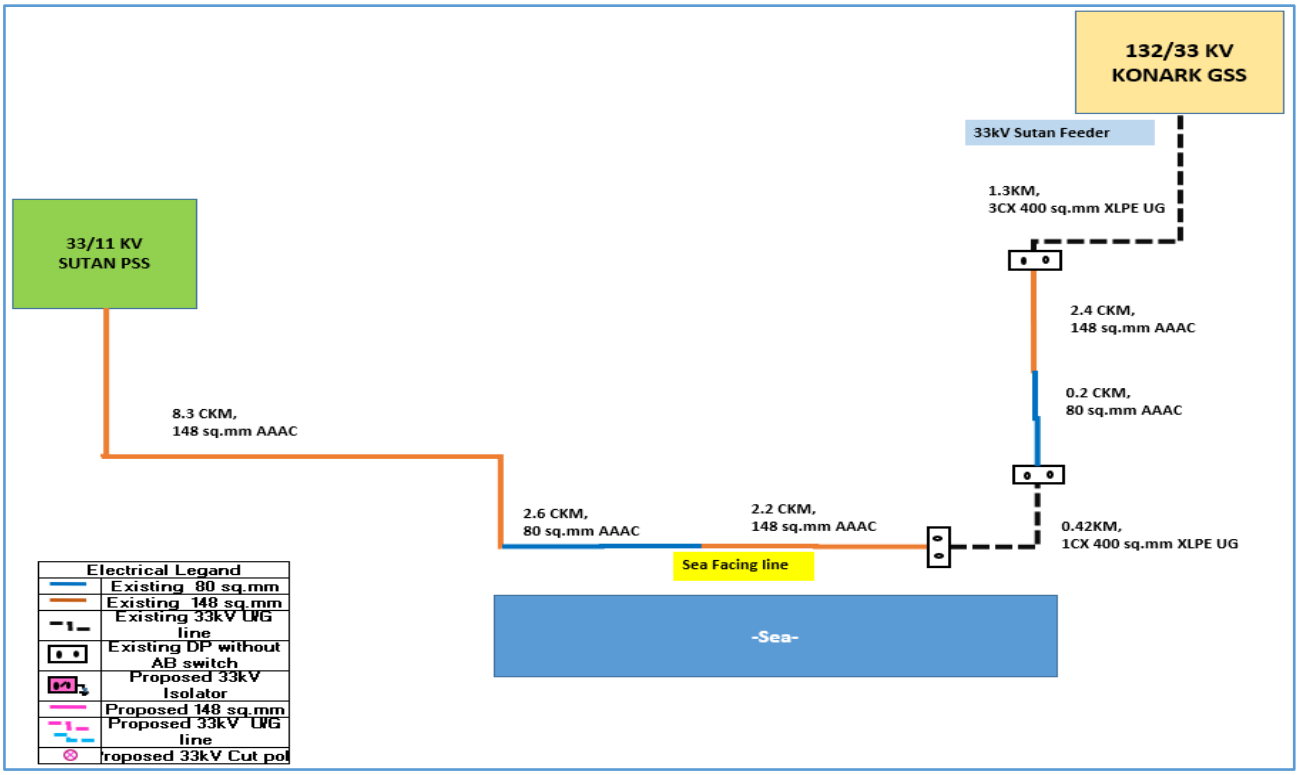
Objective:

To maintain the reliability of power supply, reduce frequent interruptions and conductor snapping, and strengthen the existing network by augmenting weak sections and replacing undersized conductors.

Existing Scenario:

- The existing 33 kV Sutan Feeder emanates from Konark GSS, has undersized conductors, and is in an unsafe condition. The line passes near the embankment of Chandrabhaga Sea Beach.
- The conductors are very old and in weak condition. Due to ageing and brittleness, frequent conductor snapping incidents are being observed.
- Due to the direct exposure of the 33 kV OH line to the sea, the poles and conductors are getting corroded and damaged.
- Furthermore, corrosion of the poles, high wind speeds, and erosion of the pole foundations have resulted in frequent uprooting of poles, causing prolonged shutdowns of the 33 kV feeder.

Existing SLD:



Site Photographs:





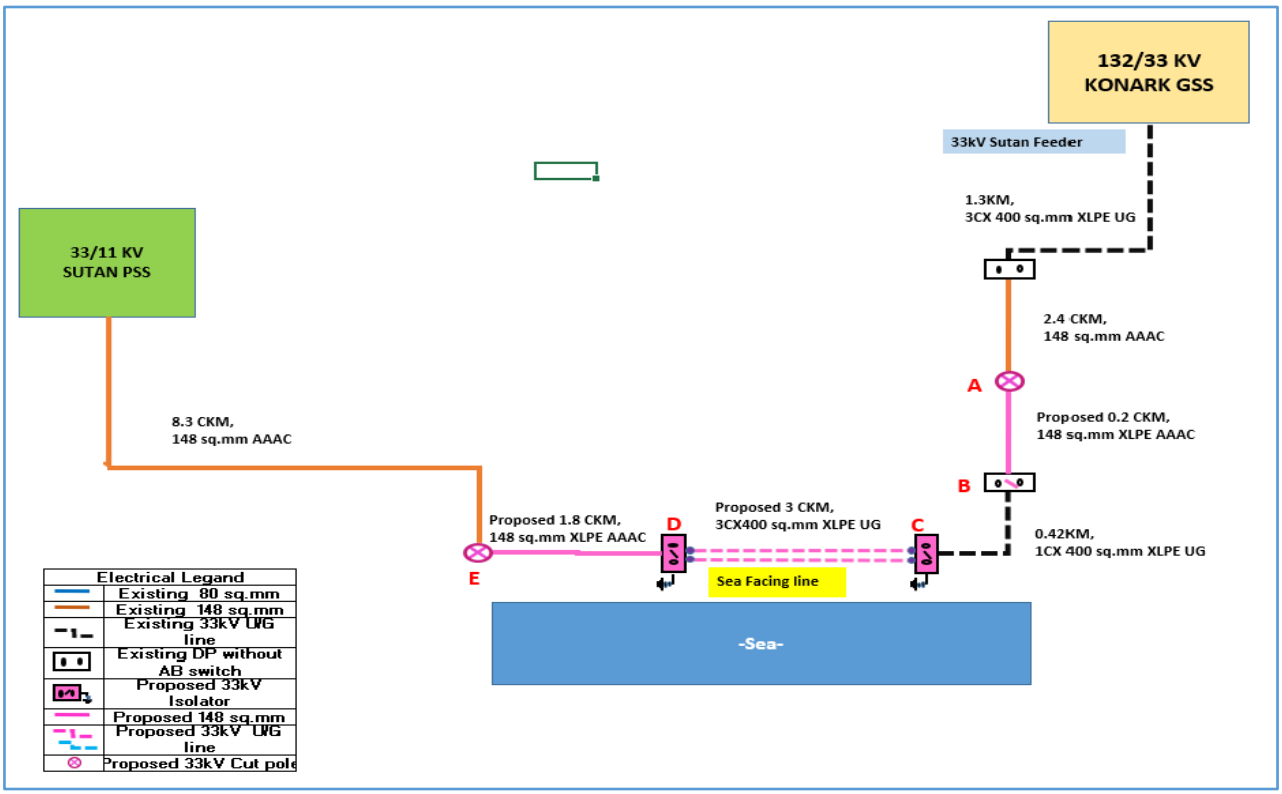
Priority and Timeline of the Project:

Priority: Since at present, the 33 kV Sutan Feeder emanating from Sutan GSS is serving 2,070 consumers through the existing network with lower-size conductors, and further, due to the ageing of the conductors and direct exposure of the 33 kV overhead line to the sea, the poles and conductors are getting corroded and damaged. Multiple joints, frequent faults, and conductor snapping incidents are being observed, affecting the reliability of the power supply. The nos. of tripping during the last year was 56 nos. Additionally, due to vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation of existing overhead section and refurbishment is proposed for 33kV Sutan feeder, from point “A” to “B” and “D” to “E” to improve safe and reliable power supply.
- Conversion of Sea-Facing 33 kV OH Line to UG Cable in between the point “C” to “D” as given in below SLD , to avoid direct exposure of GI poles to the sea side.

Proposed SLD:



Scope of Work:

- Augmentation of 33 kV line using 148 sq.mm XLPE covered AAAC-2CKM.
- Laying of 33kV, 3Cx400sqmm U/G cable - 3KM with one run spare since the feeder is radial in nature.

Proposed Cost with Estimate Break-up:

Annexure-11.6			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division: -		**NED**	
Name of the Sub-Division: -		Nimapada	
Name of the Work: -		Refurbishment of 33kV Sutan Feeder from Labanya Chhaka to Eco retreat to providing reliable power supply.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 33kV, 3Ph, 3W OH Line Length= 2CKM, with 40 Mtr. Span on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 148 SQ.MM. -XLPE AAA Covered Conductor	₹ 45,28,040.18
2	B	PART B: Supply & Laying of 33kV 3CX400sqmm XLPE UG Cableof length = 2.95 KM with one run spare.	₹ 4,03,59,741.05
3	C	PART C: Dismantling of Materials	₹ 84,263.65
		Total Amount	**₹ 4,49,72,044.89**
		Total Amount (In Cr)	**4.5**
Total estimated cost is Rs. 4.5 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹ 4.5 Cr. (For detailed BoQ refer Annexure- 11.6).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

f) Improved reliability of power supply by reducing corrosion-related faults and damage caused by direct exposure to the sea.

Benefit to the system and consumers:

- Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.
- Conversion of the sea-facing 33 kV OH line to UG cable will eliminate frequent faults and conductor damage caused by corrosion due to direct exposure to the sea.

- It will improve the reliability and continuity of power supply by reducing frequent interruptions and conductor snapping.

7. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Dighalo-Gop Feeder:

Proposal:

Proposal for augmentation and refurbishment of 33kV Dighalo-Gop feeder from DIghalo GSS to Gop PSS.

Requirement/ Need of the proposal:

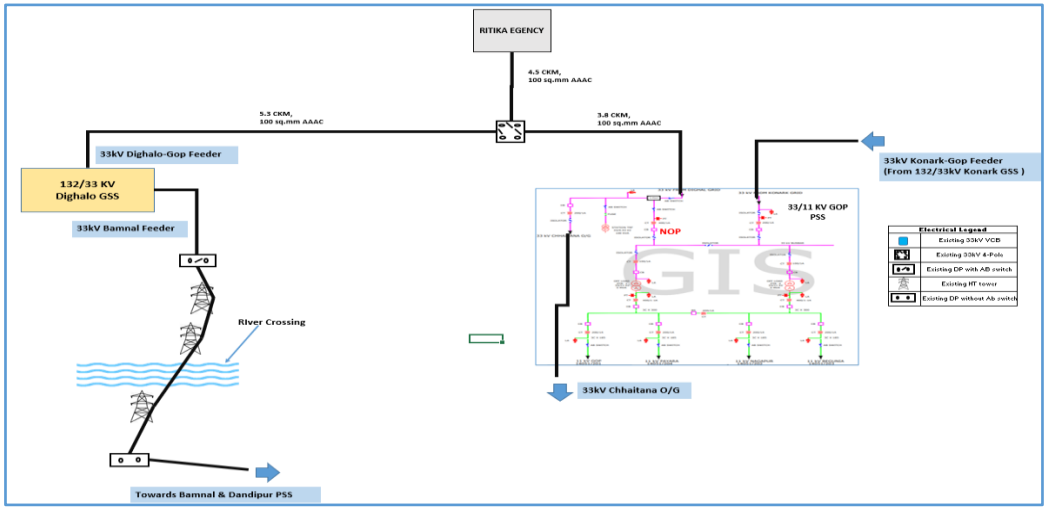
Objective:

To maintain the reliability of power supply, reduce frequent interruptions in the feeder and conductor snapping, and strengthen the existing network by augmenting weak sections and replacing undersized conductors.

Existing Scenario:

- Existing 33kV Dighalo-Gop Feeder is emanating from Dighalo GSS having lower size conductor and is in unsafe condition.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- In addition, minimum ground clearance has not been maintained in several places over the feeder. The line mostly passing through difficult tarrian such as river crossing , paddy fields, dense vegitations causing delay in fault finding and patrolling of the feeder.

Existing SLD:



Priority and Timeline of the Project:

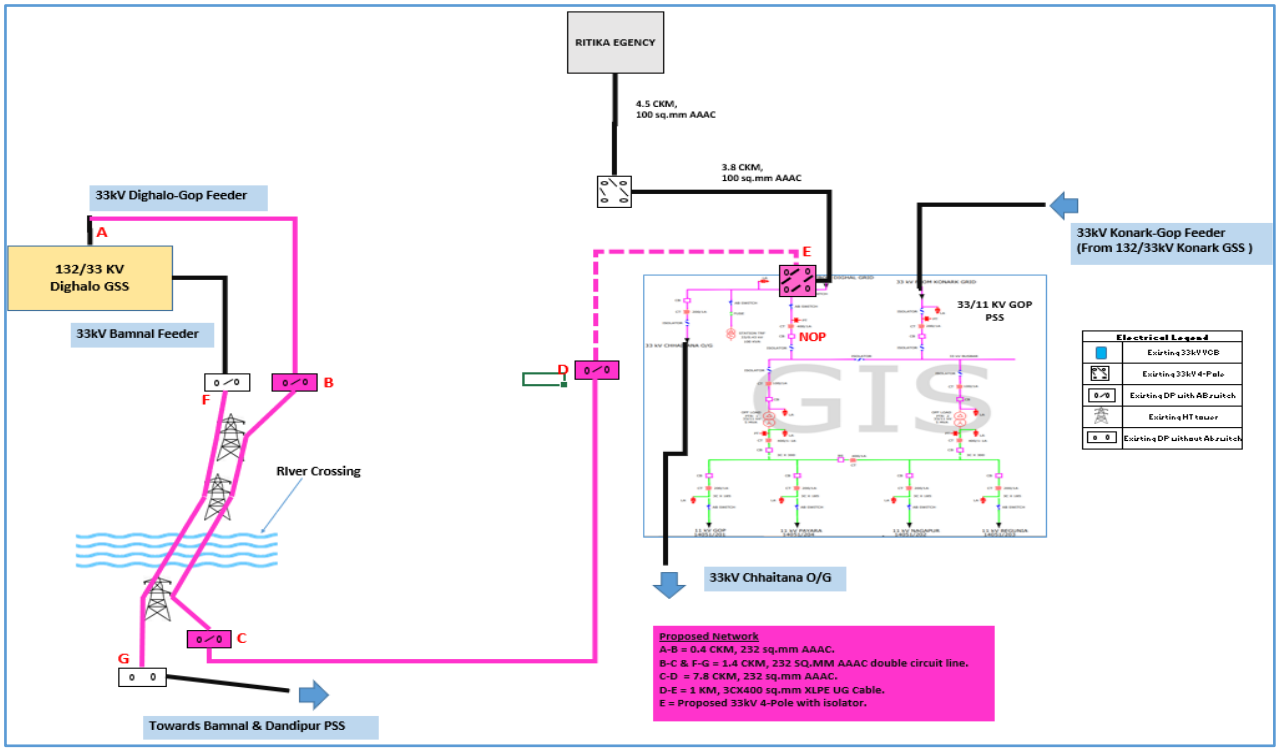
Priority: Since at present, the 33kV Dighalo-Gop feeder emanating from Dighalo GSS are serving 11895 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was 64 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the

feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation & refurbishment is proposed for 33kV Dighalo-Gop feeder, to improve safe and reliable power supply.

Proposed SLD:



Scope of Work:

- Construction of 33kV , 3Ph, 3W Line Length= 9.6 CKM with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor & 14 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP from Dighalo GSS to Gop PSS along with 1kM UG network near to the market area of Gop PSS.

Proposed Cost with Estimate Break-up:

Annexure-11.7	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	**NED**
Name of the Sub-Division : -	Nimapada
Name of the Work :-	Refursbishment and augmentation of 33kV Dighalo-gop Feeder from Dighalo GSS to Gop PSS.
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**
ABSTRACT OF ESTIMATE	

Sl. No.	Part	Description	Amount
1	A	PART A: Construction of 33kV , 3Ph, 3W Line Length= 9.6 CKM with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor & 14 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP.	₹ 3,28,23,186.01
2	B	PART B: Supply & laying of 33kV 3CX400sqmm UG Cable length = 1 KM without spare run.	₹ 1,11,10,987.24
3	C	PART C: Construction of 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with 3 Nos. of Isolator and LA Set.	₹ 7,27,248.21
4	D	PART D: Dismantling of Materials	₹ 3,28,459.53
		Total Amount	**₹ 4,49,89,881.00**
		Total Amount (In Cr)	**4.50**
Total estimated cost is Rs. 4.5 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹ 4.5 Cr. (For detailed BoQ refer Annexure- 11.7)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.
- It will improve the reliability and continuity of power supply by reducing frequent interruptions and conductor snapping.

8. Proposal for reliability improvement and overloading mitigation by augmentation and refurbishment 33kV Balugaon Feeder:

Proposal:

Proposal for augmentation and refurbishment of 33kV Balugaon feeder of 2.3 kM from Balugaon GSS to Balugaon PSS.

Requirement/ Need of the proposal:

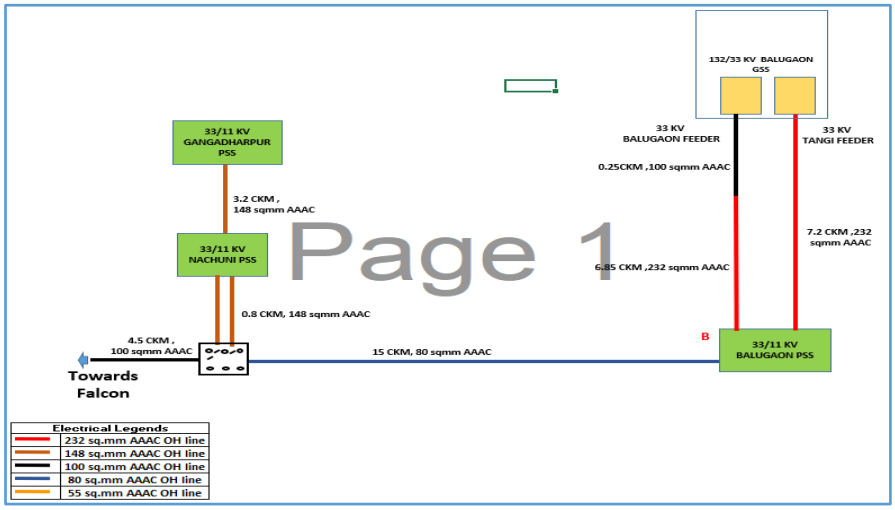
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- The existing 33 kV Balugaon Feeder emanating from Balugaon GSS consists of both 232 sq. mm and 100 sq. mm AAAC conductors.
- The section highlighted in black consists of 100 sq. mm AAAC conductors and passes through a portion of a residential area. This section is in a highly unsafe condition, as the conductors have become brittle and weak due to ageing.
- Due to the ageing and brittleness of the conductors, frequent conductor snapping incidents are being observed.

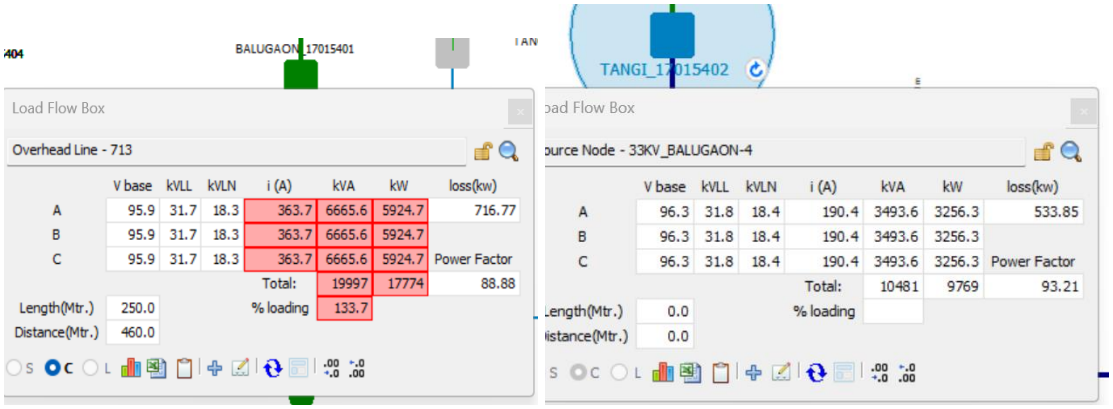
Existing SLD:



Page 1

Existing Summer'26 Loading and projected load at 33kV Balugaon and Tangi Feeder:

Existing Loading								
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status Summer'28**
Balugaon	Balugaon	15.54	15.90	102%	Overload	19.94	128%	Overload
Balugaon	Tangi	25.71	8.00	31%	OK	10.04	39%	OK



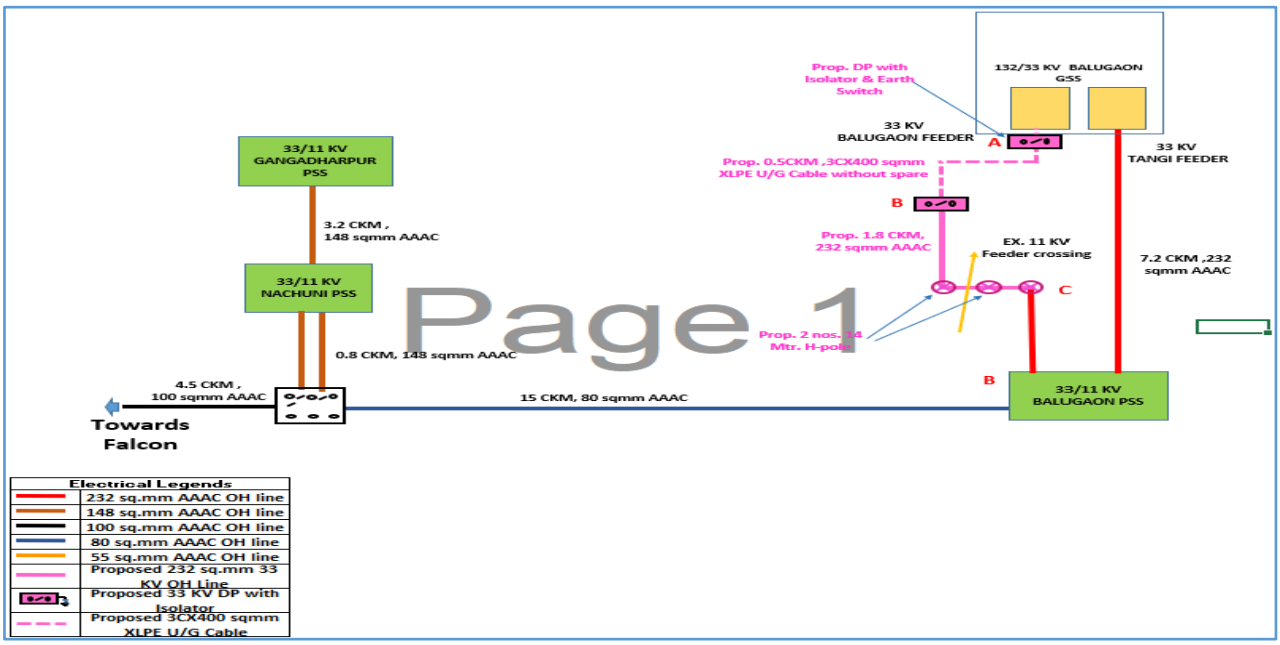
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Balugaon feeder emanating from Balugaon GSS are serving 28044 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was 47 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation and diversion from vegetation land is proposed for 33kV Balugaon feeder, to improve safe and reliable power supply.

Proposed SLD:

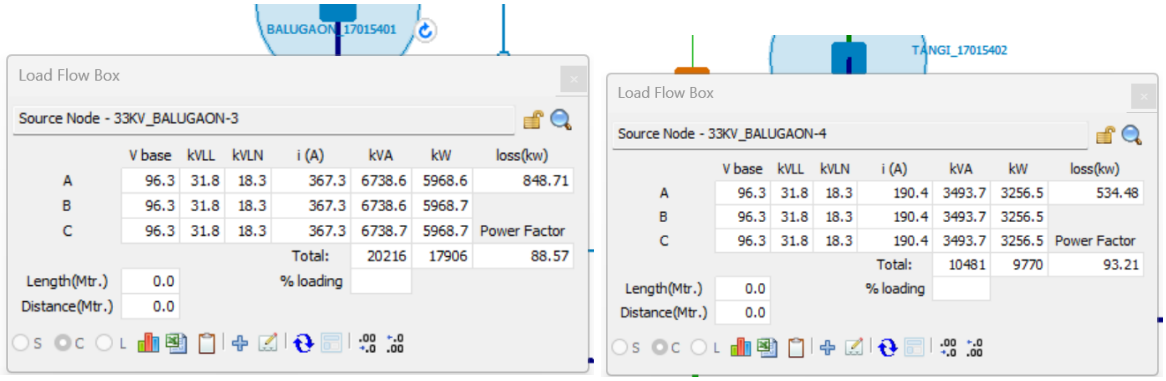


Scope of Work:

- Augmentation of Damaged 100 sq. mm Section of 33 kV Line to 232 sq. mm laying of 0.6 KM 33kV 1CX630sqmm U/G Cable.

Existing Summer'26 Loading and projected load at 33kV Balugaon and Tangi Feeder after execution of proposal:

Loading after Proposal (Summer'28)					
GSS Name	**33kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load (MVA)**	**% Loading**	**Feeder Overloading Status**
Balugaon	Balugaon	25.71	19.94	78%	OK
Balugaon	Tangi	25.71	10.04	39%	OK



Proposed Cost with Estimate Break-up:

Annexure-11.8			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-	**Balugaon**		
Name of the Sub Division :-	**Balugaon**		
Name of the Work :-	Proposal for augmentation of 33KV Balugaon Feeder from Balugaon GSS.		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 1.8 CKM 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor & 13 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP. (Refer PSLD point B-C)	₹ 73,19,550.30
2	B	PART B: Supply & Laying of 0.6 KM 33kV 1CX630sqmm U/G Cable without spare run. (Refer PSLD point A-B)	₹ 78,69,714.28

3	C	PART C: Dismantling of Materials	₹ 1,08,032.17
		Total Amount	**₹ 1,52,97,296.74**
		Total Amount (In Cr)	**₹ 1.53**
Total estimated cost is Rs. 1.53 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹ 1.53 Cr. (For detailed BoQ refer Annexure-11.8).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.
- It will improve the reliability and continuity of power supply by reducing frequent interruptions and conductor snapping.

9. Proposal for reliability improvement of 33kV Ankulapadar Feeder and providing 33kV second source connectivity to 33/11kV Solari PSS :

Proposal:

Proposal for Construction of a New 33 kV Linking Line between the 33 kV Ankulapadar and Tangi–Balugaon Feeders to Improve Network Reliability at Solari PSS by Providing a 2nd Source and Enabling Ring Connectivity.

Requirement/ Need of the proposal:

Objective:

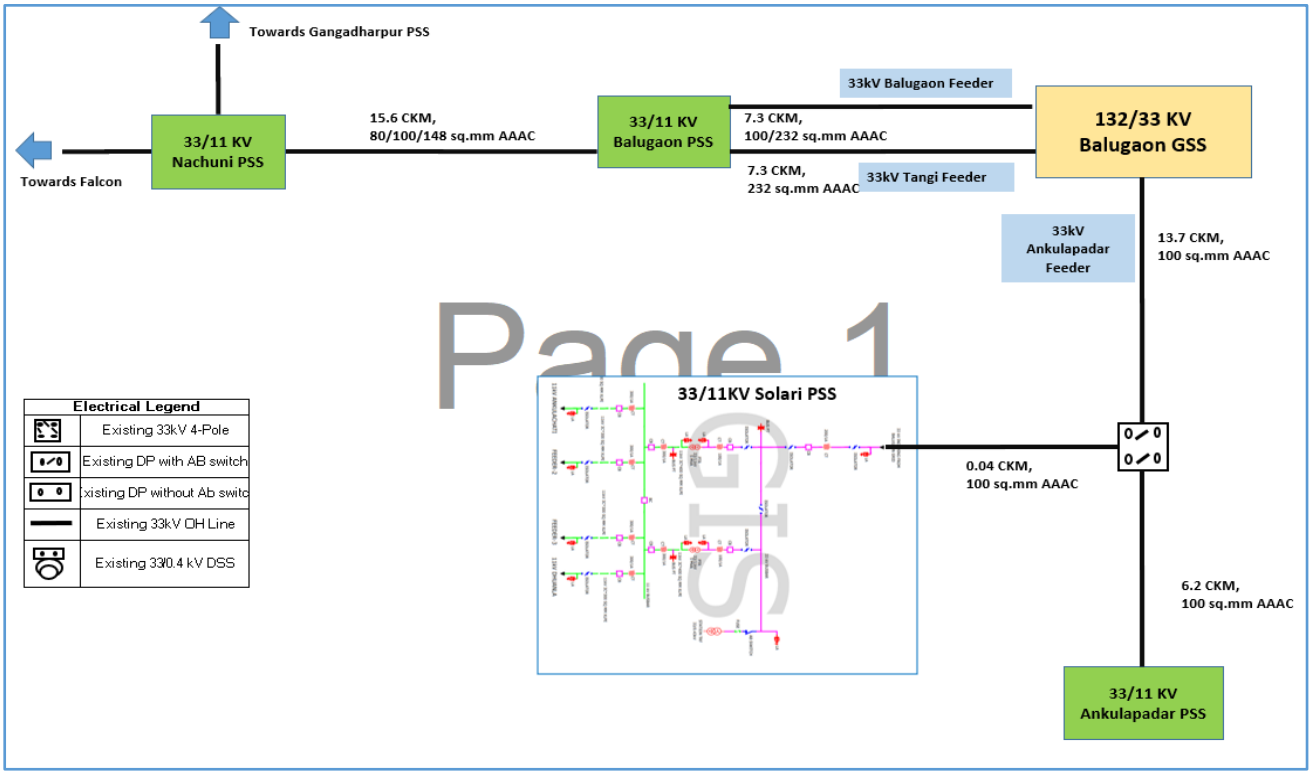
Provision of 2nd Source to Solari PSS through 33 kV Bay and N-1 Reliability for 33 kV Ankulapadar Feeder.

Existing Scenario:

- At present, 33kV Ankulapadar feeder is emanating from Balugaon GSS and feeding power supply to 33/11kV Solari PSS and Ankulapadar PSS.
- 33kV Tangi-Balugaon feeder is emanating from Balugaon GSS and feeding power supply to 33/11kV Nachuni PSS, Gangadharpur PSS and HT Industrial consumers.

- 33 kV Ankulapada Feeder is an OH, radial, and lengthy feeder that passes through vegetation-prone areas, which affects the reliability of power supply to the area during any breakdown or maintenance work.

Existing SLD:



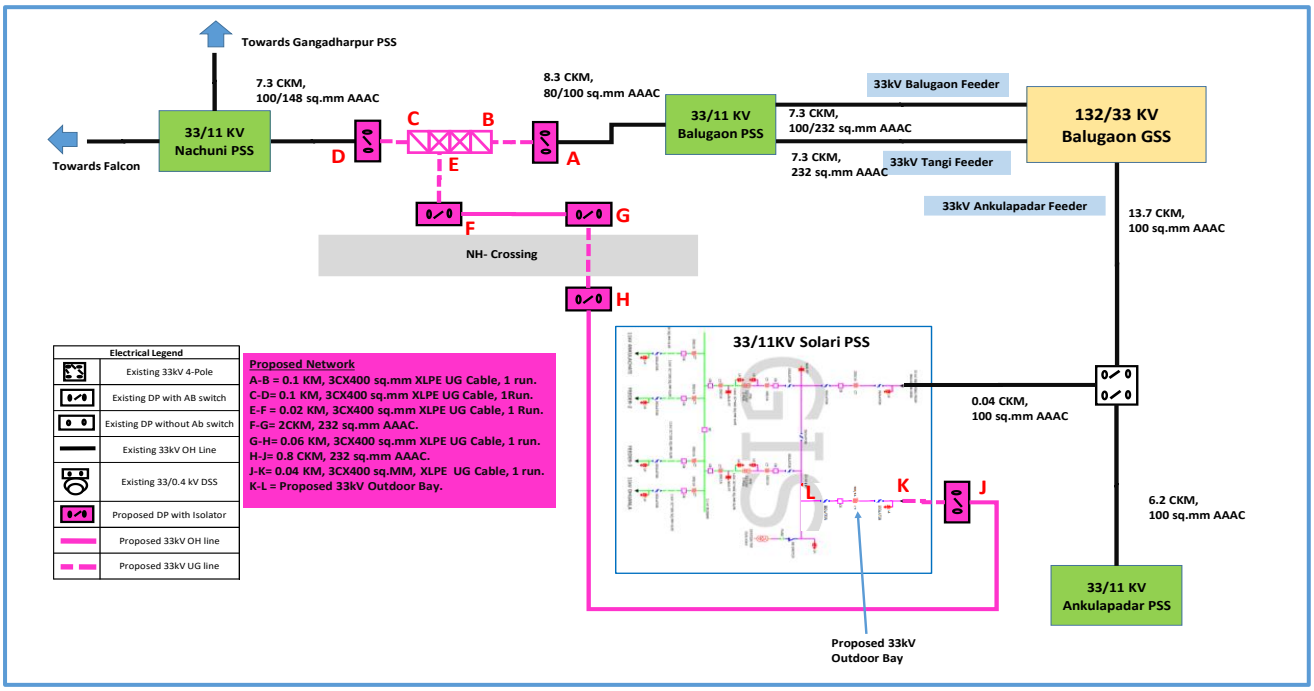
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Ankulapadar and Tangi feeders emanating from Balugaon GSS are serving 32220nos. consumers through existing network. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Construction of a new 33 kV Outdoor Bay at Solari PSS to provide an additional 33kV Source source arrangement for the PSS from 33kV Tangi feeder.
- Construction of new 33kV linking line with 0.32 KM underground cable and 2.8 CKM overhead line.
- After execution of the proposal, Solari PSS will have ring connectivity with an additional source of power supply. Both the 33 kV Ankulapada Feeder and 33 kV Tangi Feeder will achieve N-1 connectivity.

Proposed SLD:



Scope of Work:

1. Laying 3CX400sqmm of XLPE U/G cable- 0.32Ckm.
2. Construction of 2.8 CKM 33 KV O/H line using 232 sqmm AAAC.
3. Construction of 33kV New out door bay at Solari PSS.

Proposed Cost with Estimate Break-up:

Annexure-11.9			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BAED**	
Name of the Sub-Division : -		Balugaon	
Name of the Work :-		Provision of 2nd Source to Solari PSS through 33 kV Bay and N-1 Reliability for 33 kV Ankulapadar Feeder.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Supply & laying of 33kV 3CX400sqmm UG Cable length = 0.32 KM without spare run.	₹ 94,19,722.62
2	B	PART B: Construction of 33kV , 3Ph, 3W Line Length= 2.8 CKM with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor over 13 Mtr H-Pole & WPB Pole.	₹ 1,17,11,867.31
3	C	PART C: Construction of One No of 33 KV Outdoor line bay.	₹ 36,63,786.06
		Total Amount	**₹ 2,47,95,375.98**
		Total Amount (In Cr)	**2.48**
Total estimated cost is Rs. 2.48 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹ 2.48 Cr. (For detailed BoQ refer Annexure-11.9).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Additional 33kV source to PSS with ring connectivity.
- Provide uninterrupted and reliability power supply for Solari PSS.

10. Construction of a New 33 kV Interlinking Line between 33 kV Tangi Feeder and 33 kV Tangi–Chandpur Feeder for N-1 Connectivity and Improved Network Reliability:

Proposal:

Construction of a New 33 kV Interlinking Line between the 33 kV Tangi Feeder and 33 kV Tangi–Chandpur Feeder from Jayamangal Tapping Point to Kuhudi Tapping Point to Achieve N-1 Connectivity and Improve Network Reliability

Requirement/ Need of the proposal:

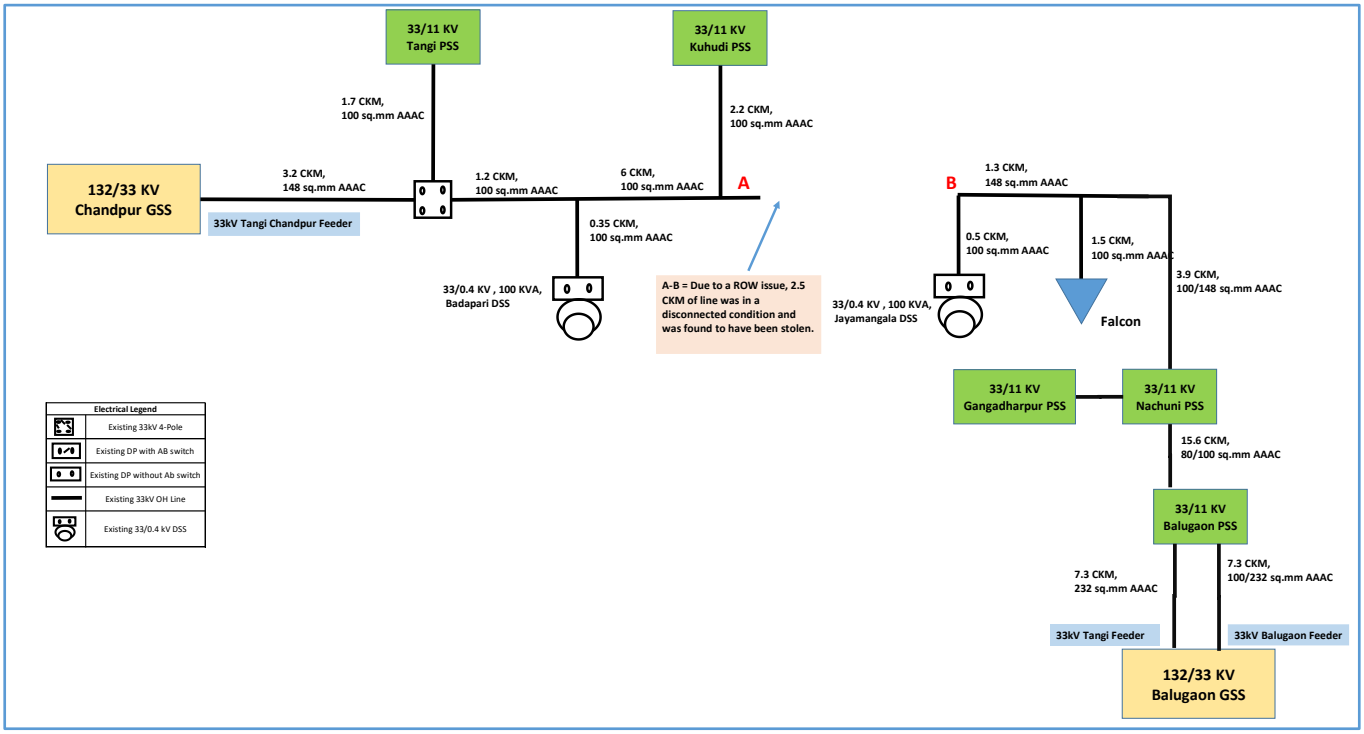
Objective:

To ensure reliable power supply and achieve N-1 connectivity for the 33 kV Tangi Feeder and 33 kV Tangi–Chandpur Feeder.

Existing Scenario:

- At present, the 33 kV Tangi–Chandpur Feeder is emanating from Chandpur GSS and supplying power to 33/11 kV Tangi PSS and Kuhudi PSS. The feeder is radial in nature.
- The 33 kV Tangi Feeder is emanating from Balugaon GSS and supplying power to 33/11 kV Nachuni PSS, Gangadharpur PSS, and HT industrial consumers. The feeder is also radial in nature.
- Both the 33 kV feeders are OH, lengthy, radial, and pass through dense vegetation, which affects the reliability of power supply in the area during breakdowns or maintenance work.

Existing SLD:



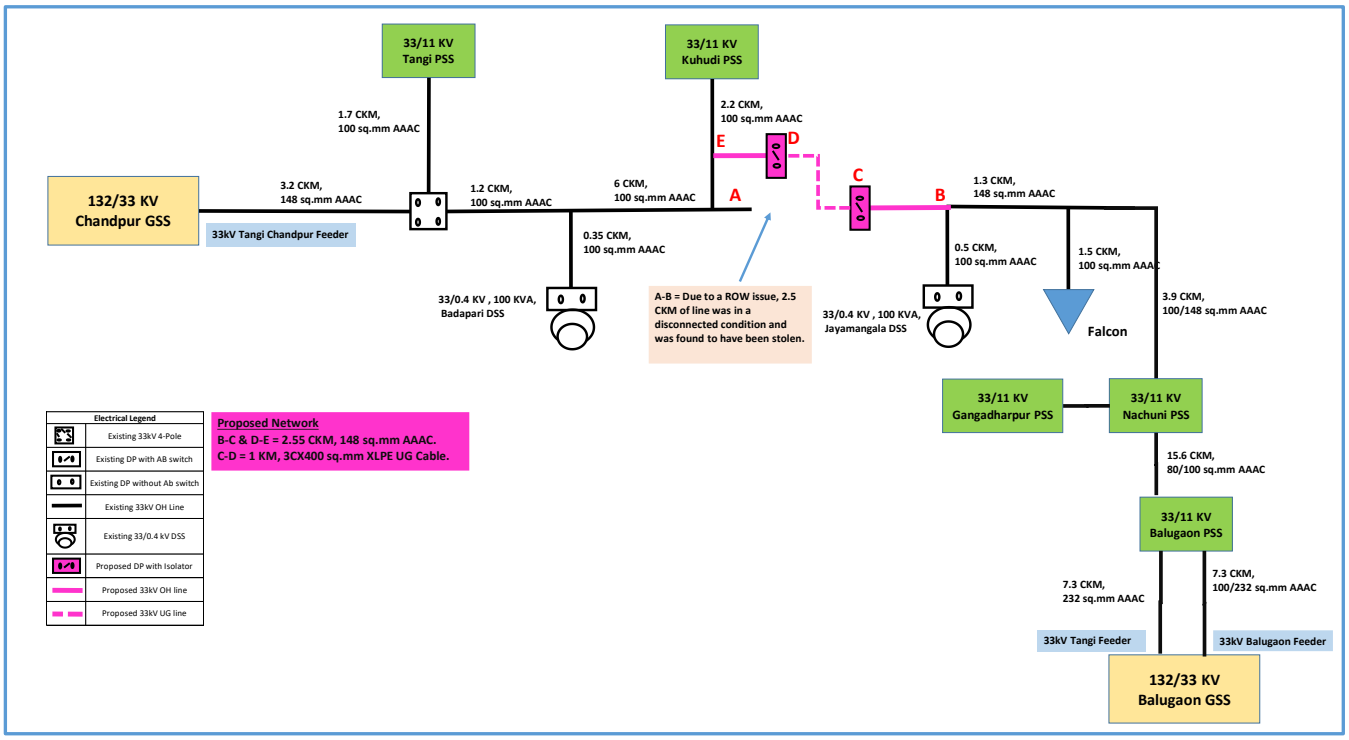
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Tangi-Chandpur feeder emanating from Chandpur GSS is serving 20011nos. consumers and the 33 kV Tangi-Balugaon Feeder emanating from Balugaon GSS is serving 13952nos. consumers through existing network having radial connectivity and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The 33kV Tangi-Chandpur feeder has 88 Nos. tripping and Tangi feeder has 120 Nos. tripping during the last year. Since the feeders are radial in the absence of ring connectivity and reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Construction of interlinking line of 3.55 KM between Tangi- Chandpur Feeder & Tangi feeder from Jaymangal Tapping point to Kuhudi Tapping point.

Proposed SLD:



Scope of Work:

1. Construction of 33 kV line of 148 Sq.mm. AAAC-2.55 CKM and 33kV, 3Cx400sqmm U/G cable-1 KM for inter connection of 33kV Tangi-chandpur feeder with Tangi feeder.

Proposed Cost with Estimate Break-up:

Annexure-11.10			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BAED**	
Name of the Sub-Division : -		Balugaon	
Name of the Work :-		Construction of a New 33 kV Interlinking Line between the 33 kV Tangi Feeder and 33 kV Tangi–Chandpur Feeder to Achieve N-1 Connectivity and Improve Network Reliability.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 33kV , 3Ph, 3W Line Length= 2.55 CKM with 40 Mtr. Span using 148 SQ.MM. -AAA Conductor Over existing pole & 13 Mtr WPB Pole.	₹ 48,60,324.24
2	B	PART B: Supply & laying of 33kV 3CX400sqmm UG Cable length = 1 KM without spare run.	₹ 1,22,28,060.68
		Total Amount	**₹ 1,70,88,384.93**
		Total Amount (In Cr)	**1.71**
Total estimated cost is Rs. 1.71 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹ 1.71 Cr. (For detailed BoQ refer Annexure- 11.10).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Ensuring safe, reliable, and quality power supply to consumers through N-1 connectivity of the 33 kV network.
- Since ring connectivity will be established, power supply can be restored from an alternate source during any breakdown or preventive maintenance work.

11. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Delanga Feeder:

Proposal:

Proposal for augmentation and refurbishment of 33kV Delanga feeder and interlink it with 33KV Argul Taraboi Feeder at Tirimal PSS.

Requirement/ Need of the proposal:

Objective:

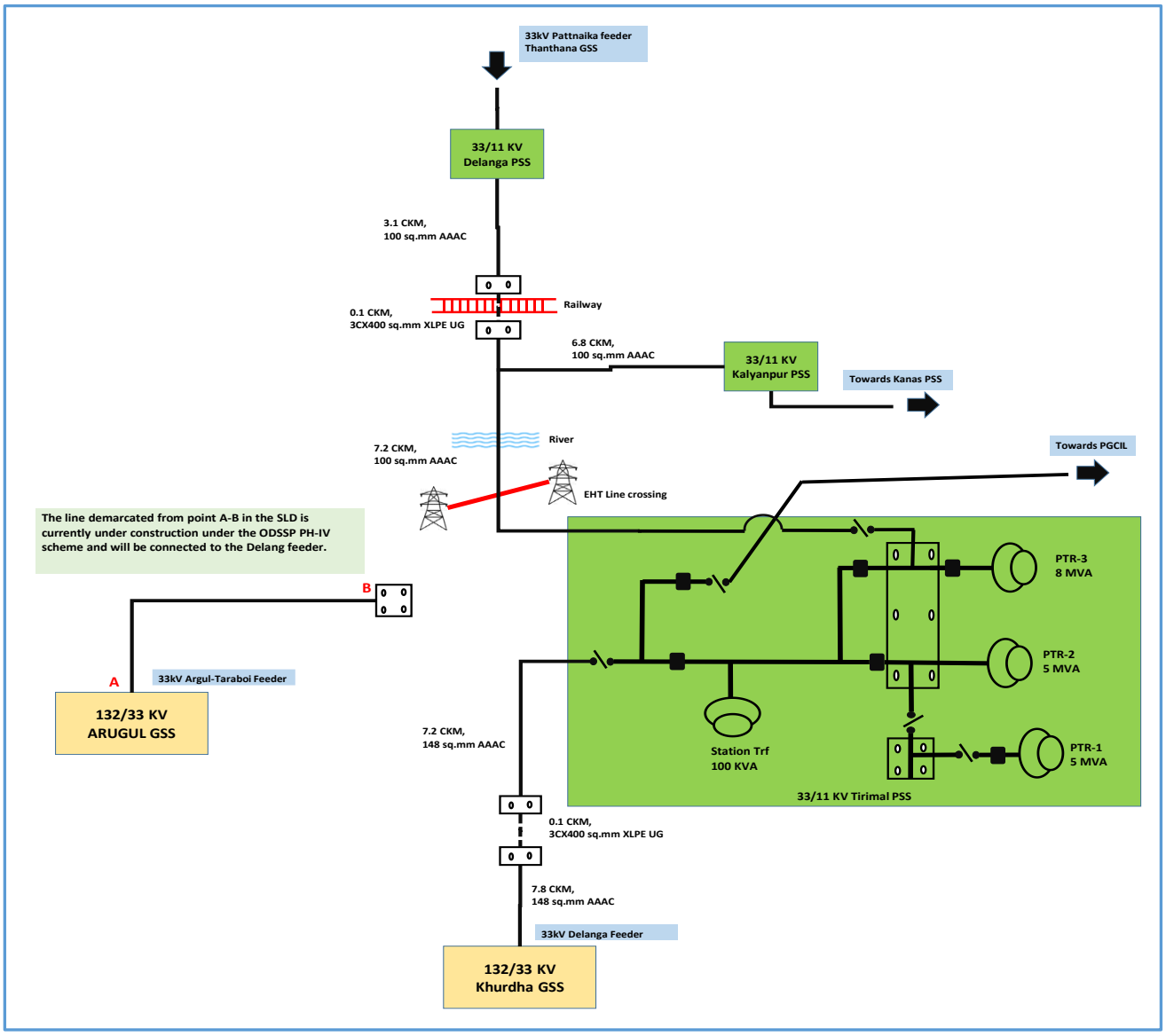
To maintain the reliability of power supply, reduce frequent interruptions and conductor snapping, strengthen the existing network by augmenting weak sections and replacing undersized conductors, and provide ring connectivity with the new 33 kV Delanga Feeder (under construction under ODSSP Ph-IV) emanating from Argul GSS.

Existing Scenario:

- Existing 33kV Delanga Feeder emanating from Khordha GSS having lower size conductor and is in unsafe condition between Tirimal PSS to Delanga PSS .
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.

- 33 kV feeder is overhead, lengthy and pass through dense vegetation, which affects the reliability of power supply in the area during any breakdown or maintenance work.
- Construction work of the 33 kV Argul–Taraboi Feeder from Argul GSS to the Tirimal tapping point is in progress under the ODSSP Ph-IV scheme.

Existing SLD:



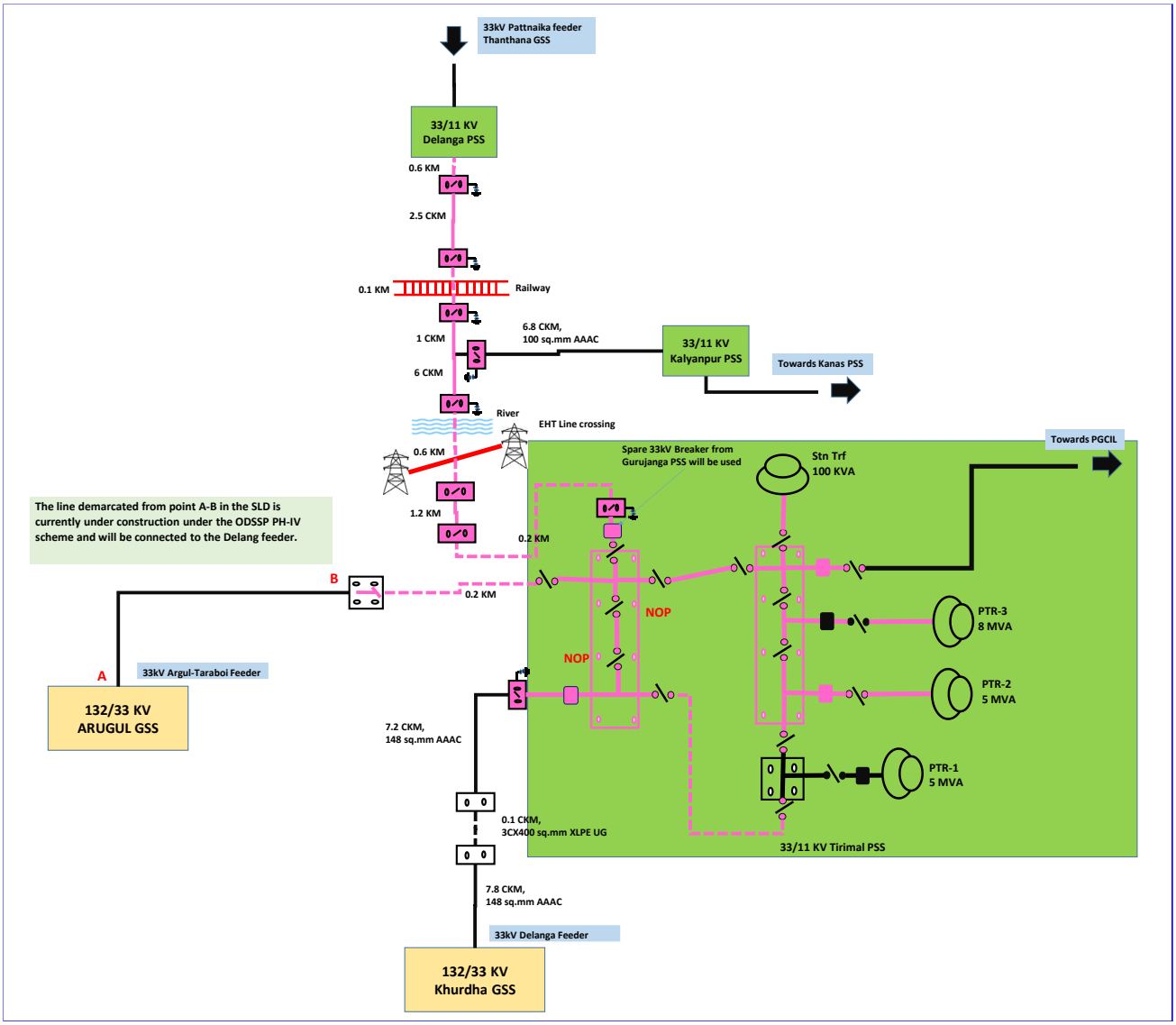
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Delanga feeder emanating from Khordha GSS are serving 22670 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was 225 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Refurbishment of 33 kV Delanga Feeder from Tirimal PSS to Delanga PSS.
- Interlinking of the Proposed 33 kV Argul–Taraboi Feeder with the 33 kV Delanga Feeder at Tirimal PSS.

Proposed SLD:



Scope of Work:

a) Augmentation of 33 kV line of 100 Sq.mm. to 148 Sq.mm. -10.7 CKM

b) Laying of 33kV,3Cx400sqmm U/G cable – 1.4 km.

c) Existing 33kV Bus will be refurbished along with re-orientation of the breakers at Tirimal PSS for feeder interlinking.

d) One 33kV outdoor breaker will be installed for the 33kv outgoing feeder towards Delang PSS. The breaker will be shifted from Gurujanga PSS.

Proposed Cost with Estimate Break-up:

Annexure-11.11			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division: -		**PED and KHD**	
Name of the Sub-Division: -		PURI-II and Khordha	
Name of the Work: -		Refurbishment & augmentation of Existing 33kV Delanga feeder	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Supply & Laying of 33kV 3CX400sqmm UG Cable length= 1.4 KM without spare run.	₹ 1,74,36,312.31
2	B	PART B: Construction of 33kV , 3Ph, 3W Overhead Line Line Length= 8.2 CKM, with 40 Mtr. Span using 148 SQ.MM. -AAA Conductor & 13 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP	₹ 3,14,12,989.17
3	C	PART C: Construction of 33kV , 3Ph, 3W Overhead Line Line Length= 2.5 CKM, with 40 Mtr. Span on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 148 SQ.MM. -XLPE AAA Covered Conductor	₹ 1,10,33,112.32
4	D	PART D: Shifting of 3 Nos. outdoor Bay.	₹ 80,74,854.09
5	E	PART E: Construction of 2 Nos. 33kV Bus.	₹ 32,38,272.51
6	F	PART F: Dismantling of Materials	₹ 12,27,311.25
		Total Amount	**₹ 7,24,22,851.65**
		Total Amount (In Cr)	**7.24**
Total estimated cost is Rs. 7.24 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹ 7.24 Cr. (For detailed BoQ refer Annexure-11.11).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Ensuring safe, reliable and quality power supply to the consumers with strengthning and N-1 connectivity of 33kV network.
- Ring connectivity will be established for Tirimal PSS.
- Tripping will be reduced due to installation of additional breaker for outgoing feeder for Delanga PSS.

12. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Binodpada Feeder:

Proposal:

Refurbishment for 33kV Binodpada feeder from Rajpatna GSS to Itamati PSS, to improve reliability of network and provide quality power.

Requirement/ Need of the proposal:

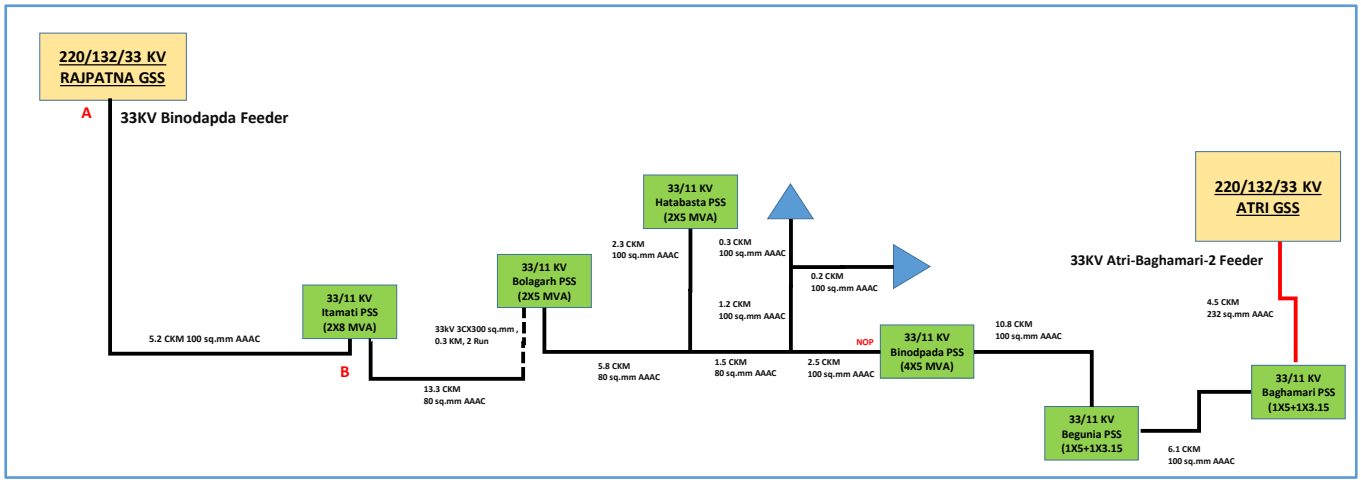
Objective:

To ensure reliable power supply to the Itamati Town area and cater to the load of Bolgarh PSS, Hatabasta PSS, and Binodpada PSS during N-1 contingency of the 33 kV Atri–Baghamari Feeder.

Existing Scenario:

- At present, the 33 kV Binodpada Feeder is emanating from Rajpatana GSS and supplying power to Itamati PSS, Bolgarh PSS, Hatabasta PSS, and some HT consumers. The feeder is connected through the existing 33 kV overhead network with a total line length of 32 CKM. In the existing linking line section, the portion of the feeder from Rajpatana GSS to Itamati PSS, having a line length of 4.7 CKM, consists of a mixed network of OH bare conductors and XLPE cable supported on 10 m PSC poles.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- In addition, minimum ground clearance has not been maintained in several places over the feeder.
- During breakdown or maintenance of the 33 kV Atri–Baghamari-2 Feeder, the 33 kV Binodpada Feeder is unable to cater to the load due to the lower conductor size.

Existing SLD:



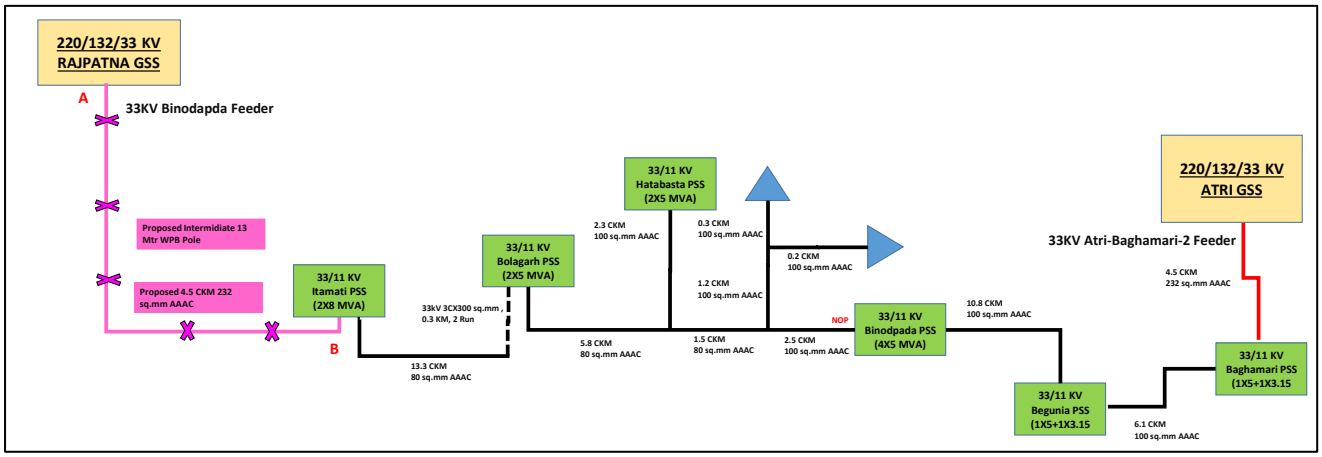
Priority and Timeline of the Project:

Priority: Since at present, the 33kV Binodpada feeder emanating from Rajpatna GSS are serving 34000 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trippings during the last year was 31 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation & refurbishment is proposed for 33kV Binodapada feeder (From Rajpatna GSS to Itamati PSS), to improve safe and reliable power supply.

Proposed SLD:



Scope of Work:

- Augmentation and refurbishment of existing 33kV feeder of length of 4.7 CKM using 232SQ.MM. -AAA XLPE covered Conductor and 13 Mtr WPB poles, from Rajpatana GSS to Itamati PSS.
- Intermediate poles for crossing of existing 11KV Line using 14 Mtr H-Poles.

Proposed Cost with Estimate Break-up:

Annexure-11.12	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Cicle :-	BBSR-2
Name of the Division :-	NYED
Name of the Sub-Division : -	Nayagarh
Name of the Work :-	Proposal for refubrishment and augmentation of 33KV Binodpada Feeder.
Names of Schemes: -	**CAPEX 27-28**
Abstract of Estimate	

Sl. No.	Description	Gross
1	PART A: Augmentation of 4.2 KM 33kV O/H Line using 232SQ.MM. -AAA Conductor.	62,14,281.85
2	PART B: Construction of 6 nos. of 14 Mtr. H-Pole for exsiting 11kV OH line crossing.	8,12,531.82
3	PART C: Augmentation of 0.5 CKM 33kV O/H Line Length on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 232 SQ.MM. -XLPE AAA Covered Conductor.	13,09,418.73
4	PART D: Dismantling of Materials	2,13,577.72
5	**Total Gross**	**85,49,810.13**
Total estimated cost is Rs. 0.86 Cr.		

Cost Estimate: ₹ 0.86 Cr. (For detailed BoQ refer Annexure-11.12).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Strengthening of 33kV Binodpada feeder to improve reliability of the network.
- Improved N-1 connectivity with 33kV Atri-Baghamari feeder, including Itamati PSS and other PSS.
- Ensuring reliable power supply of the Itamati town area.
- Reduction in transient tripping of the feeder due to use of XLPE covered conductor.

13. Proposal for reliability improvement of Puri town area by extension of 33kV JBPC Feeder:

Proposal:

Proposal for extension of 33kV JBPC feeder from JBPC to Atharnala PSS to Talabania PSS for reliability improvement in puri town area.

Requirement/ Need of the proposal:

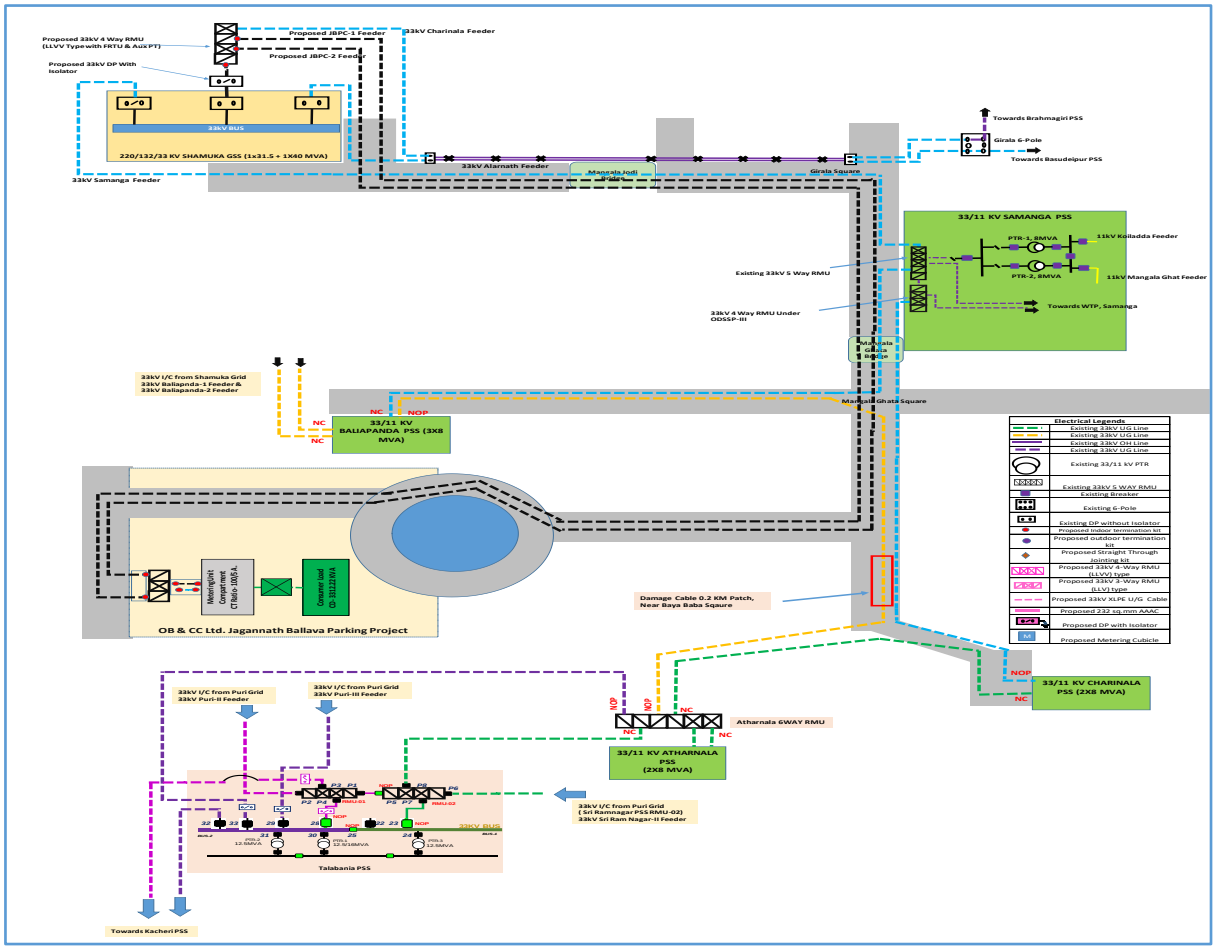
Objective:

To maintain reliability of power supply to Puri town area by extension of 33 KV JBPC feeder and providing N-1 connectivity.

Existing Scenario:

- In the existing scenario, 33/11 kV Talabania PSS, which supplies power to Grand Road, Mausima Temple, Shree Jagannath Temple, and several other critical installations in the Puri town area, is receiving power supply from Puri GSS.
- In the event of any issue at Puri GSS, there may be a delay in restoring power supply to Talabania PSS, which could affect the overall reliability of the Puri town area.
- Recently 33 kV HT consumer JBPC has charged with 2 Nos. UG feeders from Shamuka GSS which is near to Talabania PSS with a distsnce of 3 KM.

Existing SLD:



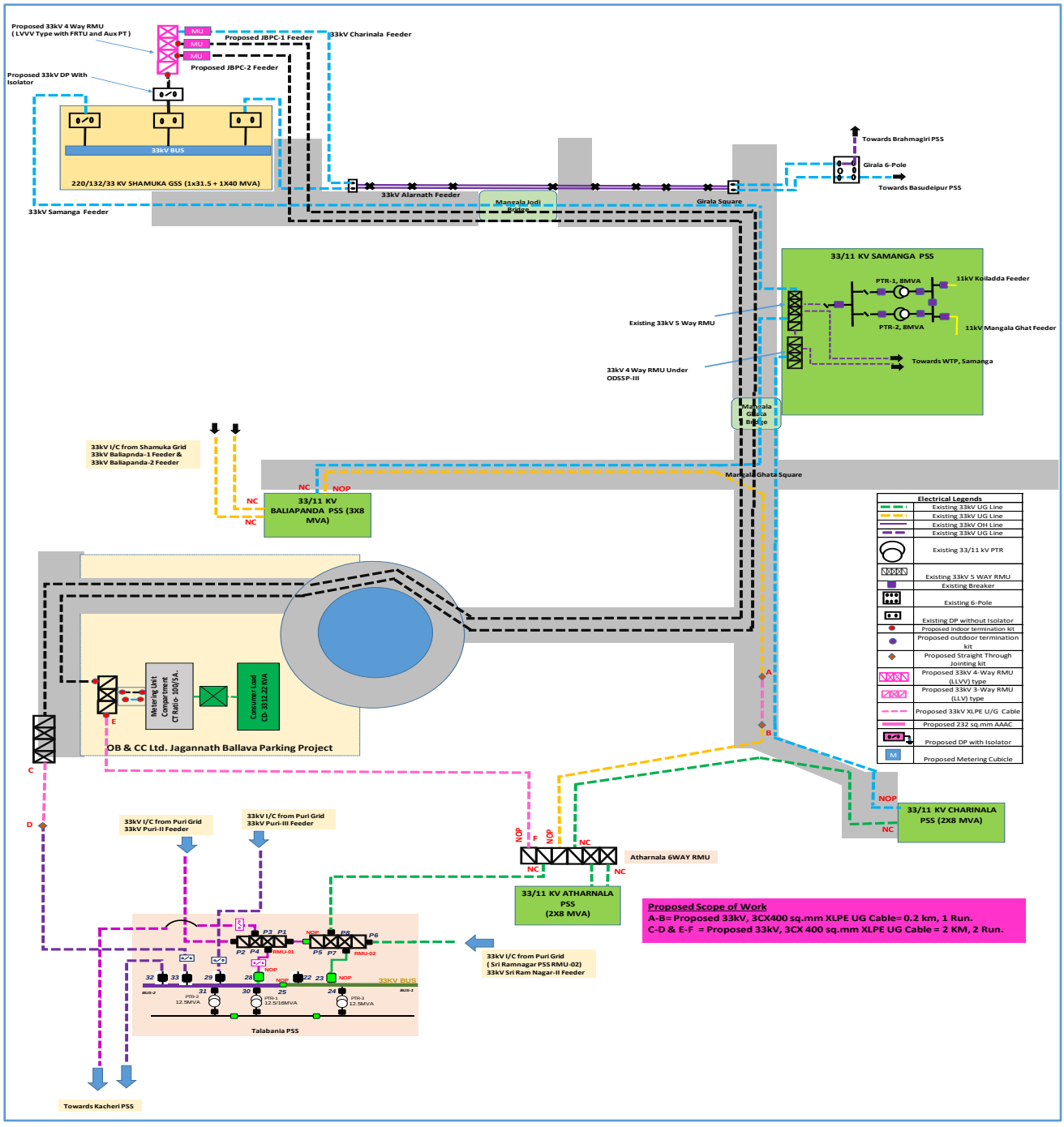
Priority and Timeline of the Project:

Priority: Since Talabania PSS is depend on the Puri GSS, to have a better redundancy and to improve reliability , it is proposed to have additional source to Talabania PSS from Shamuka GSS via JBPC through interconnection.

Proposed Scenario:

- Ex33kV Interconnection is proposed in between JBPC and Talabania PSS for N-1 redundancy and improve reliability.

Proposed SLD:



Scope of Work:

1. Extension of 33 kV line using 3CX400 sqmm U/G Cable-4.2 KM (Single run).

Proposed Cost with Estimate Break-up:

Annexure-11.13			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**PED**	
Name of the Sub-Division : -		PURI-I & PURI-III	
Name of the Work :-		Extension of 33kV JBPC feeder from JBPC to Atharnala PSS to Talabania PSS for reliability improvement in puri town area	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A:- Supply & laying of 33kV, 3CX400 sq.mm XLPE U/G Cable =4.2 Km Without spare run.(Refer proposed SLD point A-B, C-D & E-F)	₹ 5,85,63,393.51
2	B	PART B:- Installation of 3 Nos. of metering cubicle for feeder out going.	₹ 9,67,777.64
		Total Amount	**₹ 5,95,31,171.15**
		Total Amount (In Cr)	**5.95**
Total estimated cost is Rs. 5.95 Crore. (On TPCODL Capex Scheme)			

Cost Estimate: ₹ 5.95 Cr. (For detailed BoQ refer Annexure-11.13).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

Benefit to the system and consumers:

- Ensuring safe, reliable and quality power supply to the consumers of Puri town area with ring connectivity of 33kV network.

14. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Daspalla Feeder:

Proposal:

Refurbishment for 33kV Daspalla feeder from Daspalla PSS to Banigocha PSS) to improve reliability of network and provide quality power supply.

Requirement/ Need of the proposal:

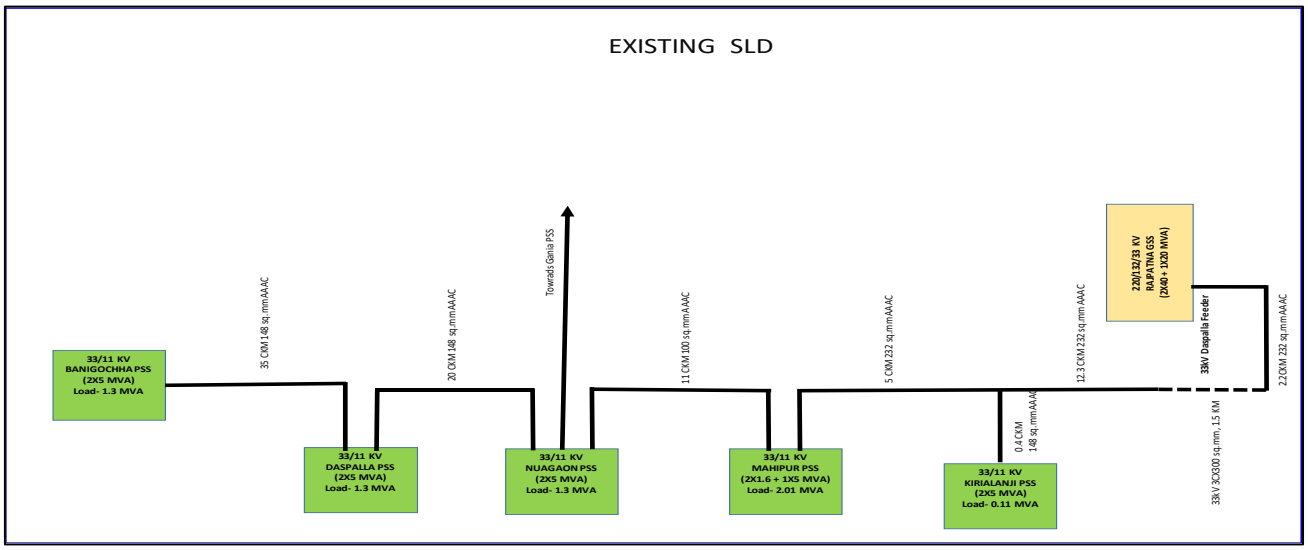
Objective:

To ensure reliable power to Banigocha area and as well as 2nd connectivity to Daspalla town from upcoming Dasplla GSS.

Existing Scenario:

- At present, Daspalla feeder is emanating from Rajpatana GSS and feeding power to Kirialanji PSS, Mahipur PSS, Nuagaon PSS, Daspalla PSS and Banigocha PSS. The feeder is connected through 33 overhead network with an existing line length of 87 CKM. In this area of existing linking line, part of the feeder from Daspalla PSS to Banigocha PSS with a line length of 35 CKM having mix network of OH Bare conductor & XLPE Conductor with 13 Mtr H-Pole.
- The feeder in unsafe condition due to theft of jointing plates from the H-Poles for which poles get breakdown even during small wind pressure and frequent tripping occurs due to passing through dense vegetation.
- At some portion of this feeder the ground clearance is not in safe condition due to long spans.
- Daspalla PSS as well as Banigocha PSS is radially connected to Rajpatana GSS.
- Considering the existing network condition, it is not in safe condition and being radial network affecting reliability of power supply.

Existing SLD:



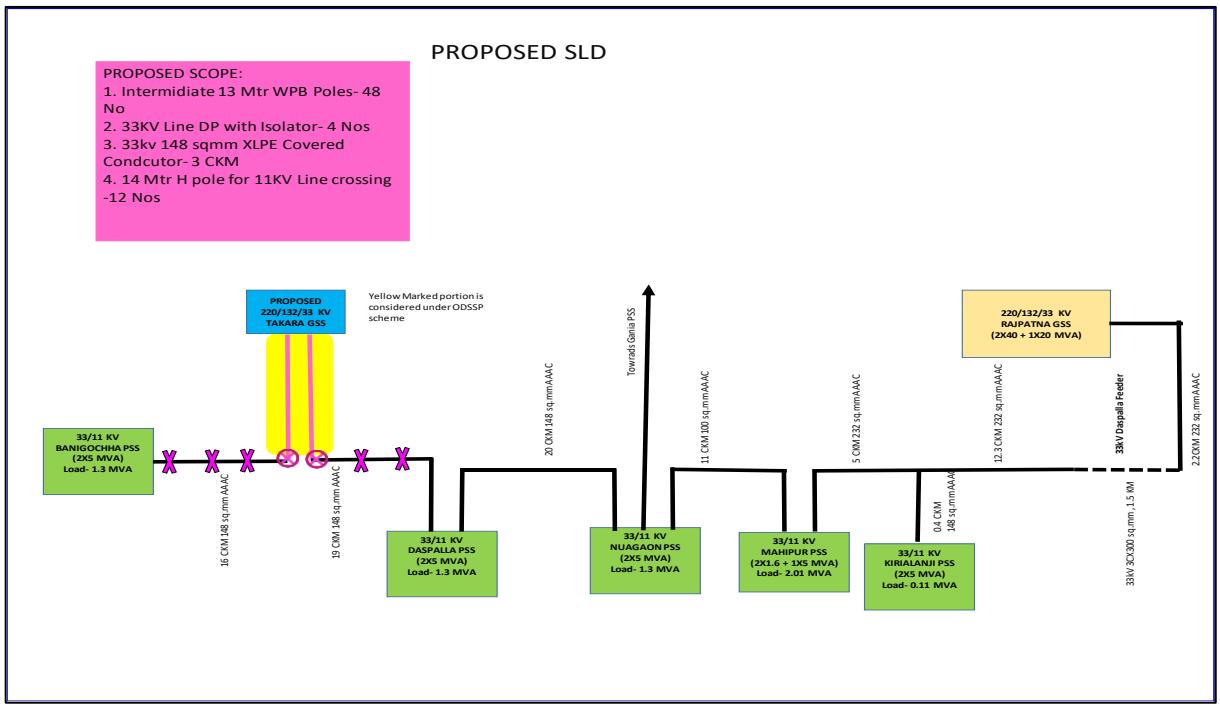
Priority and Timeline of the Project:

Priority: Since at present, Part of the 33kV Daspalla feeder from Daspalla PSS to Banigocha PSS is serving 5917 nos. consumers through existing network however due to bare conductors in dense forest area, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- It is proposed for augmentation with feeder refurbishment, for identified portion of network with bare conductor sizes to XLPE Covered conductor.
- New intermediate poles has been proposed for maintaining safety ground clearance.
- New pole jointing plates with nut & bolts has been proposed for existing H-Pole refurbishment.

Proposed SLD:



Scope of Work:

1. Augmentation of existing line with 148sqmm XLPE Covered conductor -4.0 Ckm.
2. Proposed intermediate 13 Mtr WPB poles – 44 Nos.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.14		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Cicle :-		BBSR-2
Name of the Division :-		NYED
Name of the Sub-Division : -		Daspalla
Name of the Work :-		Proposal for Refubrishment of 33KV Daspalla to Banigocha Feeder
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part A: Refubrishment of 33kV Line Length OF 35 CKM with 40 Mtr. Span using 148 SQ.MM. -XLPE AAA Covered Conductor using 13 Mtr WPB intermidiate pole.	1,05,67,383.52
6	**Total Gross**	**1,05,67,383.52**
Total estimated cost is Rs. 1.06 Cr. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 1.06 Cr. (For detailed BoQ refer Annexure-11.14).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Strengthening of 33kV Daspalla feeder to improve reliability of the network.
- Improved N-1 connectivity with 33kV Daspalla feeder, including Daspalla PSS and other PSS.
- Ensuring reliable power supply of the Banigocha and Daspalla town area.

15. Proposal for reliability improvement by Construction of interlinking line between 33kV Balikuda Feeder. & Phulnakhra Feeder:

Proposal:

Proposal for construction of new linking line between 33 kV Balikuda & Phulnakhra Fdr. to improve N-1 reliability.

Requirement/ Need of the proposal:

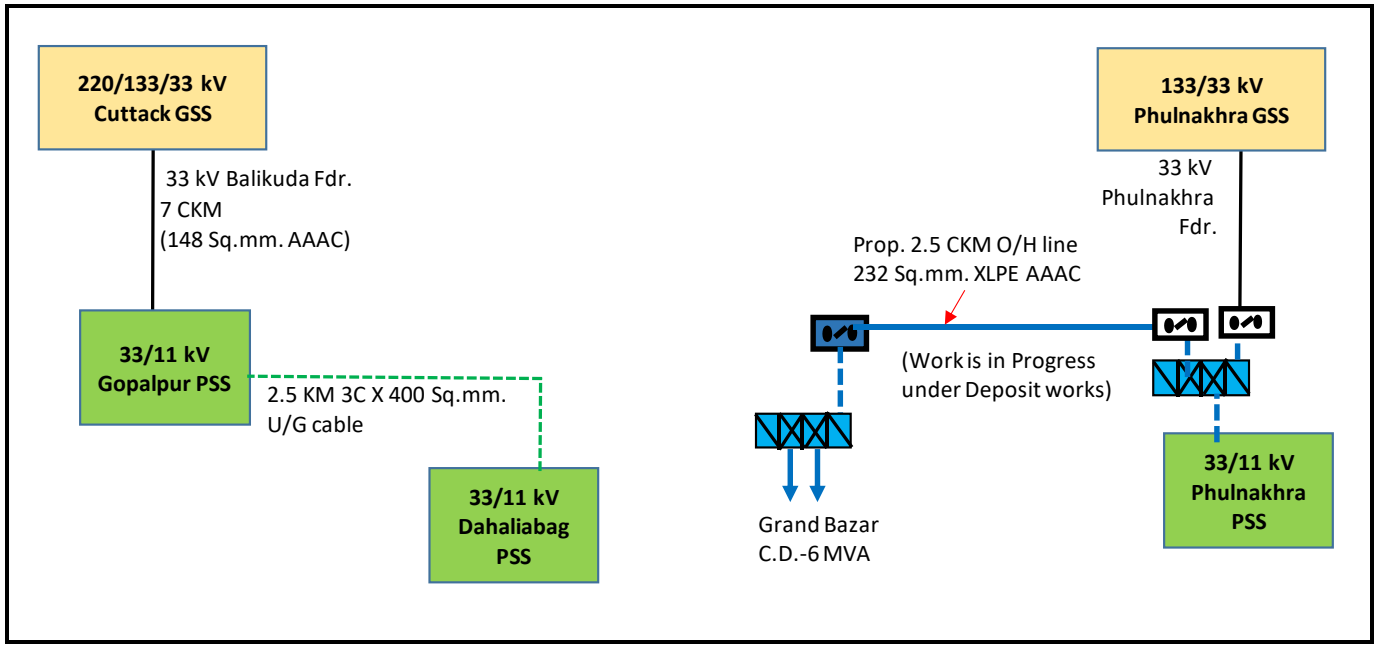
Objective:

To maintain reliability of power supply, improve quality of power by providing N-1 connectivity between Dahaliabag & Phulnakhra PSS.

Existing Scenario:

- At present, the 33 kV Balikuda feeder is emanating from 220/132/33 kV Cuttack GSS and supplying power to 33/11 kV Gopalpur and Dahaliabag PSSs.
- The 33 kV Phulnakhra feeder is emanating from 132/33 kV Phulnakhra GSS and supplying power to 33/11 kV Phulnakhra PSS.
- Both feeders are operating in a radial configuration, resulting in a single source of supply. Consequently, in the event of any fault, breakdown, or planned shutdown on either feeder, power supply to the associated substations and consumers is interrupted, adversely affecting the reliability and continuity of supply.

Existing SLD:



Priority and Timeline of the Project:

Priority: At present, the 33 kV Balikuda feeder emanating from 220/132/33 kV Cuttack GSS is serving 13,272 consumers, while the 33 kV Phulnakhra feeder emanating from 132/33 kV Phulnakhra GSS is serving 13,389 consumers. Both feeders are operating through an existing radial network configuration,

which adversely affects the reliability and continuity of power supply due to the absence of an alternate source arrangement.

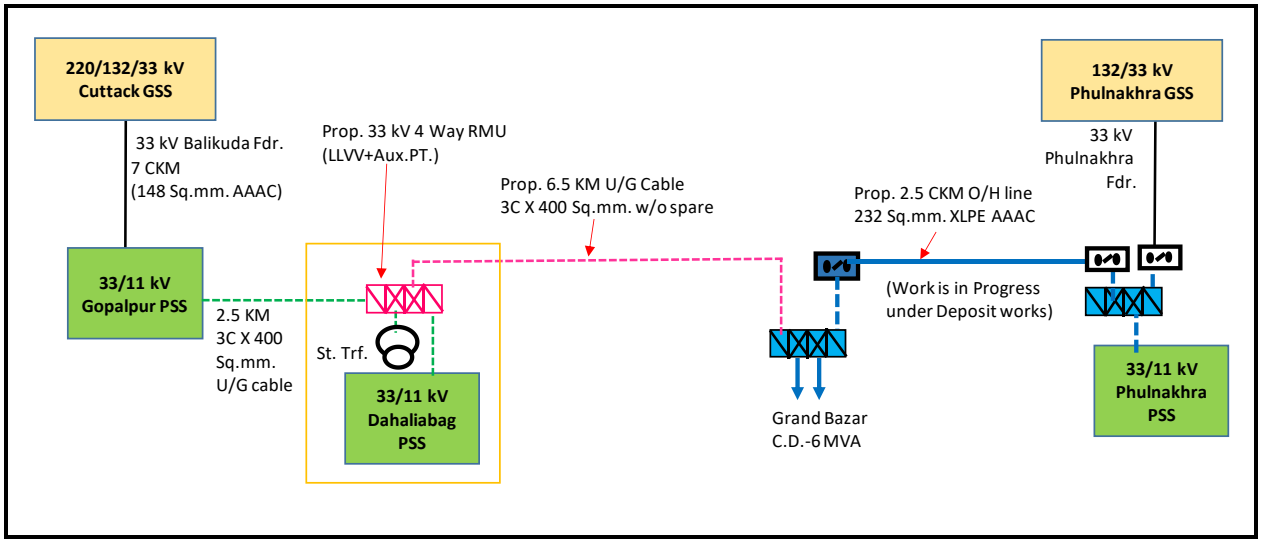
During the last year, the 33 kV Balikuda feeder recorded 28 tripping incidents, whereas the 33 kV Phulnakhra feeder recorded 78 tripping incidents. However, Since Balikuda feeder is radial in nature, any fault, breakdown or planned shutdown on the feeder results in prolonged interruption of power supply to the downstream substations and consumers, thereby affecting system reliability and increasing outage duration.

In the absence of suitable reliability enhancement measures, consumers connected to Balikuda feeder will continue to experience frequent and prolonged power supply interruptions. Therefore, strengthening the network through the creation of an interconnection/ring main arrangement between the 33 kV Balikuda and 33 kV Phulnakhra feeders is essential to provide an alternate power source during contingencies, improve operational flexibility, reduce outage duration, enhance system reliability, and ensure safe, reliable, and quality power supply to the 26,661 consumers served by these feeders.

Proposed Scenario:

- Construction of new 33 kV interlinking line having length 6.5 CKM between 33 kV Balikuda & Phulnakhra feeder to improve N-1 reliability via Grand Bazar.
- Installation of 01 No. 33 kV, 4-Way RMU (LLVV) at Dahaliabag PSS is proposed for efficient feeder switching, network sectionalisation, and smooth system operation.

Proposed SLD:



Scope of Work:

- Interconnection of 33 kV Balikuda & Phulnakhra feeder is proposed to improve reliability.
- Mitigation of radial connectivity to Balikuda and Dahaliabag PSS.
- Supply and Laying of 6.5 KM 33 kV 3C X 400 Sq.mm. U/G cable without spare run.
- Supply and Installation of 1 No. of 33 kV 4 Way RMU at Dahaliabag PSS.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.15		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	**CED**	
Name of the Sub-Division : -	Gopalpur	
Name of the Work :-	Proposal for construction of 33 kV line from 33/11 kV Dahaliabag PSS to Grand Bazar for N-1 connectivity between 33 kV Balikuda & Phulnakhra feeder.	
Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
ABSTRACT OF ESTIMATE		
Sl. No.	**Description**	**Amount**
1	Part-A :- 1. Supply and Laying of 6.5 KM 33 kV 3C X 400 Sq.mm. U/G cable without spare. 2. Supply and Installation of 1 No. of 33 kV 4 Way RMU at Dhaliabag PSS	60,367,468.93
	Total Amount	**60,367,468.93**
	Total Amount (In Cr.)	**6.04**
Total estimated cost is Rs.6.04 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 6.04 Cr. (For detailed BoQ refer Annexure-11.15).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

a) The proposal has been made to maintain essential compliances with statutory safety regulations

b) Compliance with electrical safety regulation for distribution system.

c) Reduction of electrocution risk and public safety hazards.

d) Safe operation and isolation of the feeder.

e) Protection of electrical assets against lightening and surge related failure.

f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

i) Second source will be available for both 33/11 kV Dahaliabag & Phulnakhra PSS.

ii) Ensuring safe, reliable and quality power supply to the consumers by improveing N-1 reliability.

16. Proposal for reliability improvement by Construction of interlinking line between 33kV CRRI-1 Feeder. & Matagajpur PSS:

Proposal:

Proposal for construction of new linking line between 33 kV CRRI-1 feedder & Matagajpur PSS to improve N-1 reliability.

Requirement/ Need of the proposal:

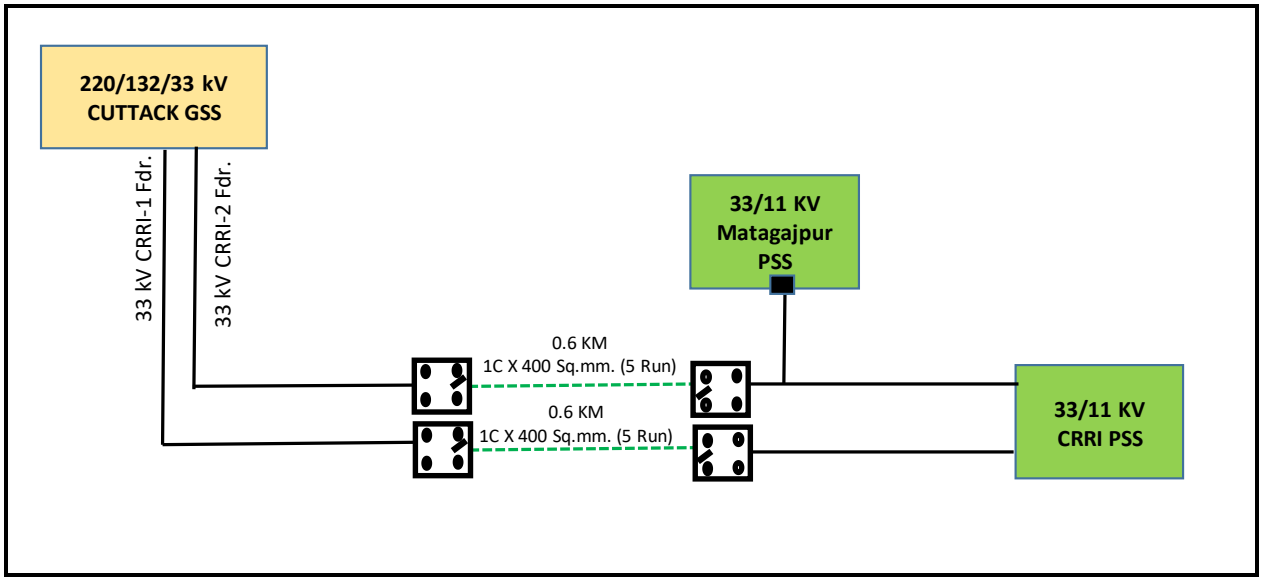
Objective:

To maintain reliability of power supply, improve quality of power by providing second source to Matagajpur PSS.

Existing Scenario:

- At present, the 33 kV CRRI-1 feeder is emanating from 220/132/33 kV Cuttack GSS and supplying power to 33/11 kV CRRI PSS.
- The 33/11 kV Matagajpur PSS is presently receiving power supply from the 33 kV CRRI-2 feeder through a T-off arrangement. As the substation is dependent on a single source of supply, any fault, breakdown, or planned shutdown on the parent feeder results in interruption of power supply to the entire area served by Matagajpur PSS.
- Further, Matagajpur PSS caters predominantly to an urban load centre, where uninterrupted and reliable power supply is of critical importance. The existing single-source arrangement limits operational flexibility and adversely affects system reliability during contingencies.

Existing SLD:



Priority and Timeline of the Project:

Priority: At present, 33/11 kV Matagajpur PSS is serving 3,699 consumers and is receiving power supply from the 33 kV CRRI-2 feeder through a T-off arrangement. The existing arrangement does not provide direct switching and isolation facilities at the substation end, making feeder operation, maintenance, and fault management difficult. Consequently, any fault or shutdown on the parent feeder directly affects the power supply to Matagajpur PSS and its downstream consumers.

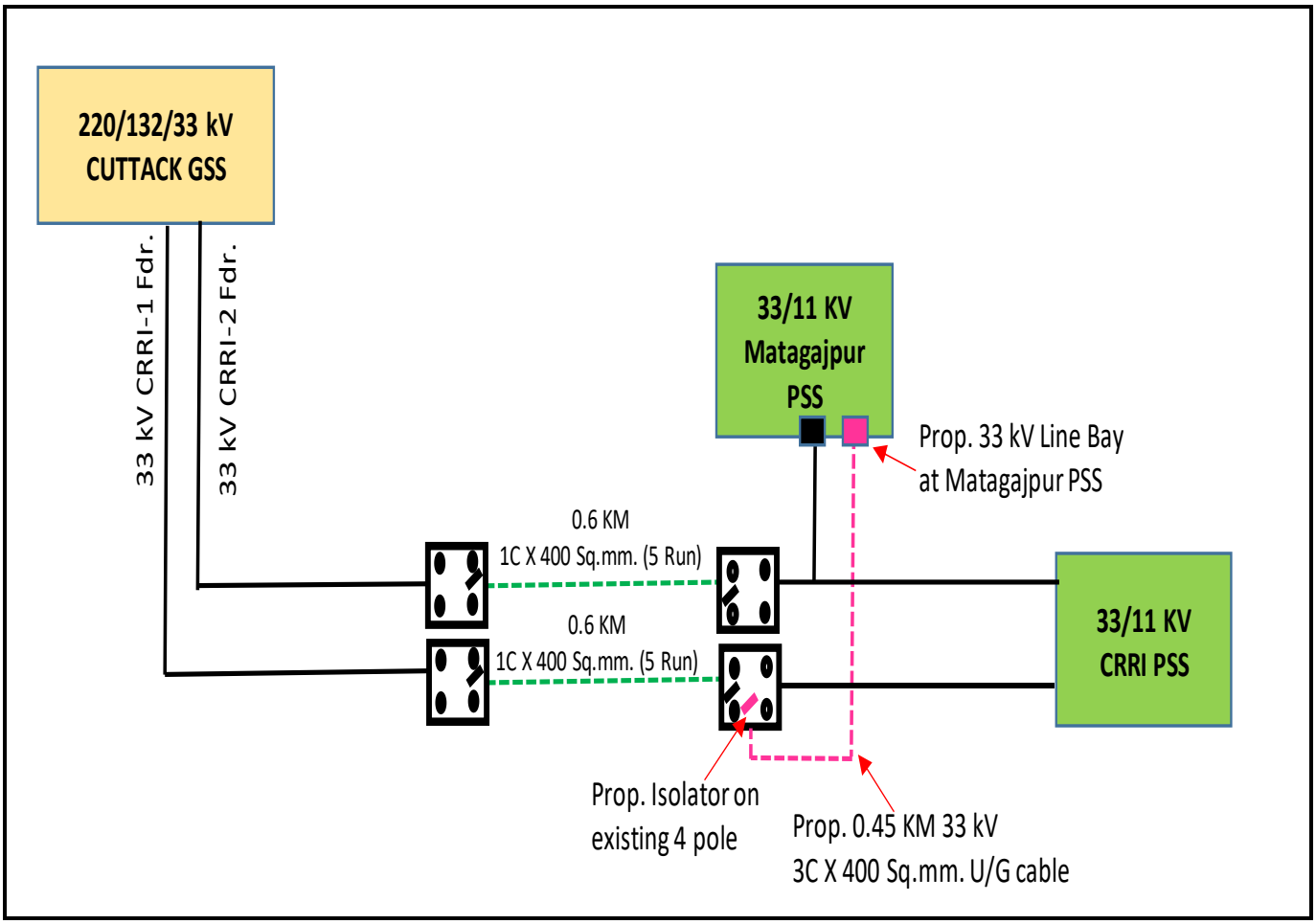
During the last year, the 33 kV CRRI-1 feeder and 33 kV CRRI-2 feeder experienced 16 and 27 tripping incidents, respectively. Since Matagajpur PSS is dependent on a single source through a T-off arrangement, these interruptions have a direct impact on the reliability and continuity of power supply to the consumers served by the substation.

Further, considering that Matagajpur PSS caters to an urban load centre, the existing network configuration lacks the operational flexibility required for prompt fault isolation, restoration, and maintenance activities. The absence of direct control and an alternate supply arrangement increases outage duration and adversely affects service reliability.

Proposed Scenario:

- Construction of a new 33 kV interlinking line of approximately 0.45 CKM between the 33 kV CRRI-1 feeder and 33/11 kV Matagajpur PSS is proposed to improve N-1 reliability of the network.
- Construction of 01 No. 33 kV Outdoor Bay at Matagajpur PSS is proposed to facilitate smooth operation, switching, and network control.

Proposed SLD:



Scope of Work:

- Supply and Laying of 0.45 KM 33 kV 3Cx400 Sq.mm. U/G Cable without spare run from existing 4 pole at JICA to Matagajpur PSS.
- Construction of 01 No. of 33 kV Line Bay at Matagajpur PSS.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.16		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	**CDD-II**	
Name of the Sub-Division : -	Badambadi	
Name of the Work :-	Proposal for 33 kV linking line of 0.45 KM from CRRI-1 Fdr. to Matagajpur PSS for N-1 connectivity	
Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
ABSTRACT OF ESTIMATE		
Sl. No.	**Description**	**Amount**
1	Part-A:- Laying of 0.45 KM 33 kV 3Cx400 Sq.mm. U/G Cable without spare run from existing 4 pole at JICA to Matagajpur PSS.	4,243,461.88
2	Part-B :- Installation of 1 No. of 33 kV Line Bay at Matagajpur PSS (Refer SLD point)	3,153,527.78
	Total Amount	**7,396,989.66**
	Total Amount (In Cr.)	**0.74**
Total estimated cost is Rs. 0.74 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.74 Cr. (For detailed BoQ refer Annexure-11.16).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

a) The proposal has been made to maintain essential compliances with statutory safety regulations

b) Compliance with electrical safety regulation for distribution system.

c) Reduction of electrocution risk and public safety hazards.

d) Safe operation and isolation of the feeder.

e) Protection of electrical assets against lightening and surge related failure.

f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

i) Second source will be available for 33/11 kV Matagajpur PSS.

ii) Ensuring safe, reliable and quality power supply to the consumers by improveing N-1 reliability.

17. Proposal for reliability improvement by Construction of interlinking line between 33kV Athagarh Feeder. & Tigiria PSS:

Proposal:

Proposal for construction of new linking line between 33 kV Athagarh feedder & Tigiria PSS to improve N-1 reliability.

Requirement/ Need of the proposal:

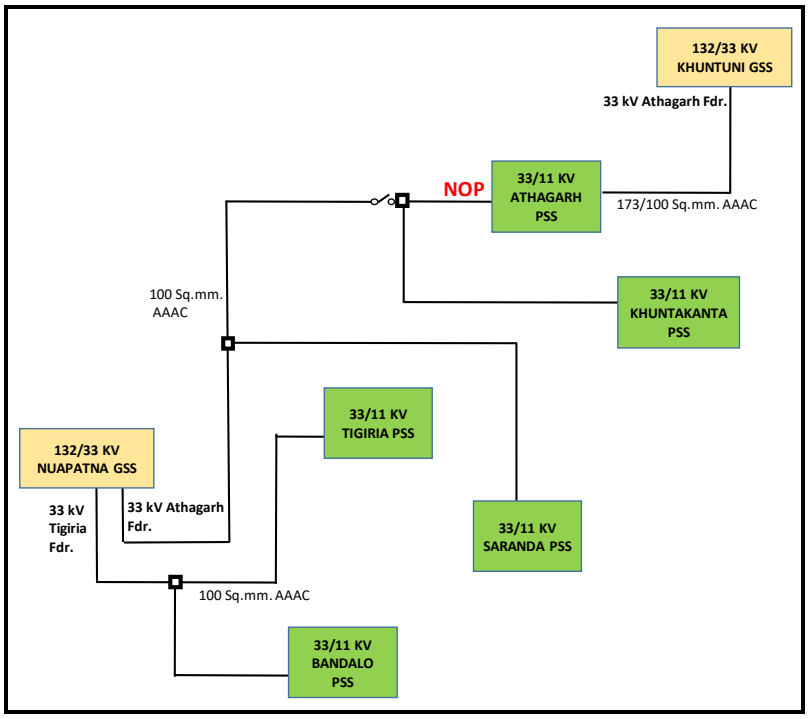
Objective:

To maintain reliability of power supply, improve quality of power by providing second source to Tigiria PSS.

Existing Scenario:

- At present, the 33 kV Athagarh feeder is emanating from 132/33 kV Nuapatna GSS and supplying power to 33/11 kV Khuntakanta and Saranda PSSs.
- The 33/11 kV Tigiria PSS is presently availing power supply from the 33 kV Tigiria feeder through a T-off arrangement. As the substation is dependent on a single source of supply, any fault, breakdown, or planned shutdown on the parent feeder directly affects the power supply to Tigiria PSS.

Existing SLD:



Priority and Timeline of the Project:

Priority: At present, 33/11 kV Tigiria PSS is serving 7,651 consumers and is receiving power supply from the 33 kV Tigiria feeder through a T-off arrangement. The existing configuration provides only a single source of supply to the substation and does not offer direct switching and isolation facilities at the PSS end, making feeder operation, maintenance, and fault management difficult.

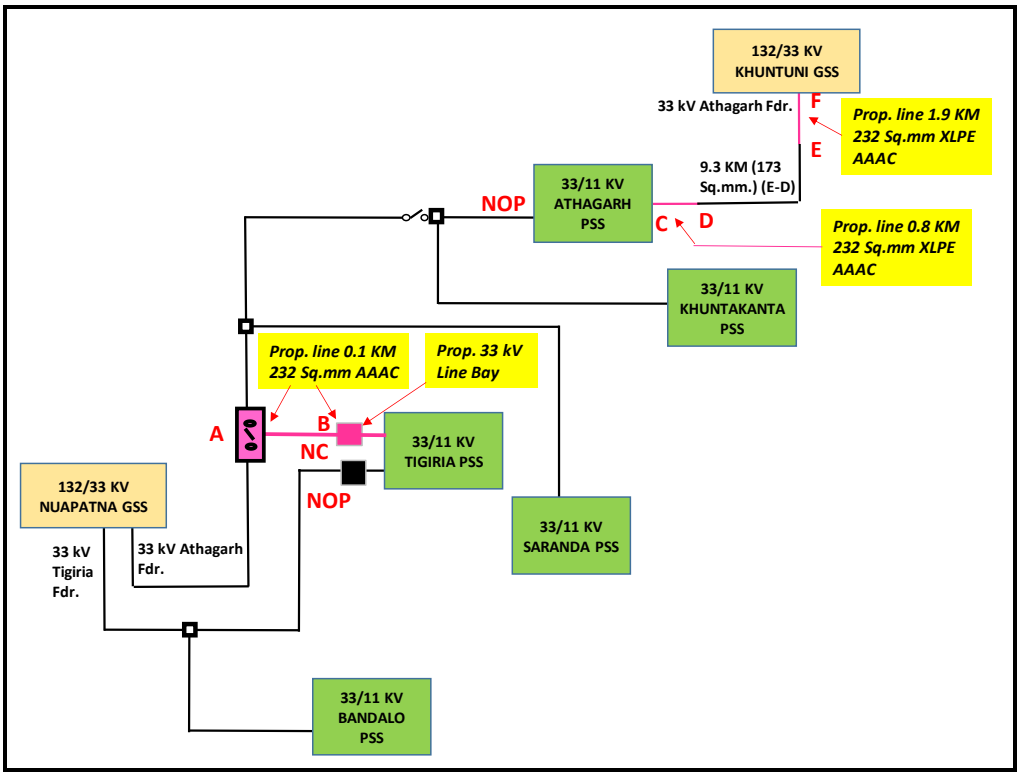
During the last year, the 33 kV Tigiria feeder and 33 kV Athagarh feeder recorded 98 and 128 tripping incidents, respectively, indicating reliability concerns in the existing network. Since Tigiria PSS is connected through a T-off arrangement, any fault, breakdown, or planned shutdown on the parent feeder directly affects the power supply to the substation and its downstream consumers, resulting in service interruptions and prolonged outage duration.

Further, as Tigiria PSS serves a growing sub-urban load centre, the existing network configuration lacks the operational flexibility required for efficient load management, prompt fault isolation, and restoration of supply during contingencies. The absence of direct control facilities at the substation further complicates maintenance activities and increases restoration time.

Proposed Scenario:

- Augmentation of 2.7 CKM 33 kV line using 13 Mtr. WPB Pole & 232 Sq.mm. XLPE AAAC for strengthening of 33 kV Athagarh feeder emanating from Khuntuni GSS.
- Installation of 01 No. of 33 kV outdoor at Tigiria PSS for smooth operation and switching.
- Supply & laying of 0.25 CKM 33 kV 3CX400 Sq.mm. U/G cable (2 run) (back to back arrangement) for 132 kV line crossing to ensure safety.

Proposed SLD:



Scope of Work:

- Interconnection of 33 kV Athagarh & Tigiria feeder is proposed to improve reliability & double source connectivity at Tigiria PSS.
- Construction of 0.1 KM 33 kV O/H line with 232 Sq.mm. AAAC.
- Installation of 1 No. of 33 kV Line Bay at Tigiria PSS.
- Strengthening of 33 kV Bus at Tigiria PSS.

- Shifting of 33/0.4 kV Station Transformer.
- Augmentation of 2.7 KM 33 kV line with 232 Sq.mm. XLPE AAAC of Athagarh Fdr. emanating from Khuntia Grid.
- Laying of 0.25 KM 33 kV 3Cx400 Sq.mm. U/G Cable (2 Run) with Back to back arrangement for 132 kV line crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.17		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	**AED**	
Name of the Sub-Division : -	Athagarh	
Name of the Work :-	Proposal for 33 kV linking line of 0.1 KM from Athagarh Fdr. to Tigiria PSS for N-1 connectivity and augmentation of 2.7 CKM of 33 kV Athagarh Fdr. of Khuntuni GSS.	
Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
ABSTRACT OF ESTIMATE		
Sl. No.	**Description**	**Amount**
1	Part-A :- Construction of 0.1 KM 33 kV line with 232 Sq.mm. AAAC (Refer SLD point- A-B)	579,784.10
2	Part-B :- 1. Installation of 1 No. of 33 kV Line Bay at Tigiria PSS (Refer SLD point- B) 2. Strengthening of 33 kV Bus at Tigiria PSS. 3. Shifting of 33/0.4 kV Station Transformer.	4,448,446.85
3	Part-C:- Augmentation of 2.7 KM 33 kV line with 232 Sq.mm. XLPE AAAC of Athagarh Fdr. emanating from Khuntia Grid. (Refer SLD)	8,139,352.53
4	Part-D:- Laying of 0.25 KM 33 kV 3Cx400 Sq.mm. U/G Cable (2 Run) with Back to back arrangement for 132 kV line crossing.	3,362,073.42
	Total Amount	**16,529,656.90**
	Total Amount (In Cr.)	**1.65**
Total estimated cost is Rs. 1.65 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 1.65 Cr. (For detailed BoQ refer Annexure-11.17).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

a) The proposal has been made to maintain essential compliances with statutory safety regulations
b) Compliance with electrical safety regulation for distribution system.
c) Reduction of electrocution risk and public safety hazards.
d) Safe operation and isolation of the feeder.
e) Protection of electrical assets against lightening and surge related failure.
f) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

i) Second source will be available for 33/11 kV Tigiria PSS.
ii) Ensuring safe, reliable and quality power supply to the consumers by improveing N-1 reliability.

18. Proposal for reliability improvement by Construction of interlinking line between 33kV Joranda Feeder. & 33kV Nihalpasad Feeder:

Proposal:

Proposal of new 33kV linking line from 33kV Nihaprasad Feeder to 33kV Joranda Feeder, which improve network reliability at Gondia PSS and Nihalprasad Joranda area by provide additional source and improving voltage profile.

Requirement/ Need of the proposal:

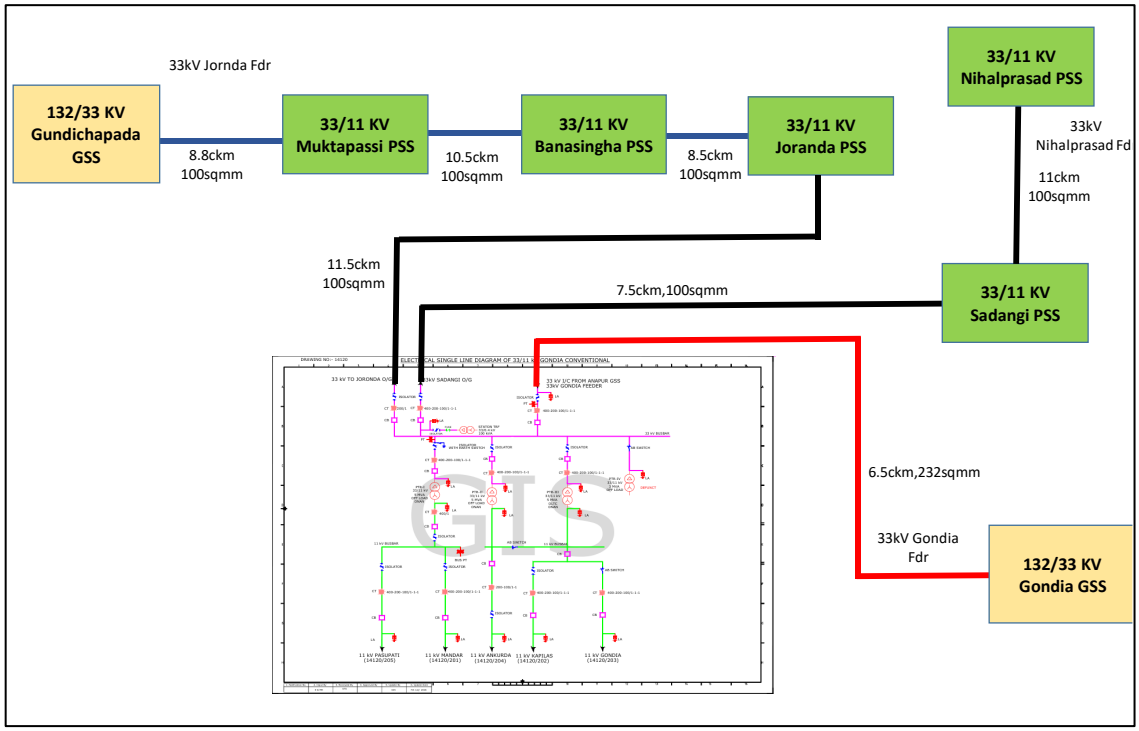
Objective:

To ensure reliable power supply and improve N-1 connectivity for Nihalparasad & Joranda area.

Existing Scenario:

- At present, the existing 33 kV Joranda feeder, emanating from Gundichapada GSS, supplies power to the 33/11 kV Muktapassi,Banasingha PSS and Joranda PSS. The feeder caters to a consumer base of approximately 16851 consumers and is radial in nature and considerably lengthy.
- At present, the existing 33 kV Gondia feeder, emanating from Gondia GSS, supplies power to the 33/11 kV Gondia, Mandar(Sadangi) PSS and Nihalprasad PSS. The feeder caters to a consumer base of approximately 22,867 consumers and is radial in nature and considerably lengthy.
- The existing 33 kV Joranda feeder is highly lengthy, with the Muktapassi PSS, Banasingh PSS, Joranda PSS connected radially from the feeder. Consequently, in the event of any fault or interruption in the feeder, all downstream PSSs remain without power supply until the fault is identified and rectified, resulting in prolonged interruption to a large consumer base.

Existing SLD:



Priority and Timeline of the Project:

Priority: During the last year, the feeder recorded 181 instances of tripping, indicating a significant level of interruption in the existing network. Owing to the considerable length of the feeder, identification and localization of faults require substantial time. Further, since the downstream PSSs are radially connected, any fault or interruption in the 33 Joranda feeder causes the affected downstream area to remain without power supply until the fault is identified, isolated, and the feeder is restored.

The existing arrangement, therefore, results in frequent and prolonged power supply interruptions affecting a large consumer base of 22,867 consumers. The absence of an alternate source also restricts the possibility of quick restoration of supply during contingencies, thereby adversely affecting the overall reliability and continuity of power supply.

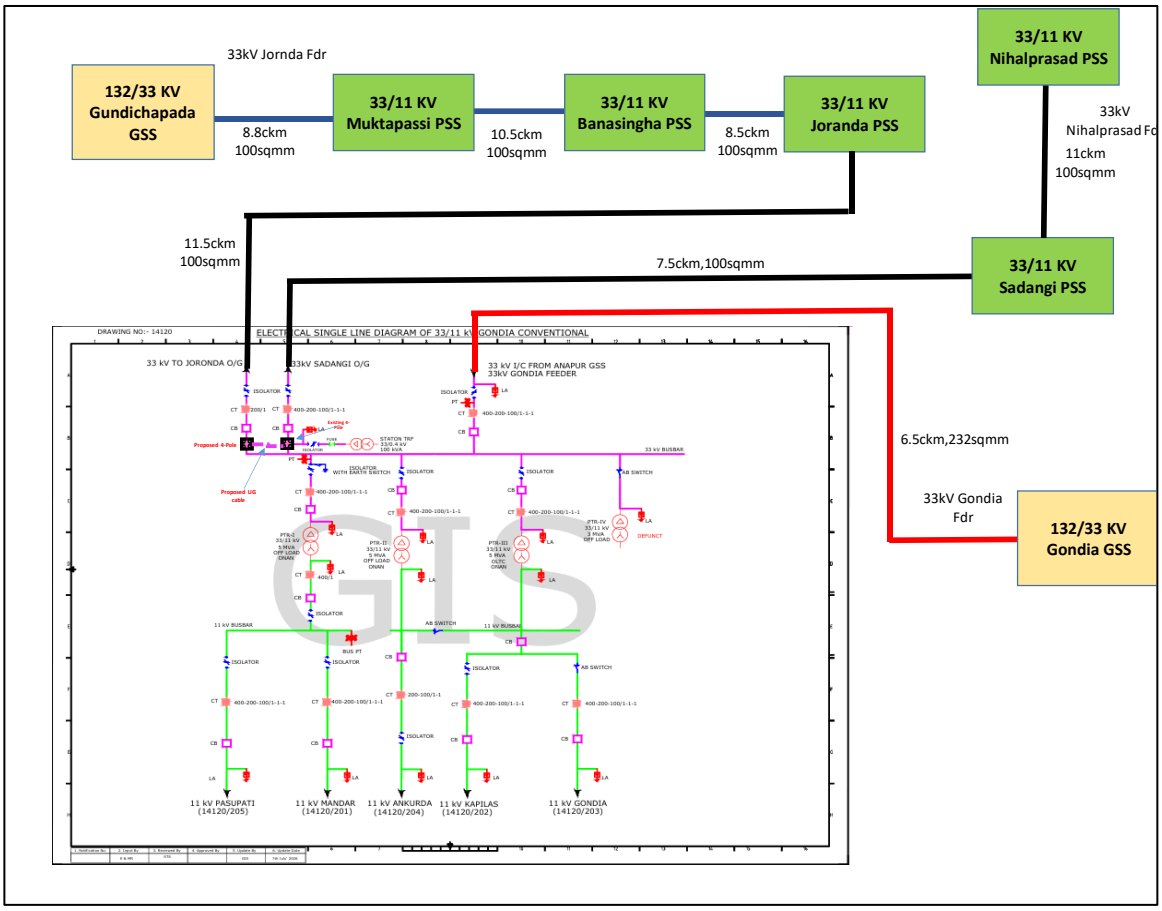
In view of the above, reliability enhancement of the existing network through provision of an alternate source of supply is essential. Establishing an interconnection between the 33/11 kV Gondia PSS and Joranda PSS, will provide an alternate source to the downstream network. This arrangement will enable back-feeding of the affected area during outages of the 33kV Nihalprasad feeder, facilitate faster restoration of supply, reduce the duration and extent of interruptions, and substantially improve the reliability, continuity, and operational flexibility of the distribution system.

The proposed measure is therefore considered necessary to strengthen the existing network and ensure more reliable power supply to the consumers presently dependent on the long radial 33 kV Joranada feeder.

Proposed Scenario:

- Construction of new 33kV linking line will provide addition 33kV source from Gondia GSS to Nihalprasad & Joranda area.
- After execution of proposal, during any breakdown or maintenance of existing 33kV feeders part load of the industrial area will restore which will improve network reliability of power supply.

Proposed SLD:



Scope of Work:

1. Construction of 33kV line using 3Cx400sqmm- 0.120Ckm.
2. Installation of 33kV 4-Pole-1Nos.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.18	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	**DED (Dhenkanal)**
Name of the Work :-	***Reliability of 33kV NIhalprasad feeder by linking of 33kV Joranda Feeder in Gondia PSS :*** Linking of 33kV Nihalprasad feeder to 33kV Jornada Feeder, improve network reliability by improve voltage profile, reduction in feeder length and reduction technical loss of network.

Scope of work:-	Proposal Details 1.33kV UG Cable -120mtr 2.4-Pole-1nos
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)

ABSTRACT OF ESTIMATE

Sl. No.	Part	Description	Amount
1	A	Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable without spare	₹ 7,99,942.46
2	B	Standard BoQ and Estimate for 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with One No. of Isolator and LA Set	₹ 5,39,712.09
3	C	33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor	₹ 7,41,229.40
		Total Amount	**₹ 20,80,883.94**
		Total Amount (In Cr)	**₹ 0.21**

Cost Estimate: ₹ 0.21 Cr. (For detailed BoQ refer Annexure-11.18).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Second source will be available for both 33/11 kV Joranda & Gondia PSS.
- Ensuring safe, reliable and quality power supply to the consumers with by improve N-1 reliability.

19. Proposal for reliability improvement by Augmentation of 33kV Angul-2 Feeder:

Proposal:

Proposal for Augmentation of 33kV Angul-2 feeder for reliability improvement.

Requirement/ Need of the proposal:

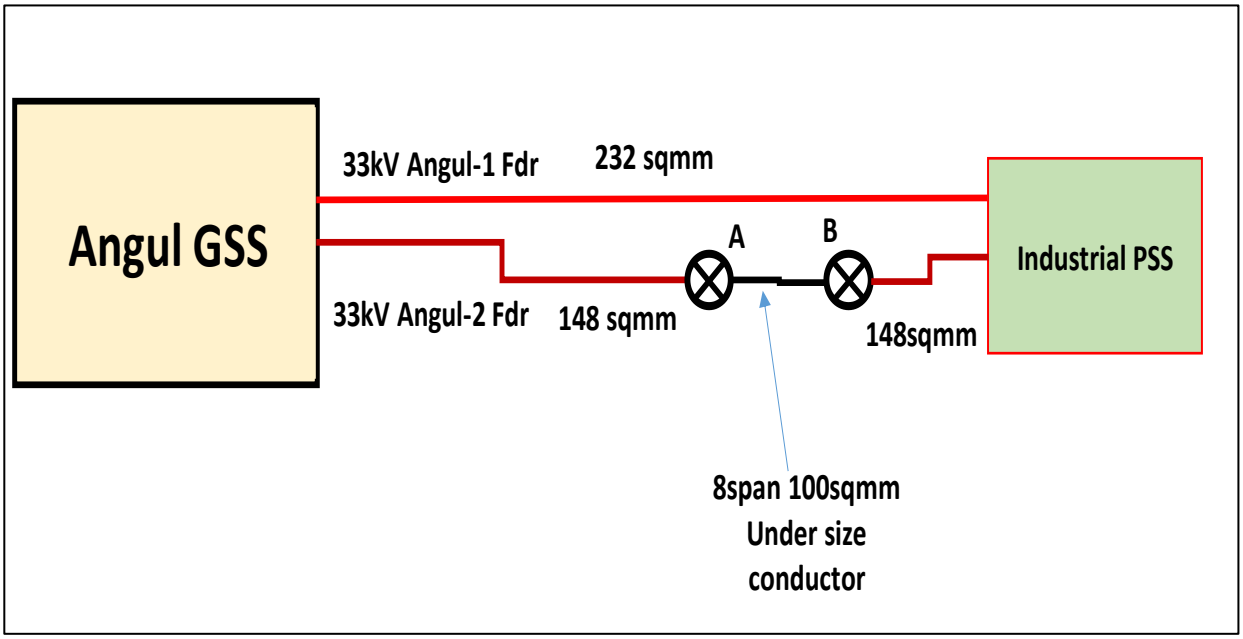
Objective:

To ensure reliable power supply by Augmentation of 33kV Angul-2 Feeder.

Existing Scenario:

- At present, Existing 33kV Angul-2 feeder is emanating from Angul GSS and feeding power supply to Industrial PSS and Bantala PSS. Feeder having conductor size of 148 sq.mm and in middle 8span 100sqmm which causing overloading during N-1 scenario.
- 33kV Angul-2 feeder is emanating from Angul GSS and feeding power supply to PSS and HT consumer.

Existing SLD:



Priority and Timeline of the Project:

Priority:

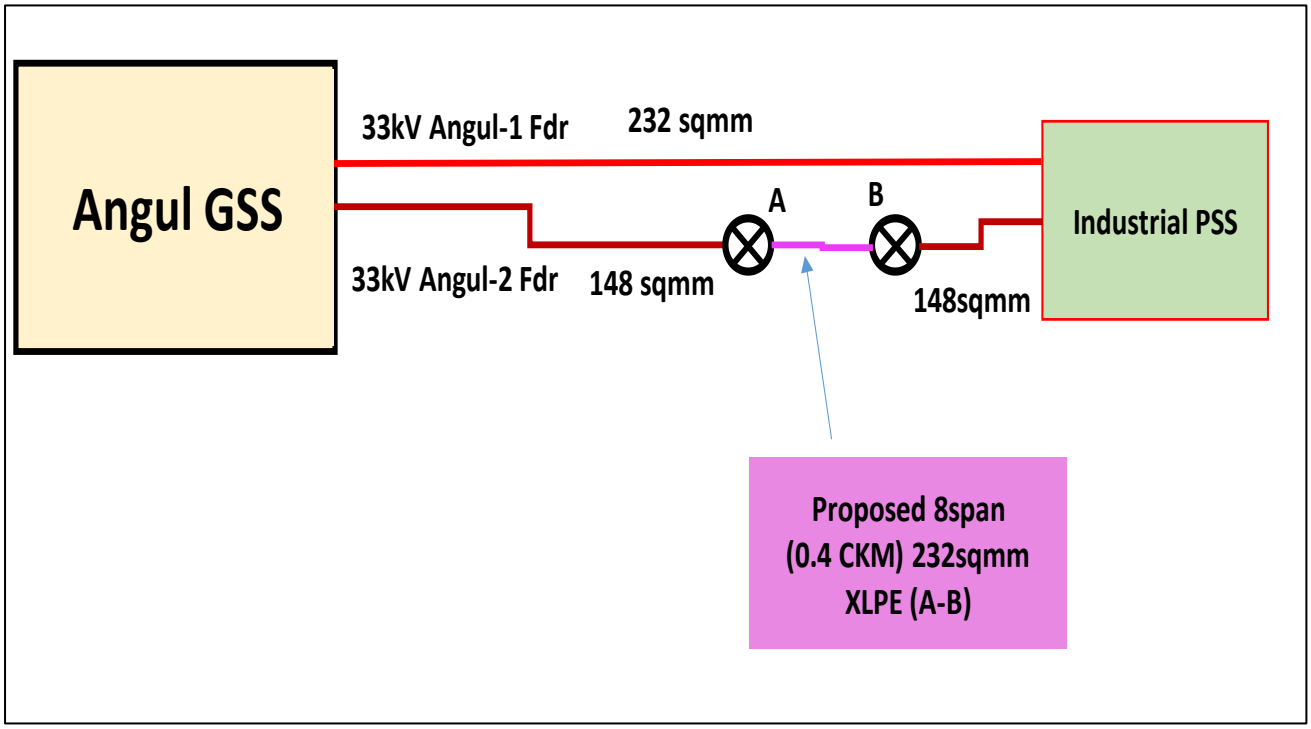
The existing arrangement is in adequate due to lower conductor size in the event of load transfer from one feeder to another during any preventive and breakdown activities. There are 27669 consumers are being served from this feeder. The absence of an alternate source also restricts the possibility of quick restoration of supply during contingencies, thereby adversely affecting the overall reliability and continuity of power supply.

The proposed measure for augmentation of 8 span to the higher ampacity is therefore considered necessary to strengthen the existing network and ensure more reliable power supply to the consumers presently dependent on the long radial 33 kV Angul-2 feeder.

Proposed Scenario:

- Augmentation of 33kV Angul-2 Feeder from point A to B as per the proposed SLD given below in between Angul Grid to 33/11kV Industrial PSS.
- After execution of proposal, Industrial PSS load will be able to take on 33kV Angul-2 Feeder.
- The proposal will enable N-1 connectivity to Industrial PSS.

Proposed SLD:



Scope of Work:

1. Augmentation of 33kV Angul-2 Feeder- 0.4ckm.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.19			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-	**ANED (Dhenkanal)**		
Name of the Work :-	Augmentation of 33kV Angul-2 Feeder of 0.4 CKM for to improve N-1 reliability.		
Scope of work:-	Proposal Details 1. 33kV 232sqmm OH XLPE line- 0.4Ckm		
Names of Schemes: -	TPCODL CAPEX (FY 2027-28)		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	33kV Line Length with 40 Mtr. Span using 232 SQ.MM. - XLPE AAA Covered Conductor-0.4ckm	₹ 15,19,179.86
		Total Amount	**₹ 15,19,179.86**
		Total Amount (In Cr)	**₹ 0.15**

Cost Estimate: ₹ 0.15 Cr. (For detailed BoQ refer Annexure-11.19).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.
b) Reduction of electrocution risk and public safety hazards.
c) Safe operation and isolation of the feeder.
d) Protection of electrical assets against lightening and surge related failure.
e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

- Establishing N-1 connectivity between 33 kV Angul-1 and 33 kV Angul-2 Feeder.
- Reduction in technical loss of network and improve the voltage profile.
- Ensure reliable & safe power supply to the consumers at Angul Industrial Area.

20. Proposal for reliability improvement by Augmentation and Refurbishment 33kV Ganesh sponge Feeder:

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Ganesh sponge feeder form Angul GSS to Badakera 6-Pole.

Requirement/ Need of the proposal:

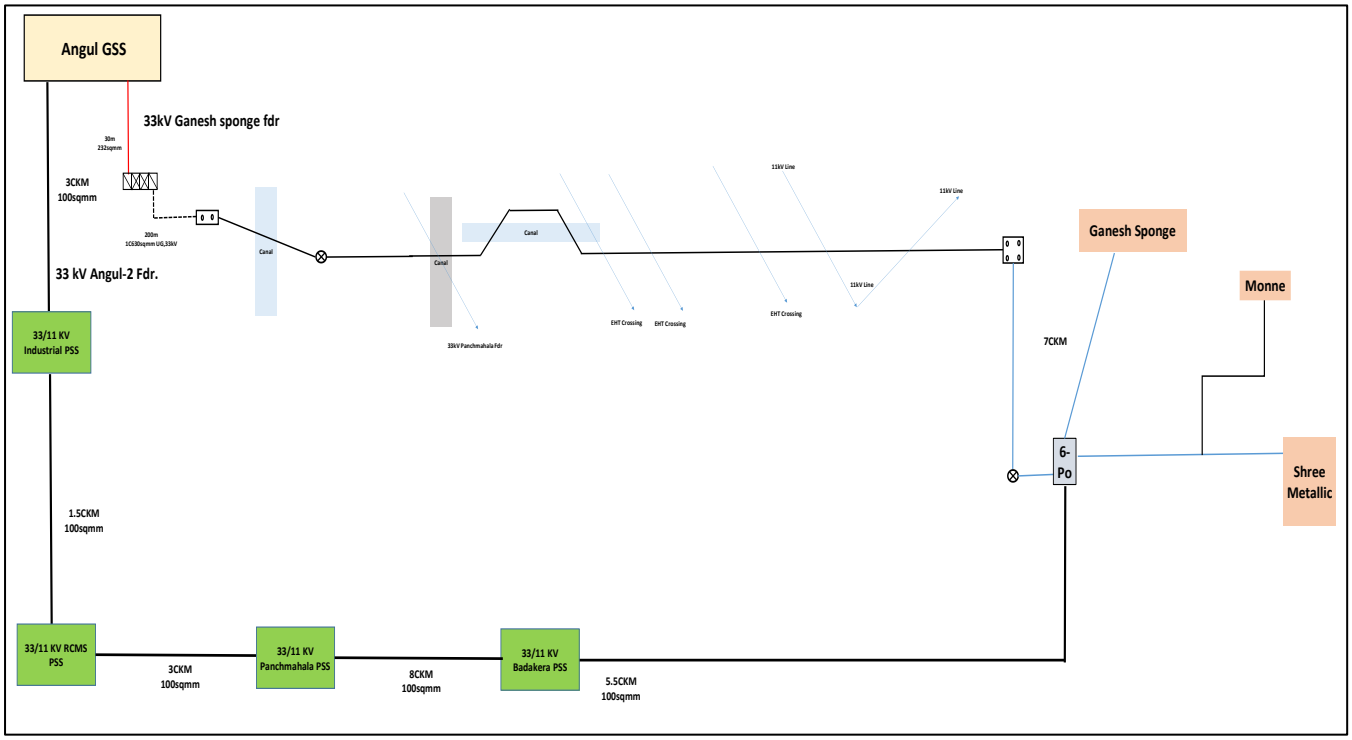
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- Existing 33kV Ganesh Sponge feeder is an industrial feeder and feeding lots of Industries. The feeder emanating from Angul GSS having lower size conductor and is in unsafe condition.
- Conductor are very old and in weak condition. Due to aging effect and brittleness, these conductors are snapping frequently.
- In addition, minimum ground clearance has not been maintained in several places over the feeder. Since the existing feeder is bare and passing through dense vegetation which is causing frequent transient trippings.
- Since the existing Ganesh Sponge feeder having lower conductor size i.e. 55 Sq.mm. , during load transfer of Angul-2 feeder, Ganesh Sponmge feeder gets overloaded.

Existing SLD:



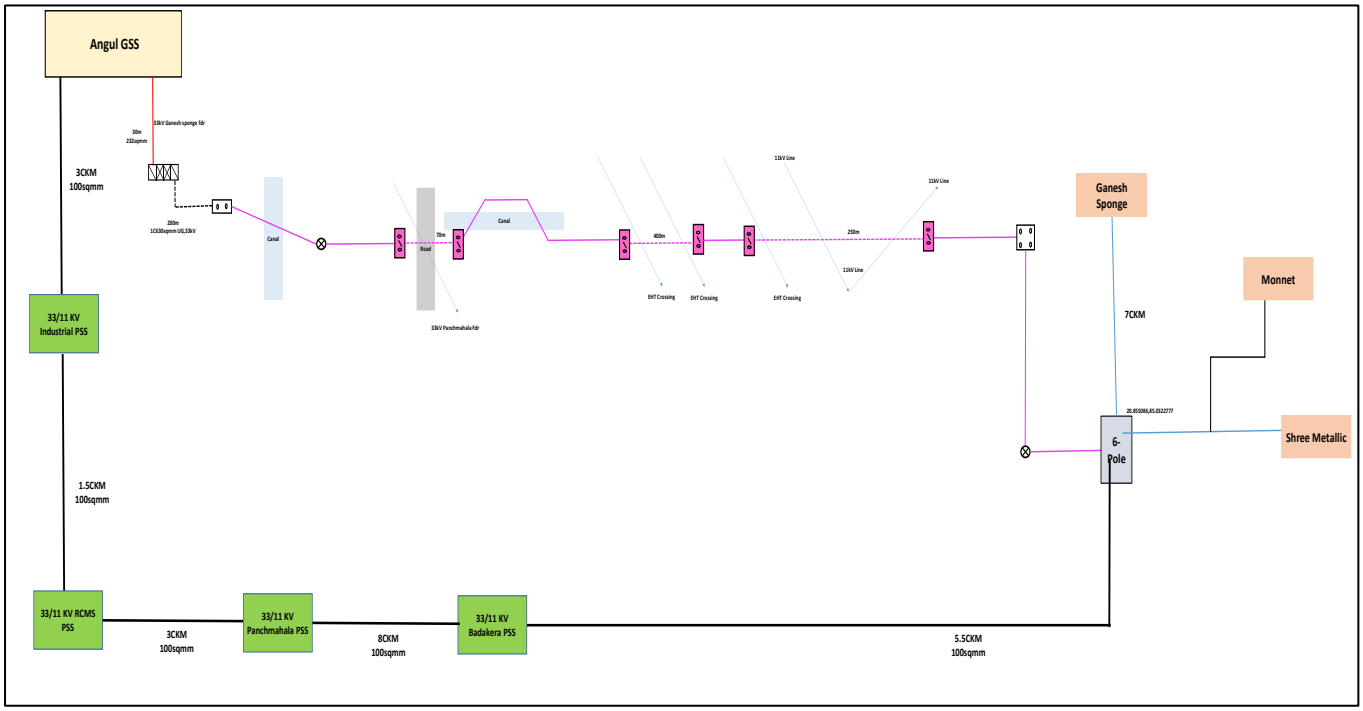
Priority and Timeline of the Project:

Priority: Since at present, the 33 kV Angul-2 and Ganesh Sponge feeder emanating from Angul GSS are combining serving 33,337 nos. consumers through existing network having lower-size conductors and further due to the ageing of conductors, multiple joints, frequent faults and conductor snapping incidents are being observed, affecting the reliability of power supply. The no. of trappings during the last year was 27 nos. Additionally, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose safety concerns for the public as well as personnel. In the absence of reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions.

Proposed Scenario:

- Augmentation & refurbishment is proposed for 33kV Ganesh sponge feeders of 7.5 CKM with XLPE covered conductor from Angul GSS to Badakera 6-Pole to improve safe and reliable power supply.
- After execution of the proposal, load will be bifurcated in between Ganesh Sponge and Angul-2 Feeder which will give better reliability to industrial consumer along with other consumers.

Proposed SLD:



Scope of Work:

- Augmentation of 33 kV line of 100 Sq.mm. to 232 Sq.mm. of 7.5 CKM along with U/G cable for EHT crossing from Angul GSS to Badakera 6-Pole.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.20			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-	**ANED (Dhenkanal)**		
Name of the Work :-	Augmentation of 33kV Ganesh Sponge feeder from Angul GSS to Badakera 6-Pole to improve network reliability		
Scope of work:-	Proposal Details 2. Aug 33kV 232sqmm OH XLPE line- 6.78Ckm 3. 33kV UG cable - 0.72km		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-6.78ckm	₹ 1,92,26,124.07
2	B	Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable-0.72ckm	₹ 59,51,492.26
3	C	Standard BoQ and Estimate for Dismantling of Materials	₹ 2,46,866.17
		Total Amount	**₹ 2,54,24,482.50**
		Total Amount (In Cr)	**₹ 2.54**

Cost Estimate: ₹ 2.54 Cr. (For detailed BoQ refer Annexure-11.20).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

f) Safe working beneath of the EHT lines due to conversion from O/H to U/G.

Benefit to the system and consumers:

Ensuring safe, reliable and quality power supply to the consumers with strengthning of 33kV network.

21. Proposal for reliability improvement by Construction of interlinking line between 33kV Nagaspur Feeder. & New Danpur Feeder:

Proposal:

Proposal for construction of new linking line between 33 kV Nagaspur & New Danpur Fdr.

Requirement/ Need of the proposal:

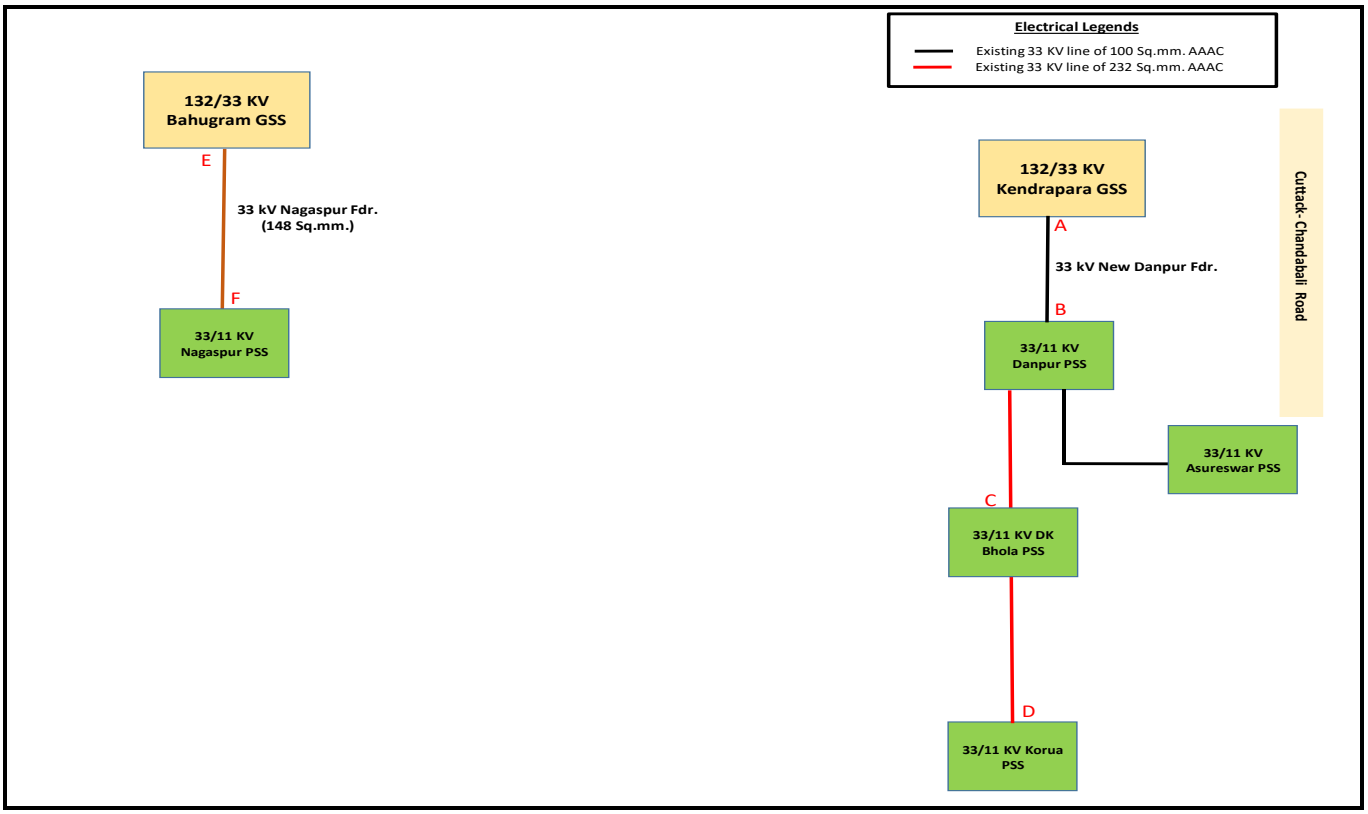
Objective:

To maintain reliability of power supply, improve quality of power by providing N-1 connectivity to Korua PSS.

Existing Scenario:

- At present, the existing 33 kV New Danpur feeder, emanating from Kendrapara GSS, supplies power to the 33/11 kV DK Bhola and Korua PSS. The feeder caters to a consumer base of approximately 22,056 consumers and is radial in nature and considerably lengthy.
- Recently, a new 33/11 kV Nagaspur PSS has been commissioned and charged through the 33 kV Nagaspur feeder, emanating from Bahugram GSS. The Nagaspur PSS is located approximately 13.45 km from the 33/11 kV Korua PSS.
- The existing 33 kV New Danpur feeder is highly lengthy, with the DK Bhola and Korua PSS connected radially from the feeder. Consequently, in the event of any fault or interruption in the feeder, all downstream PSSs remain without power supply until the fault is identified and rectified, resulting in prolonged interruption to a large consumer base.

Existing SLD:



Priority and Timeline of the Project:

Priority: During the last year, the feeder recorded 61 instances of tripping, indicating a significant level of interruption in the existing network. Owing to the considerable length of the feeder, identification and localization of faults require substantial time. Further, since the downstream PSSs are radially connected, any fault or interruption in the 33 kV New Danpur feeder causes the affected downstream area to remain without power supply until the fault is identified, isolated, and the feeder is restored.

The existing arrangement, therefore, results in frequent and prolonged power supply interruptions affecting a large consumer base of 22,056 consumers. The absence of an alternate source also restricts the possibility of quick restoration of supply during contingencies, thereby adversely affecting the overall reliability and continuity of power supply.

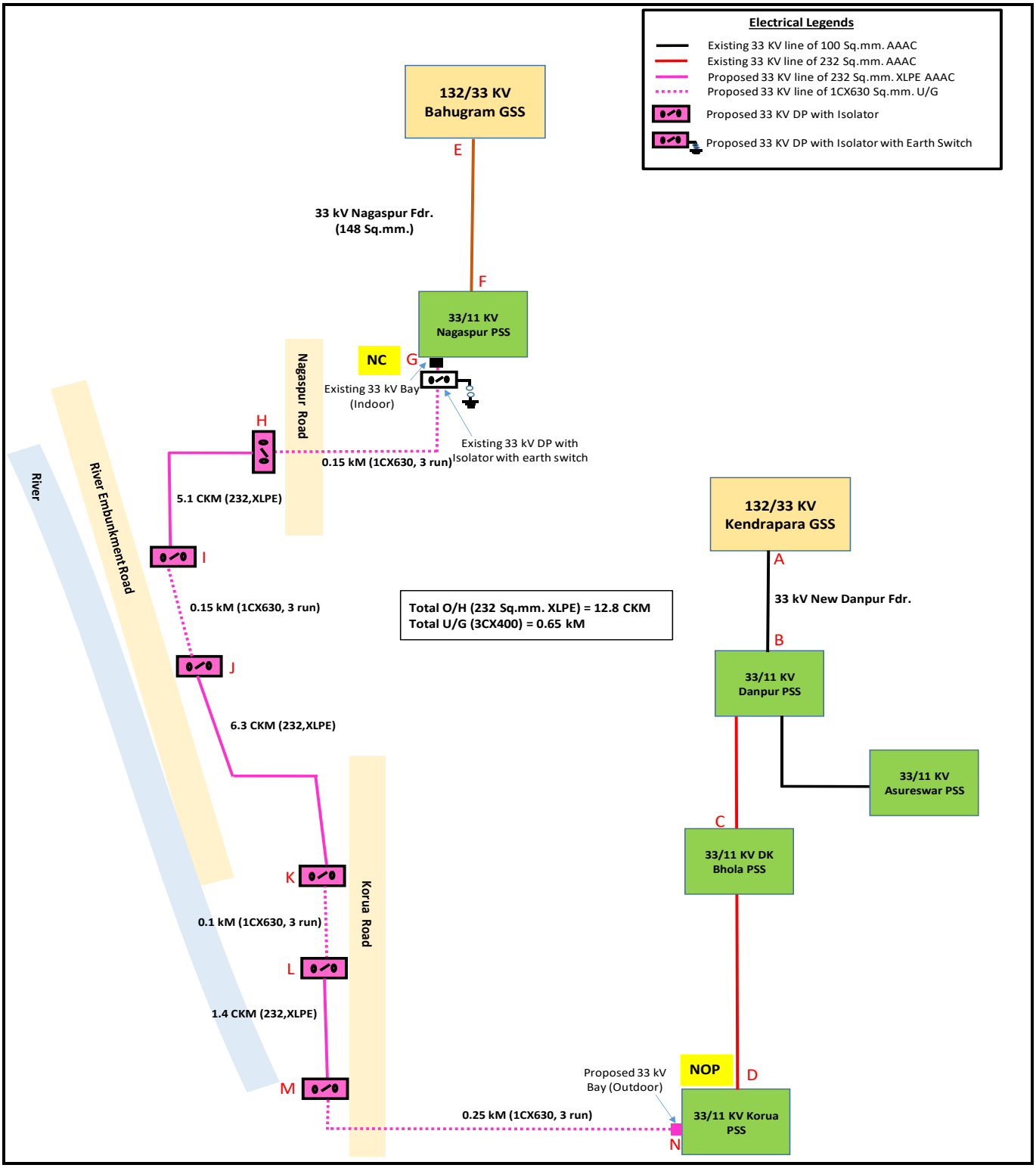
In view of the above, reliability enhancement of the existing network through provision of an alternate source of supply is essential. Establishing an interconnection between the 33/11 kV Nagaspur PSS and Korua PSS, with Nagaspur PSS being fed from the 33 kV Nagaspur feeder emanating from Bahugram GSS, will provide an alternate source to the downstream network. This arrangement will enable back-feeding of the affected area during outages of the New Danpur feeder, facilitate faster restoration of supply, reduce the duration and extent of interruptions, and substantially improve the reliability, continuity, and operational flexibility of the distribution system.

The proposed measure is therefore considered necessary to strengthen the existing network and ensure more reliable power supply to the consumers presently dependent on the long radial 33 kV New Danpur feeder.

Proposed Scenario:

- Construction of new interlinking line having length 13.45 CKM between 33 kV Nagaspur & New Danpur feeder to improve N-1 reliability.

Proposed SLD:



Scope of Work:

- Interconnection of 33 kV Nagaspur & New Danpur feeder is proposed to improve reliability & mitigation of radial connectivity.
- Construction of 12.8 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC.
- Supply & laying of 0.65 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method.
- Installation of 01 No. of 33 kV Bay (Outdoor type) at Korua PSS.
- Installation of 05 Nos 33 kV line protecting guarding having span 30 Mtr. Each for road crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.21		
TPCODL		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Korua	
Name of the Work :-	Proposal for N-1 connectivity between 33/11 kV Nagaspur & Korua PSS	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 12.8 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)	56,871,576.79
2	PART B: Supply & laying of 0.65 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD)	9,940,396.03
3	PART C: Installation of 01 No. of 33 kV Bay(Outdoor type) at Bhatpada PSS(Refer PSLD N)	3,038,303.67
4	PART D: Installation of 05 Nos 33 kV line protecting guarding having span 30 Mtr. each(Refer PSLD)	146,721.57
5	**Total Gross**	**69,996,998.06**
Total estimated cost is Rs. 7.00 Cr.		

Cost Estimate: ₹ 7.00 Cr. (For detailed BoQ refer Annexure-11.21).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

f) Compliance with electrical safety regulation for distribution system.

g) Reduction of electrocution risk and public safety hazards.

h) Safe operation and isolation of the feeder.

i) Protection of electrical assets against lightening and surge related failure.

j) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

i. Second 33kV source will be available to 33/11 kV Nagaspur , DK bhola and Korua PSS.
ii. Ensuring safe, reliable and quality power supply to the consumers by improveing N-1 reliability.

22. Proposal for reliability improvement by Construction of interlinking line between 33kV Luna Feeder. & Thauri Feeder:

Proposal:

Proposal for construction of new linking line between 33 kV Luna & Thauri U/G Fdr.

Requirement/ Need of the proposal:

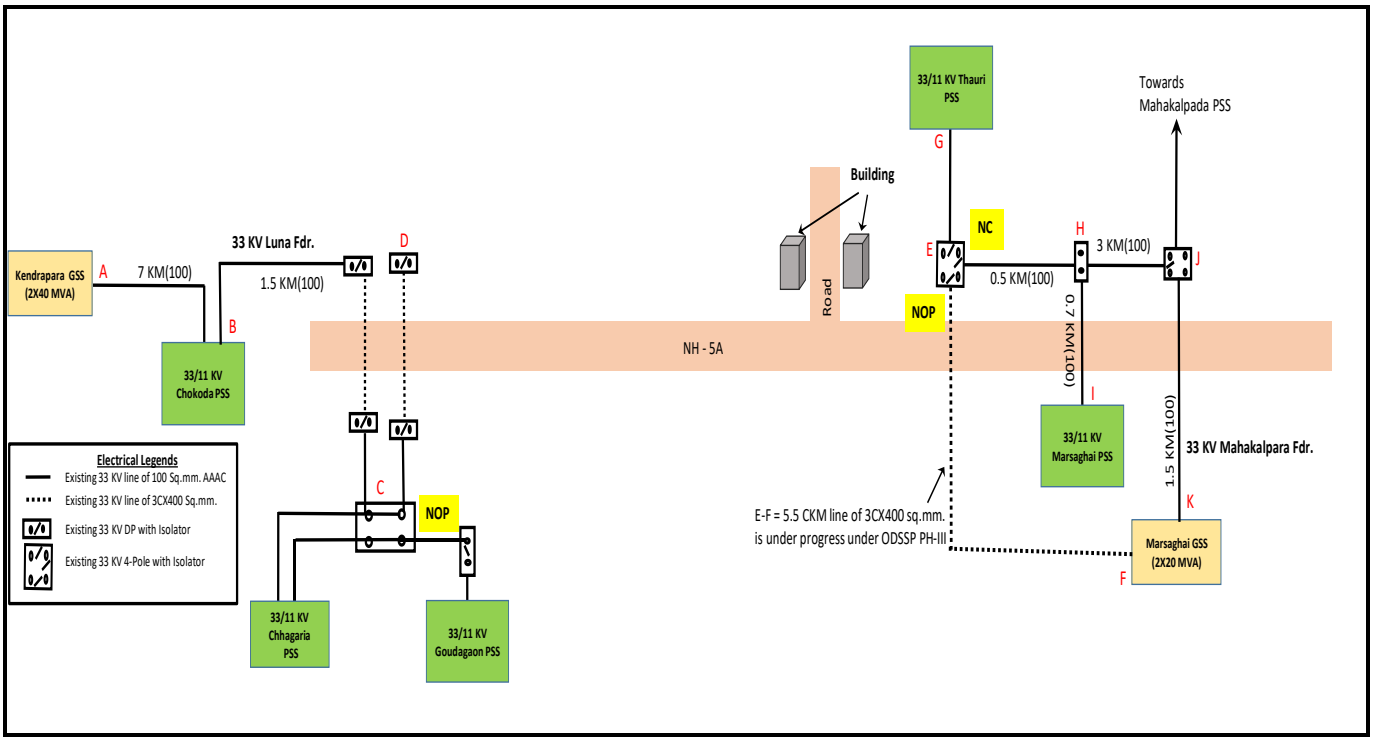
Objective:

To maintain reliability of power supply, improve quality of power by providing N-1 connectivity between 33 kV Luna & Thauri Fdr.

Existing Scenario:

- The existing 33 kV Luna feeder, emanating from Kendrapara GSS, supplies 33/11 kV Chokoda and Chhagaria PSSs, catering to approximately 12,561 consumers. The feeder is radial and considerably lengthy.
- The newly charged 33 kV Thauri feeder, feeding 33/11 kV Thauri PSS, passes through Marsaghai Chawk and provides an opportunity for establishing an alternate supply arrangement.
- Due to the length and radial configuration of the Luna feeder, any interruption results in widespread and prolonged power outages, adversely affecting supply reliability in both rural and semi-urban areas.

Existing SLD:



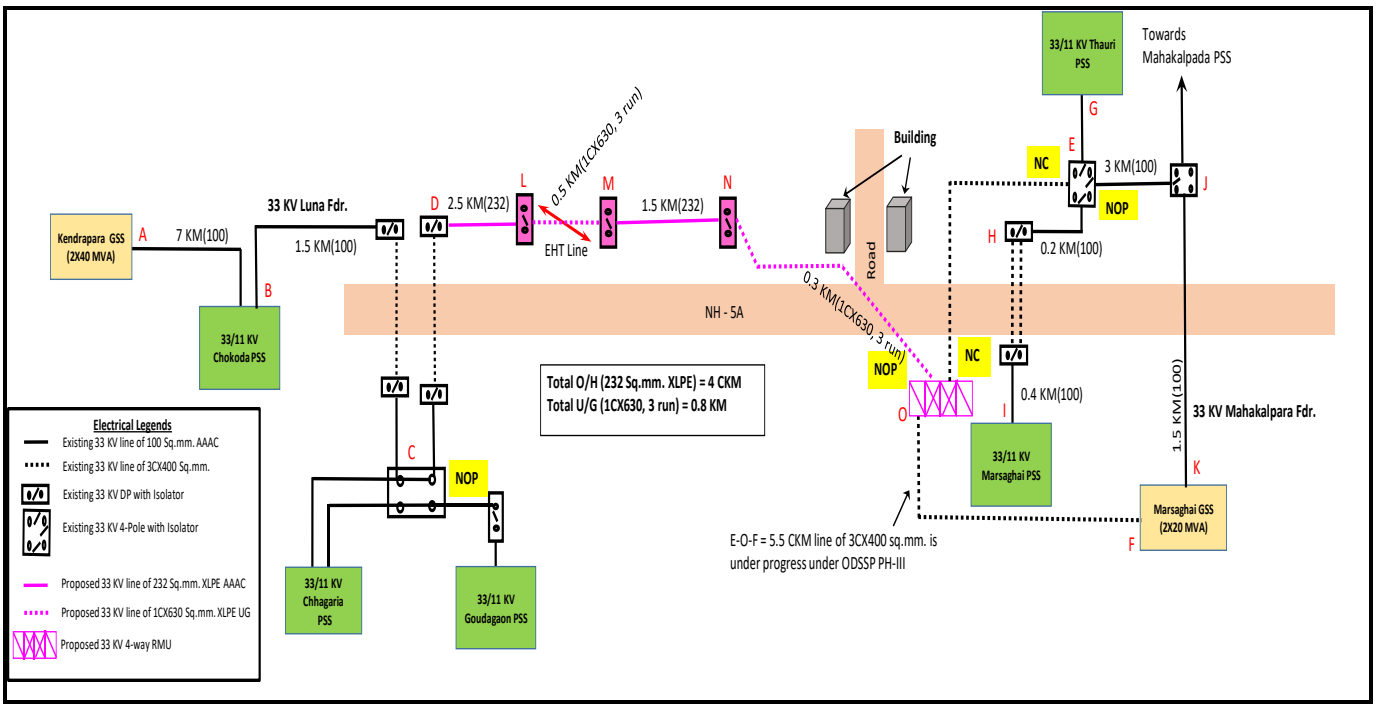
Priority and Timeline of the Project:

Priority: At present, the 33 kV Luna feeder, emanating from Kendrapara GSS, caters to approximately 12,561 consumers through a long and radial network, resulting in limited reliability and operational flexibility. The feeder recorded 67 trippings during the last year. Due to the considerable length of the feeder and absence of an alternate supply path, identification and isolation of faults take considerable time, leading to prolonged power interruptions and widespread outages in the affected areas. Hence, reliability enhancement of the 33 kV network is essential to minimize outage duration, facilitate faster restoration of supply, and ensure reliable and uninterrupted power supply to the consumers served by the feeder.

Proposed Scenario:

- Construction of new interlinking line having length 4.8 CKM between 33 kV Luna & Thauri feeder to improve N-1 reliability.

Proposed SLD:



Scope of Work:

- Interconnection of 33 kV Luna & New Thauri feeder is proposed to improve reliability & mitigation of radial connectivity.
- Construction of 4 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC.
- Supply & laying of 0.8 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method.
- Installation of 01 No. 33 kV 4-way RMU (LLVV) at marsaghai Chawk.
- Installation of 03 Nos 33 kV line protecting guarding having span 30 Mtr. Each for road crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.22		
TPCODL		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Marsaghai	
Name of the Work :-	Proposal for construction of 4.8 CKM 33 kV line between 33 kV Luna Fdr. & Thauri Fdr. for N-1 connectivity.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 4 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD DL & MN)	18,258,958.13
2	PART B: 1. Supply & laying of 0.8 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD LM & NO) 2. Installation of 01 No. 33 kV 4-way RMU(LLVV) (Refer O)	16,594,558.36
3	PART C: Installation of 03 Nos 33 kV line protecting guarding having span 30 Mtr. each(Refer PSLD)	88,032.94
4	**Total Gross**	**34,941,549.43**
Total estimated cost is Rs. 3.49 Cr.		

Cost Estimate: ₹ 3.49 Cr. (For detailed BoQ refer Annexure-11.22).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

i) Second 33kV source will be available to 33/11 kV Chhagaria PSS and Chakoda PSS.

ii) Ensuring safe, reliable and quality power supply to the consumers by improveing N-1 reliability.

23. Proposal for reliability improvement by Augmentation and Refurbishment of 33kV Gogua Feeder:

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Gogua feeder.

Requirement/ Need of the proposal:

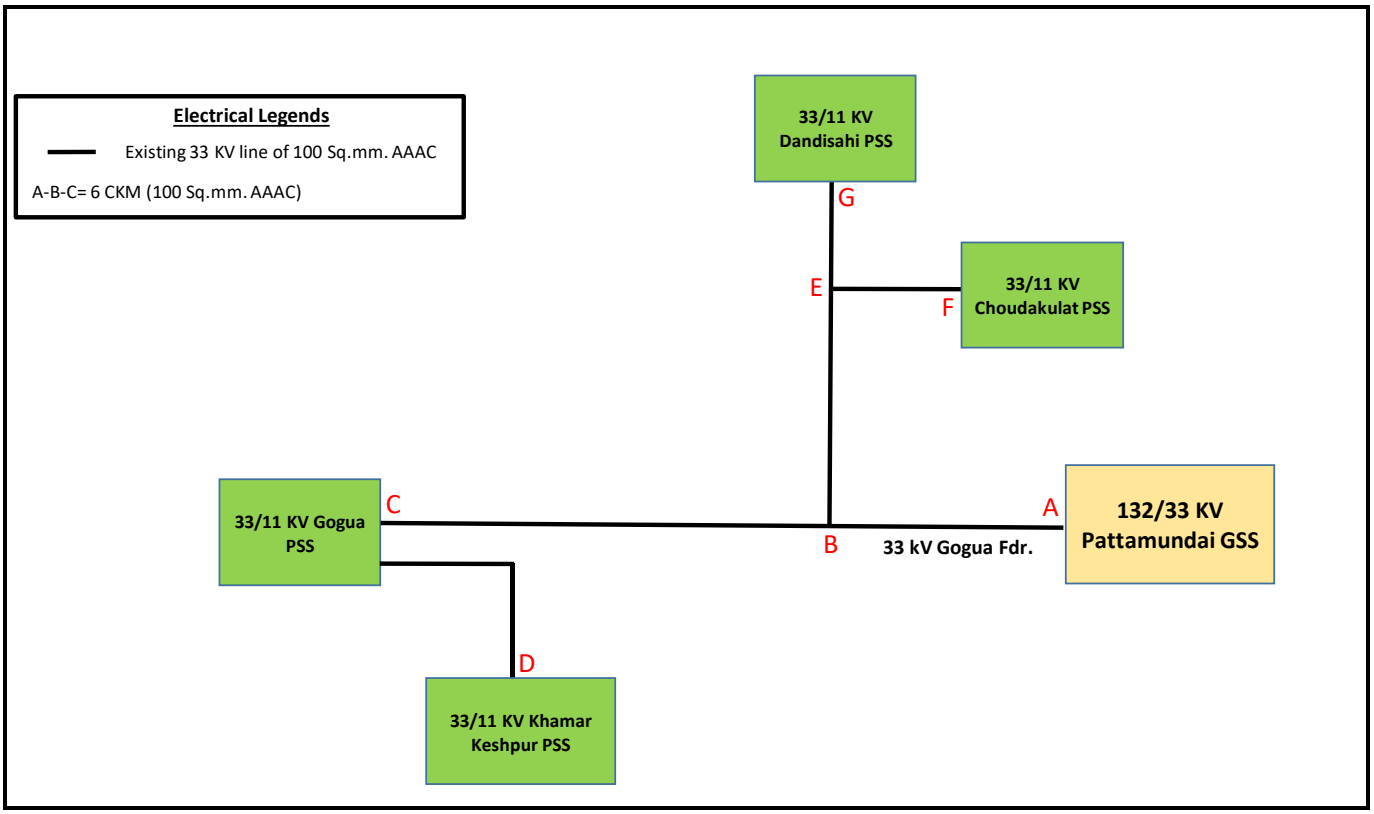
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- The existing 33 kV Gogua feeder emanating from Pattamundai GSS is constructed with a lower-capacity conductor and is presently in an unsafe condition.
- The conductors are very old and have deteriorated significantly over time. Due to aging, reduced mechanical strength, and brittleness, conductor snapping incidents are occurring frequently, leading to repeated interruptions and reliability concerns.
- Furthermore, the statutory minimum ground clearance is not being maintained at several locations along the feeder route, posing a serious safety risk to the public as well as to the electrical network.

Existing SLD:



Priority and Timeline of the Project:

Priority: At present, the 33 kV Gogua feeder emanating from Pattamundai GSS is serving 20,219 consumers through an existing network comprising lower-capacity conductors. Due to the ageing and

deteriorated condition of the conductors, the presence of multiple joints, and frequent conductor snapping incidents, a large number of faults are occurring on the feeder, adversely affecting the reliability and quality of power supply. During the last year alone, the feeder experienced 218 tripping incidents, resulting in frequent interruptions to consumers.

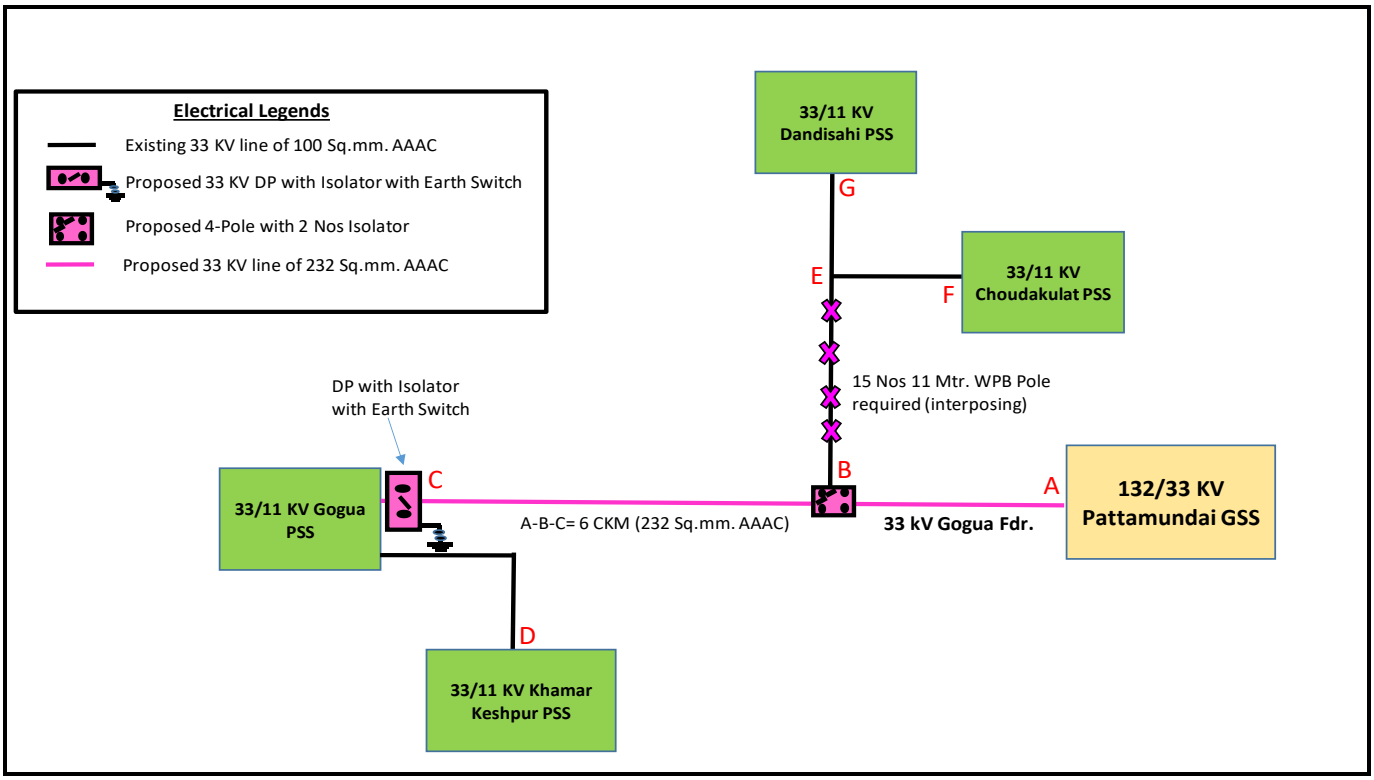
Furthermore, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor have created significant safety concerns for both the general public and maintenance personnel. The existing network condition not only increases the risk of outages but also poses potential hazards to life and property.

In the absence of suitable reliability enhancement measures, including conductor strengthening/replacement and feeder upgradation, the consumers connected to the feeder will continue to experience frequent and prolonged power supply interruptions. Therefore, enhancement of the existing 33 kV Gogua feeder is essential to improve system reliability, reduce outage frequency, ensure compliance with safety standards, and provide uninterrupted power supply to the connected consumers.

Proposed Scenario:

- Augmentation & refurbishment is proposed for 33kV Gogua feeder, to improve safe and reliable power supply.

Proposed SLD:



Scope of Work:

- Augmentation and Refurbishment of 33 kV Gogua Feeder to Enhance Reliability and Ensure Safe Power Supply.
- Construction of 6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC.

- Installation of 01 No. of 4-Pole with 2 Nos Isolator.
- Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line.
- Installation of 04 Nos guarding having span 30 Mtr each for road crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.23		
TPCODL		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Pattamundai	
Name of the Section : -	Choudakulat	
Name of the Work :-	Proposal for augmentation/refurbishment of 6 CKM line of 33 kV Gogua Fdr. and augmentation from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)	21,549,273.26
2	PART B: Installation of 01 No. of 4-Pole with 2 Nos Isolator (Refer PSLD)	651,248.86
3	PART C: Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line (Refer PSLD)	945,503.79
4	PART D: Installation of 04 Nos guarding having span 30 Mtr.	117,377.25
5	PART E : Dismantling portion	342,578.62
6	**Total Gross**	**23,605,981.79**
Total estimated cost is Rs. 2.36 Cr.		

Cost Estimate: ₹ 2.36 Cr. (For detailed BoQ refer Annexure-11.23).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

The proposed strengthening and augmentation of the 33 kV network is aimed at ensuring safe, reliable, and quality power supply to consumers by reducing feeder outages, improving system reliability, enhancing network safety, and minimizing power interruptions.

24. Proposal for reliability improvement by Augmentation and Refurbishment of 33kV Tirtol Feeder:

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Tirtol feeder.

Requirement/ Need of the proposal:

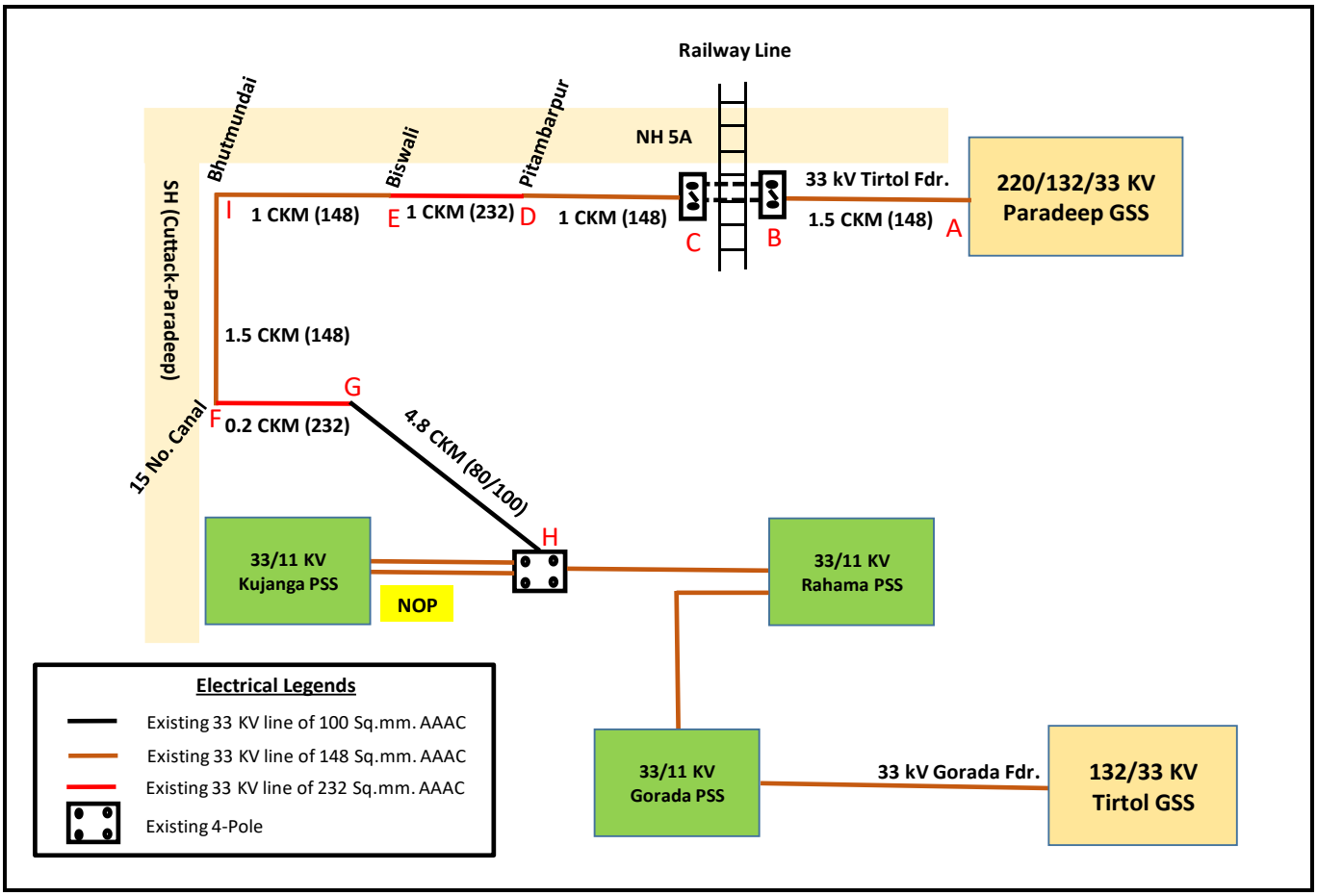
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- The existing 33 kV Tirtol feeder emanating from Paradeep GSS is constructed with lower-capacity conductors and is presently operating in an unsafe condition.
- The conductors are old and have significantly deteriorated due to ageing. Owing to loss of mechanical strength and increased brittleness, conductor snapping incidents are occurring frequently, leading to repeated interruptions and reduced reliability of power supply.
- Further, the statutory minimum ground clearance is not being maintained at several locations along the feeder route, creating safety hazards for the public and operating personnel.

Existing SLD:



Priority and Timeline of the Project:

Priority: At present, the 33 kV Tirtol feeder emanating from Paradeep GSS is serving 18,244 consumers through an existing network comprising lower-capacity conductors. Due to the ageing and deteriorated condition of the conductors, the presence of multiple joints, and frequent faults and conductor snapping incidents, the reliability of power supply through the feeder has been adversely affected. During the last year, the Tirtol feeder experienced 16 tripping incidents and Gorada Feeder experienced 92 tripping leading to interruptions in power supply to the connected consumers.

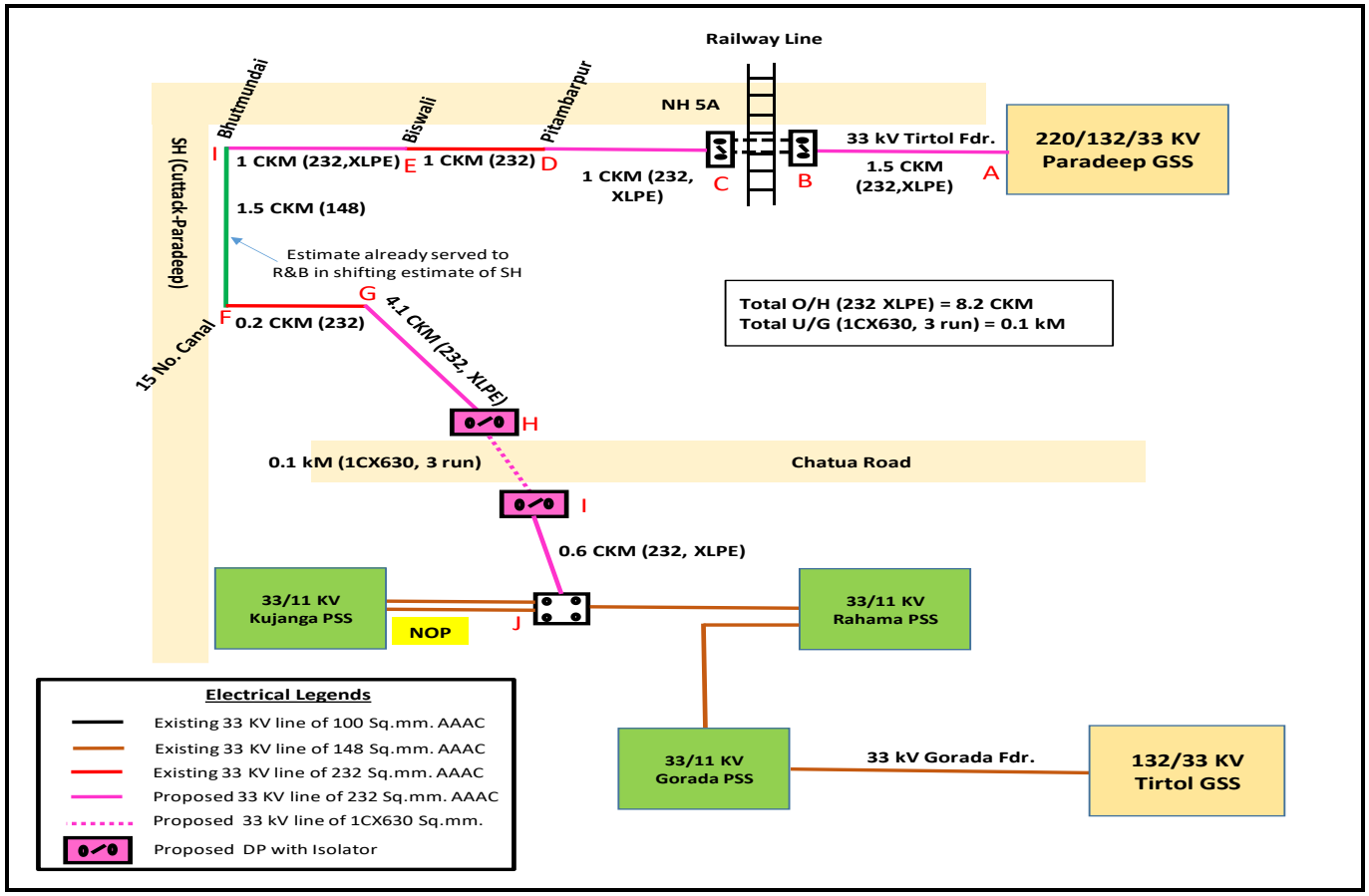
Furthermore, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose significant safety concerns for both the public and maintenance personnel. These conditions increase the risk of faults, supply interruptions, and potential hazards to life and property.

In the absence of suitable reliability enhancement measures, consumers connected to the feeder will continue to face frequent and prolonged power supply interruptions. Therefore, augmentation and refurbishment of the existing 33 kV Tirtol feeder are essential to improve system reliability, enhance network safety, reduce outage frequency, and ensure safe, reliable, and quality power supply to the 18,244 consumers served by the feeder.

Proposed Scenario:

- Augmentation and refurbishment of the 33 kV Tirtol feeder are proposed to improve system reliability, enhance network safety, reduce outages, and ensure safe, reliable, and quality power supply to consumers.

Proposed SLD:



Scope of Work:

- Augmentation and Refurbishment of 33 kV Tirtol Feeder to Enhance Reliability and ensure Safe Power Supply.
- Construction of 8.2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC.
- Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method.
- Installation of 20 Nos of 14 Mtr. H-Pole for 11 kV line crossing to maintain safe clearances as per CEA guideline.
- Installation of 8 Nos guarding having span 30 Mtr. each for road crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.24		
TPCODL		
Name of the Division :-	PDP	
Name of the Sub-Division : -	Paradeep	
Name of the Section : -	Kujanga	
Name of the Work :-	Proposal for refurbishment of 8.3 CKM line of 33 kV Tirtol Fdr. using to 232 Sq.mm. AAAC for N-1 reliability between 33 kV Tirtol & Gorada Fdr.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 8.2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD)	32,754,263.51
2	PART B: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD)	1,500,330.15
3	PART C: Installation of 20 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing	3,022,140.90
4	PART D: Installation of 8 Nos guarding having span 30 Mtr.	234,754.51
5	PART E : Dismantling portion	546,654.66
6	**Total Gross**	**38,058,143.72**
Total estimated cost is Rs. 3.81 Cr.		

Cost Estimate: ₹ 3.81 Cr. (For detailed BoQ refer Annexure-11.24).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

The proposed strengthening and augmentation of the 33 kV network is aimed at ensuring safe, reliable, and quality power supply to consumers by reducing feeder outages, improving system reliability, enhancing network safety, and minimizing power interruptions.

25. Proposal for reliability improvement by Augmentation and Refurbishment of 33kV Naugaon Feeder:

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Naugaon feeder from Jagatsinghpur GSS to Naugaon PSS.

Requirement/ Need of the proposal:

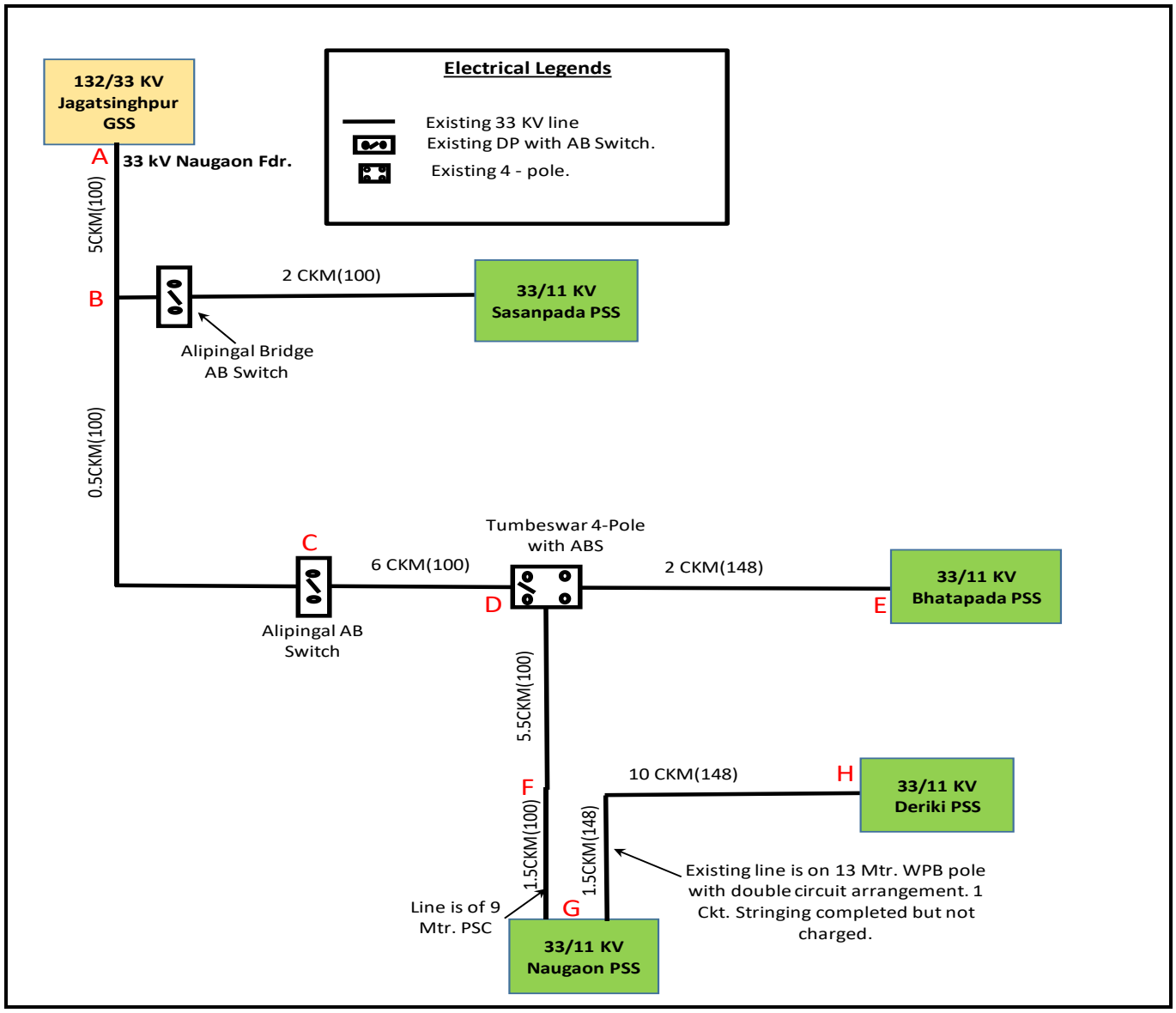
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- The existing 33 kV Naugaon feeder emanating from Jagatsinghpur GSS is constructed with lower-capacity conductors and is presently in an unsafe condition.
- The conductors are very old and have deteriorated considerably due to ageing. Owing to reduced mechanical strength and increased brittleness, conductor snapping incidents are occurring frequently, resulting in repeated outages and affecting the reliability of power supply.
- Further, the statutory minimum ground clearance is not being maintained at several locations along the feeder route, posing safety risks to the public as well as operation and maintenance personnel.
- In addition, the 33/11 kV Bhatapada Primary Substation (PSS) is connected in a T-off arrangement from the 33 kV Naugaon feeder. Consequently, any fault or maintenance activity on the feeder affects power supply to the substation and its downstream consumers, thereby impacting overall network reliability and operational flexibility.

Existing SLD:



Priority and Timeline of the Project:

Priority: At present, the 33 kV Naugaon feeder emanating from Jagatsinghpur GSS is serving 21,910 consumers through an existing network comprising lower-capacity conductors. Due to the ageing and deteriorated condition of the conductors, the presence of multiple joints, and frequent faults and conductor snapping incidents, the reliability of power supply through the feeder has been significantly affected. During the last year, the feeder experienced 123 tripping incidents, resulting in frequent interruptions and inconvenience to consumers.

Furthermore, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose serious safety concerns for both the public and maintenance personnel. These conditions increase the likelihood of faults, outages, and potential hazards to life and property.

In addition, the 33/11 kV Bhatapada PSS is presently connected through a T-off arrangement from the 33 kV Naugaon feeder. Consequently, any fault or planned shutdown on the feeder directly affects the

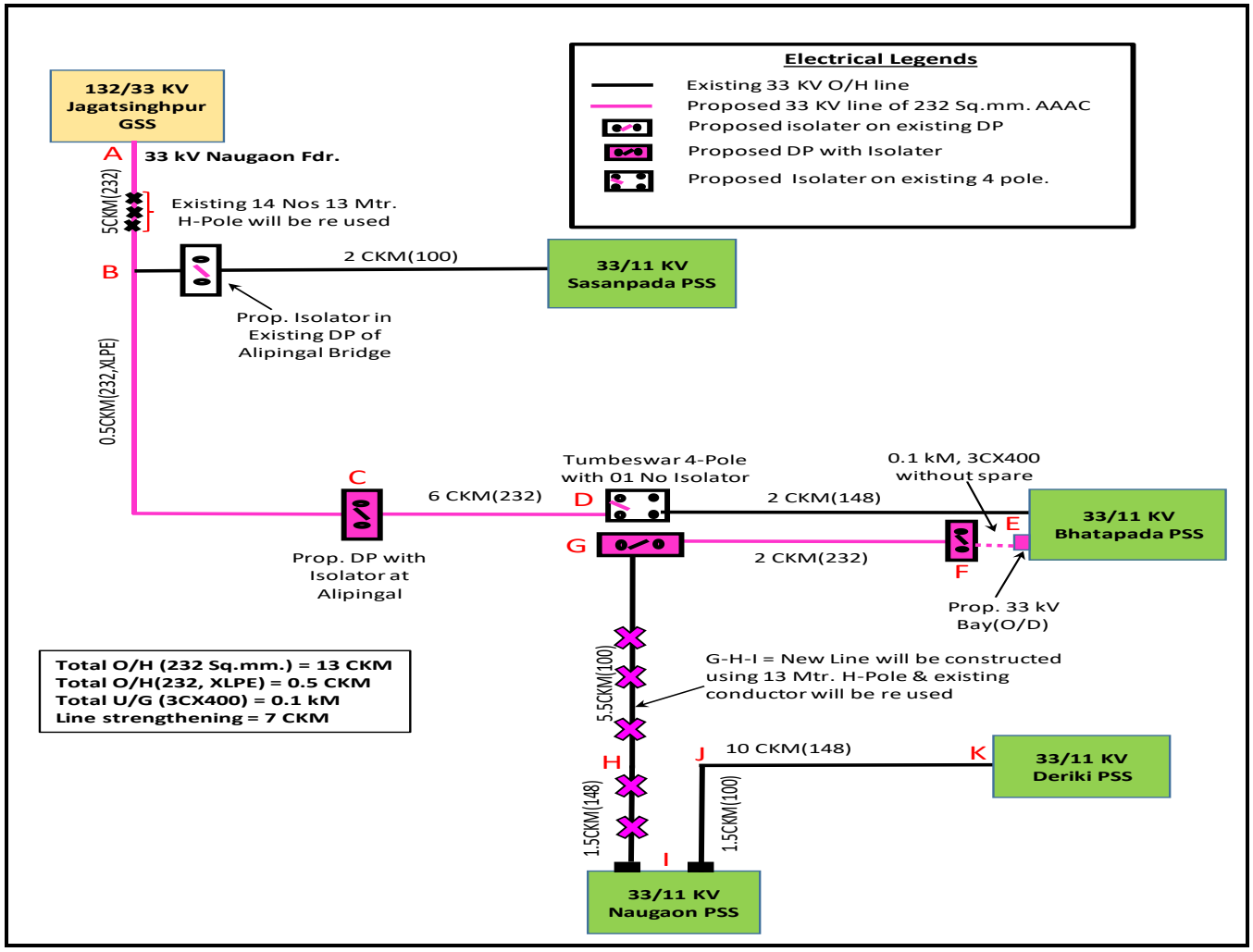
power supply to the substation and its downstream consumers, thereby compromising network reliability and operational flexibility.

In the absence of suitable reliability enhancement measures, consumers connected to the feeder will continue to experience frequent and prolonged power supply interruptions. Therefore, augmentation and refurbishment of the existing 33 kV Naugaon feeder are essential to improve system reliability, reduce outage frequency, enhance network safety, strengthen power supply to Bhatapada PSS, and ensure safe, reliable, and quality power supply to the 21,910 consumers served by the feeder.

Proposed Scenario:

- Augmentation and refurbishment of the 33 kV Naugaon feeder are proposed to improve system reliability, enhance network safety, reduce outages, and ensure safe, reliable, and quality power supply to consumers.
- LILO arrangement at 33/11 kV Bhatapada PSS is proposed on the 33 kV Naugaon feeder to improve operational reliability, provide uninterrupted power supply, facilitate maintenance activities, and ensure smooth operation of the distribution network.

Proposed SLD:



Scope of Work:

- Augmentation and Refurbishment of 33 kV Naugaon Feeder to enhance reliability and ensure Safe Power Supply along with LILO arrangement at 33/11 kV Bhatpada PSS.
- Construction of 13 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC.
- Construction of 0.5 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC.
- Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in Open Trench method.
- Strengthening of 7 CKM 33 kV O/H line using 13 Mtr. H-Pole where existing 100 Sq.mm. AAAC will be reused.
- Installation of 01 No. of Isolator in existing 4-Pole at Tambeswar.
- Installation of 01 No. of Isolator in existing DP at Alipingal Bridge.
- Installation of 01 No. of 33 kV Bay (Outdoor type) at Bhatpada PSS.
- Installation of 10 Nos guarding having span 30 Mtr. each for road crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.25		
TPCODL		
Name of the Division :-	JED	
Name of the Sub-Division : -	Balikuda	
Name of the Section : -	Naugaon	
Name of the Work :-	Proposal for construction of 2 CKM 33 kV O/H line using 232 Sq.mm. AAAC and augmentation of 11.5 CKM line of 33 kV Naugaon Fdr. from 100 Sq.mm. AAAC to 232 Sq.mm. AAAC along with strengthening of 7 CKM 33 kV line & installation of 01 No. of 33 kV O/D bay at Bhatpada PSS.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 13 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)	44,924,434.70
2	PART B: Construction of 0.5 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)	2,210,901.67
3	PART C: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in Open Trench method (Refer PSLD)	1,161,243.52
4	PART D: 1. Strengthening of 7 CKM 33 kV O/H line using 13 Mtr. H-Pole where existing 100 Sq.mm. AAAC will be reused (Refer SLD G-H-I) 2. Installation of 01 No. of Isolator in existing 4-Pole at Tambeswar (Refer PSLD D) 3. Installation of 01 No. of Isolator in existing DP at Alipingal Bridge (Refer PSLD)	17,294,589.57
5	PART E: Installation of 01 No. of 33 kV Bay(Outdoor type) at Bhatpada PSS(Refer SLD - E)	3,038,303.67
6	PART F: Installation of 10 Nos guarding having span 30 Mtr.	293,443.13
7	PART G : Dismantling portion	1,084,346.36
8	**Total Gross**	**70,007,262.63**
Total estimated cost is Rs. 7.00 Cr.		

Cost Estimate: ₹ 7.00 Cr. (For detailed BoQ refer Annexure-11.25).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

i) The proposed strengthening and augmentation of the 33 kV network is aimed at ensuring safe, reliable, and quality power supply to consumers by reducing feeder outages, improving system reliability, enhancing network safety, and minimizing power interruptions.

ii) The proposed LILO arrangement at 33/11 kV Bhatapada PSS will improve network reliability, enhance operational flexibility, reduce outage duration during faults and maintenance, and ensure a more reliable and uninterrupted power supply to consumers.

26. Proposal for reliability improvement by Augmentation and Refurbishment of 33kV Nabapatna Feeder:

Proposal:

Proposal for augmentation/ Refurbishment of 33kV Nabapatna feeder from Balia store to Balia water tank.

Requirement/ Need of the proposal:

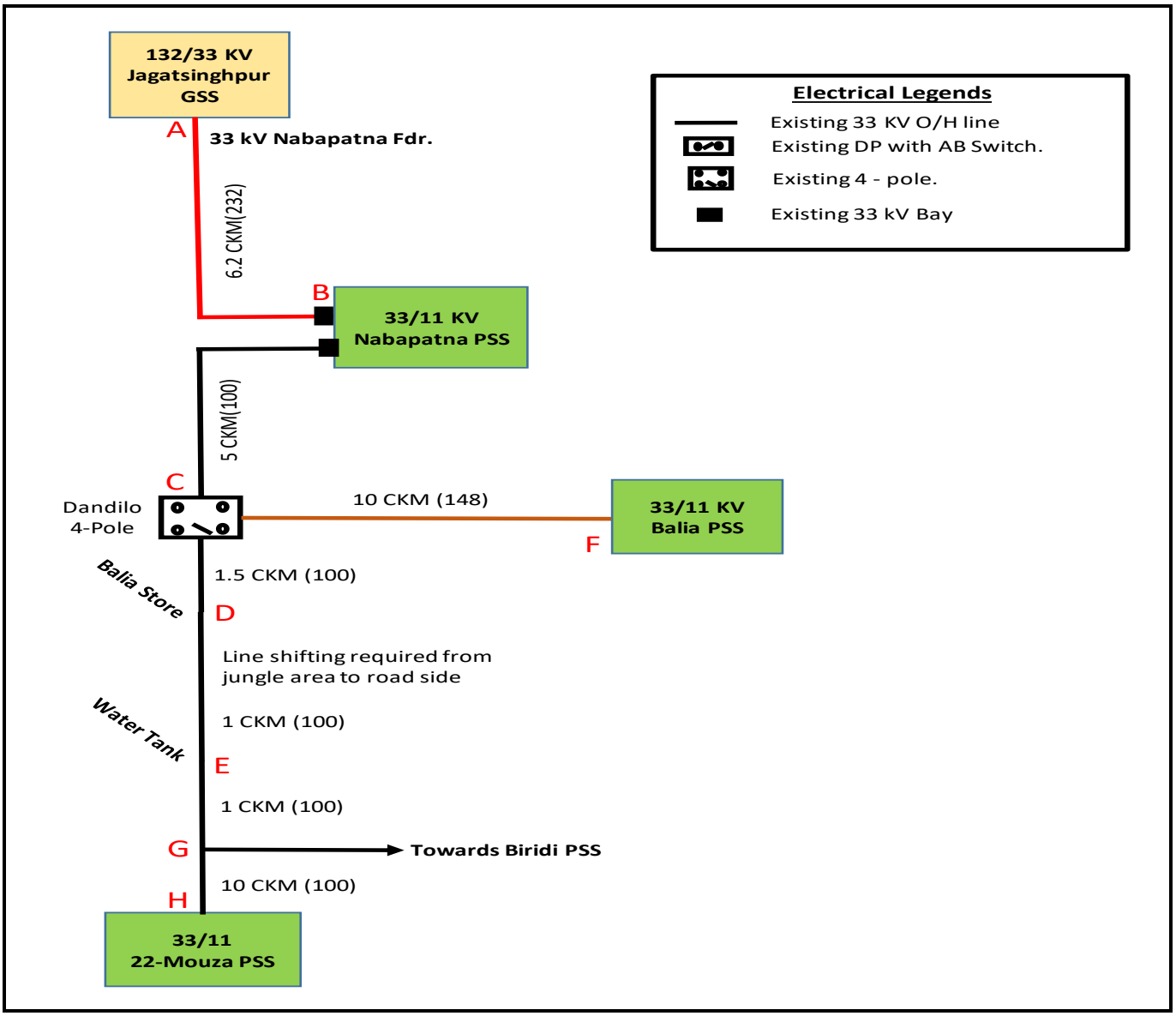
Objective:

To maintain reliability of power supply, reduction in frequent interruptions in the feeder, reduction of conductor snapping and strengthening the existing network by augmenting weak section and lower conductor size.

Existing Scenario:

- The existing 33 kV Nabapatna feedder emanating from Jagatsinghpur GSS and serving to 33/11 kV Nabapatna, Balia & 22-Mouza PSS.
- The 33 kV feeder section from Balia Store to Balia Water Tank traverses a forest area, which is prone to frequent tripping due to vegetation growth and environmental factors. The difficult terrain and restricted accessibility create challenges in carrying out routine maintenance and emergency restoration works, thereby affecting the reliability of power supply.

Existing SLD:



Priority and Timeline of the Project:

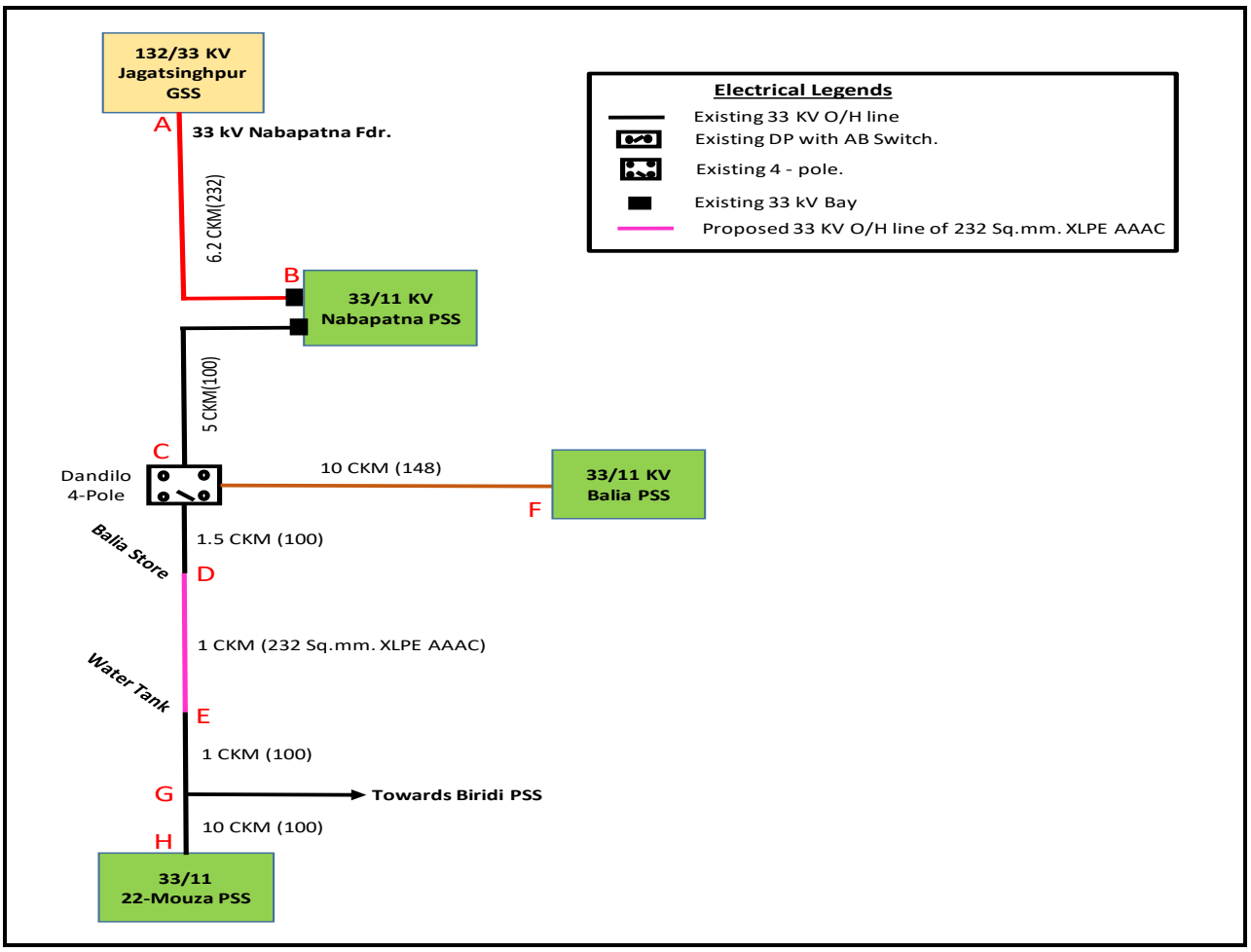
Priority: At present, the 33 kV Nabapatna feeder emanating from Jagatsinghpur GSS is serving 21,517 consumers through an existing network comprising lower-capacity conductors. Due to the ageing and deteriorated condition of the conductors, the presence of multiple joints, and frequent faults and conductor snapping incidents, the reliability of power supply through the feeder has been adversely affected. During the last year, the feeder experienced 55 tripping incidents, resulting in frequent power supply interruptions to the consumers connected to the feeder.

Furthermore, inadequate ground clearance at several locations and vegetation encroachment along the feeder corridor pose significant safety concerns for both the public and maintenance personnel. A section of the feeder from Balia Store to Balia Water Tank passes through a forest area, making it highly susceptible to faults and tripping due to vegetation interference and environmental factors. The forest stretch also creates challenges in carrying out routine maintenance and fault restoration activities, thereby increasing outage duration and affecting overall feeder reliability.

Proposed Scenario:

- Shifting of the 33 kV feeder section from Balia Store to Balia Water Tank from the forest area to the roadside alignment is proposed to reduce vegetation-related trippings, improve accessibility for maintenance, shorten fault restoration time, enhance network reliability, and ensure safe and uninterrupted power supply to consumers.

Proposed SLD:



Scope of Work:

- Construction of 0.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC.

Proposed Cost with Estimate Break-up:

ANNEXURE-11.26		
TPCODL		
Name of the Division :-	JED	
Name of the Sub-Division : -	Raghunathpur	
Name of the Section : -	Biridi	
Name of the Work :-	Proposal for construction of 0.9 CKM line of 33 kV Nabapatna Fdr. using 232 Sq.mm. XLPE AAAC for shifting of line from forest area.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**

1	PART B: 1. Construction of 0.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD) 2. Installation of 5 Nos of stud pole	4,429,602.08
2	PART B : Dismantling portion	55,559.69
3	**Total Gross**	**4,485,161.77**
Total estimated cost is Rs. 0.45 Cr.		

Cost Estimate: ₹ 0.45 Cr. (For detailed BoQ refer Annexure-11.26).

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Benefit to the system and consumers:

The proposed shifting of the 33 kV feeder section from the forest corridor to the roadside alignment is aimed at ensuring safe, reliable, and quality power supply to consumers. The realignment will eliminate frequent vegetation-related interruptions, facilitate easier maintenance and patrolling, improve fault response time, and enhance the overall reliability and operational efficiency.

ANNEXURE-11.1			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-2 (BBSR-I)**	
Name of the Work :-		***Reliability Improvement of BBSR City Area by feeder refurbishment :*** Refurbishment of existing 33kv Chandaka O/G feeder from Chandaka PSS to Malima Chhak	
Scope of work:-		Part-A: Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 3KM alongwith intermediate poles.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A: Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 3KM alongwith intermediate poles.	₹ 6,502,503.32
2	B	Part-B: Dismantling	₹ 98,746.47
		Total Amount	**₹ 6,601,249.79**
		Total Amount (In Cr)	**₹ 0.66**
Total estimated cost is Rs. 0.66 Crore. (On TPCODL CAPEX Scheme)			

Part-A: Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 3KM alongwith intermediate poles.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	1

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
13	33KV pin insulator polymer	EA	398.00	3	1,194.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
A1				**Total Cost of materials**	**228,390.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,110.37**
A				**Total landed Cost (A=A1 + A2)**	**269,501.29**
B				Stock, Storage & Insurance i.e 3% of A	8,085.04
C				**Sub Total (A+B)**	**277,586.33**
D				Contigency @ 3% of C	8,327.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,197.51
F				Transportation @ 7.5% of C	20,818.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,730.12
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**333,789.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	365,635.05
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**365,635.05**
O				CESS 1% of N	3,656.35
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**369,291.40**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	1

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	45.372	3,539.02
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/8 SWG Stay Wire	KG	75.00	15	1,125.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	33KV pin insulator polymer	EA	398.00	3	1,194.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00

15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**92,355.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,624.03**
A				**Total landed Cost (A=A1 + A2)**	**108,979.75**
B				Stock, Storage & Insurance i.e 3% of A	3,269.39
C				**Sub Total (A+B)**	**112,249.14**
D				Contigency @ 3% of C	3,367.47
E				Tools & Plants @ 2% of C	2,172.23
F				Transportation @ 7.5% of C	8,418.69
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,696.64
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,467.87
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**133,372.04**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1125	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**7,825.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,408.63**
K				**Total landed Cost (K=K1+ K2)**	**9,234.36**
L				**Total (J+K)**	142,606.40
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**142,606.40**
O				CESS 1% of N	1,426.06
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**144,032.46**
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		3		

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	10	608,300.00
2	33 KV V cross Arm (GI)	EA	1,701.00	10	17,010.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	10	810.00
4	Danger Plate	EA	180.00	10	1,800.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	21.90	1,708.20
6	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
7	33 kV pin insulator polymer	EA	398.00	240	95,520.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	240	28,800.00
10	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.24	1,719.76
12	232 sq.mm XLPE AAA covered conductor	M	342.00	9270.00	3,170,340.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	9	6,750.00
A1				**Total Cost of materials**	**3,936,617.96**
A2				**Applicable Taxes to make it Landed Cost @18%**	**708,591.23**
A				**Total landed Cost (A=A1 + A2)**	**4,645,209.19**
B				Stock, Storage & Insurance i.e 3% of A	139,356.28
C				**Sub Total (A+B)**	**4,784,565.47**
D				Contigency @ 3% of C	143,536.96
E				Tools & Plants @ 2% of C	95,691.31
F				Transportation @ 7.5% of C	358,842.41
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				36,966.39
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				404,523.76
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**5,824,126.31**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.50	36,568.68

2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1	**Total Civil & Services**				**86,652.03**
K2	**Applicable Taxes to make it Landed Cost @18%**				**15,597.37**
K	**Total landed Cost (K=K1+ K2)**				**102,249.40**
L	**Total (J+K)**				5,926,375.70
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**5,926,375.70**
O	CESS 1% of N				59,263.76
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**5,985,639.46**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				369,291.40
2	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				144,032.46
3	Gross Total Material +Services (N+O) for 33 KV Pin Points				5,985,639.46
Q	**Gross Total Material +Services**				**6,498,963.32**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				750.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)				540.00
W	Total Inspection Fees including GST (U+V)				3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**6,502,503.32**

Part-B: Dismantling

Standard BoQ and Estimate for Dismantling of Materials

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	9000	9.21	82,854.90
A1				**Sub Total (Civil Portion) (in Rs.)**	**82,854.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,913.88**
A				**Total landed Cost (A=A1+ A2)**	**97,768.78**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	97,768.78
D				**CESS @ 1% of C**	977.69
E				**Grand Total (C+D)**	98,746.47

ANNEXURE-11.2			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-1 (BBSR-I)**	
Name of the Work :-		Proposal for 33 kV N-1 reliability to Satyanagar and Unit-3 PSS	
Scope of work:-		Part-A : Supply and laying of 0.6KM U/G line of 3CX400sqmm from Satyanagar GSS to Satyanagar PSS. 2 no.s of new feeder to be emanated from Satyanagar GSS.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A : Supply and laying of 0.6KM U/G line of 3CX400sqmm from Satyanagar GSS to Satyanagar PSS. 2 no.s of new feeder to be emanated from Satyanagar GSS.	₹ 15,995,596.26
		Total Amount	**₹ 15,995,596.26**
		Total Amount (In Cr)	**₹ 1.60**
Total estimated cost is Rs. 1.60 Crore. (On TPCODL CAPEX Scheme)			

Part-A : Supply and laying of 0.6KM U/G line of 3CX400sqmm from Satyanagar GSS to Satyanagar PSS. 2 no.s of new feeder to be emanated from Satyanagar GSS.

Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable along with 33kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***1200***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1200	3,165.00	3,798,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	4	25,930.00	103,720.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	11,900.00	47,600.00
1.6	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	1200.00	812.00	974,400.00
	Sub Total (Supply Portion) (in Rs.)				**4,923,720.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1200	115.00	138,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	8	2,000.00	16,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1200.00	195.00	234,000.00
	Sub Total (Erection Portion) (in Rs.)				**388,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	558		
1.1.a	Earth work excavation of **soil**	M3	468.72	716.03	335,617.58
1.1.b	Earth work excavation of **hard rock**	M3	200.88	1,759.39	353,426.26
1.2	Back filling with excavated soil outside and above the trench	M3	669.6	220.00	147,312.00
1.3	Road Repair and restoration charges	KM	0.685	9,294,727.82	6,366,888.56
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	167,031.15
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	40	1,035.17	41,406.80
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.2	10,470.00	12,564.00
	Sub Total (Civil Portion) (in Rs.)				**7,424,246.35**

A1	**Sub Total (Supply Portion)**	**4,923,720.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**886,269.60**
A	**Total Landed Cost (A=A1 + A2)**	**5,809,989.60**
B	Stock, Storage & Insurance @ 3 % of A	174,299.69
C	**Sub Total (A+B)**	**5,984,289.29**
D	Contingency @ 3 % of C	179,528.68
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	448,821.70

G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**6,612,639.66**
I1	Sub Total (Erection Portion + Civil Portion)	7,812,246.35
I2	**Applicable Taxes to make it Landed Cost @18%**	**1,406,204.34**
I	**Total landed Cost (I=I1+ I2)**	**9,218,450.69**
J	**Total Cost (H+I)**	**15,831,090.35**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**15,831,090.35**
M	CESS 1% of L	158,310.90
N	**Grand Total (L+M)**	**15,989,401.26**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)	945.00
U	Total Inspection Fees including GST (S+T)	6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**15,995,596.26**

ANNEXURE-11.3			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-2 (BBSR-I)**	
Name of the Work :-		***Reliability Improvement of BBSR City Area by feeder refurbishment :*** Refurbishment of existing 33kv Assotech feeder from Ranasinghpur GSS	
Scope of work:-		Part-A: Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2KM alongwith intermediate poles.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A: Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2KM alongwith intermediate poles.	₹ 5,007,287.41
2	B	Part-B: Dismantling	₹ 98,746.47
		Total Amount	**₹ 5,106,033.88**
		Total Amount (In Cr)	**₹ 0.51**
Total estimated cost is Rs. 0.51 Crore. (On TPCODL CAPEX Scheme)			

Part-A: Augmentation of existing 100 sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2KM alongwith intermediate poles.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)				1	
MATERIALS FOR 33 KV DP With Isolator					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
13	33KV pin insulator polymer	EA	398.00	3	1,194.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
A1				**Total Cost of materials**	**228,390.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,110.37**
A				**Total landed Cost (A=A1 + A2)**	**269,501.29**
B				Stock, Storage & Insurance i.e 3% of A	8,085.04
C				**Sub Total (A+B)**	**277,586.33**
D				Contigency @ 3% of C	8,327.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,197.51
F				Transportation @ 7.5% of C	20,818.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,730.12
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**333,789.25**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	365,635.05
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**365,635.05**
O				CESS 1% of N	3,656.35
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**369,291.40**
No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)				1	
MATERIALS FOR 33 KV Cut Point with 180 Degree Angle					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	45.372	3,539.02
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/8 SWG Stay Wire	KG	75.00	15	1,125.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	33KV pin insulator polymer	EA	398.00	3	1,194.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00

14	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**92,355.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,624.03**
A				**Total landed Cost (A=A1 + A2)**	**108,979.75**
B				Stock, Storage & Insurance i.e 3% of A	3,269.39
C				**Sub Total (A+B)**	**112,249.14**
D				Contigency @ 3% of C	3,367.47
E				Tools & Plants @ 2% of C	2,172.23
F				Transportation @ 7.5% of C	8,418.69
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,696.64
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,467.87
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**133,372.04**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1125	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**7,825.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,408.63**
K				**Total landed Cost (K=K1+ K2)**	**9,234.36**
L				**Total (J+K)**	142,606.40
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**142,606.40**
O				CESS 1% of N	1,426.06
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**144,032.46**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	1

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	89.202	6,957.76
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	33KV pin insulator polymer	EA	398.00	4	1,592.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	4	480.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**99,111.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**17,840.06**
A				**Total landed Cost (A=A1 + A2)**	**116,951.52**
B				Stock, Storage & Insurance i.e 3% of A	3,508.55
C				**Sub Total (A+B)**	**120,460.07**
D				Contigency @ 3% of C	3,613.80
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,267.92
F				Transportation @ 7.5% of C	9,034.51
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,696.64
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,946.34
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**143,019.28**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.550	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.113	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**10,127.25**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,822.91**
K				**Total landed Cost (K=K1+ K2)**	**11,950.16**
L				**Total (J+K)**	154,969.43
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**154,969.43**
O				CESS 1% of N	1,549.69
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**156,519.13**

33 Kv Line Length In KM with 40 Mtr. Span ***(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)***	2

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	10	608,300.00
2	33 KV V cross Arm (GI)	EA	1,701.00	10	17,010.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	10	810.00
4	Danger Plate	EA	180.00	10	1,800.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	21.90	1,708.20
6	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
7	33 kV pin insulator polymer	EA	398.00	180	71,640.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	180	21,600.00
10	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.24	1,719.76
12	232 sq.mm XLPE AAA covered conductor	M	342.00	6180.00	2,113,560.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	6	4,500.00
A1				**Total Cost of materials**	**2,846,507.96**
A2				**Applicable Taxes to make it Landed Cost @18%**	**512,371.43**
A				**Total landed Cost (A=A1 + A2)**	**3,358,879.39**
B				Stock, Storage & Insurance i.e 3% of A	100,766.38
C				**Sub Total (A+B)**	**3,459,645.77**
D				Contigency @ 3% of C	103,789.37
E				Tools & Plants @ 2% of C	69,192.92
F				Transportation @ 7.5% of C	259,473.43
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				36,966.39
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				272,031.80
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,201,099.68**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.50	36,568.68
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1				**Total Civil & Services**	**76,182.03**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,712.77**
K				**Total landed Cost (K=K1+ K2)**	**89,894.80**
L				**Total (J+K)**	4,290,994.48
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**4,290,994.48**
O				CESS 1% of N	42,909.94
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**4,333,904.42**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	369,291.40
2	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	144,032.46
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	156,519.13
4	Gross Total Material +Services (N+O) for 33 KV Pin Points	4,333,904.42
Q	**Gross Total Material +Services**	**5,003,747.41**

R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	750.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)	540.00
W	Total Inspection Fees including GST (U+V)	3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**5,007,287.41**

Part-B: Dismantling

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	9000	9.21	82,854.90
A1				**Sub Total (Civil Portion) (in Rs.)**	**82,854.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,913.88**
A				**Total landed Cost (A=A1+ A2)**	**97,768.78**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	97,768.78
D				**CESS @ 1% of C**	977.69
E				**Grand Total (C+D)**	98,746.47

ANNEXURE-11.4			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BCDD-2 (BBSR-I)**	
Name of the Work :-		***Reliability Improvement of BBSR City Area by feeder refurbishment :*** Refurbishment of existing 33kv Vipul feeder from Kalinganagar PSS to Trident Galaxy	
Scope of work:-		Part-A: Augmentation of existing 100sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2.5KM alongwith intermediate poles.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A: Augmentation of existing 100sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2.5KM alongwith intermediate poles.	₹ 5,304,561.86
2	B	Part-B: Dismantling	₹ 82,288.72
		Total Amount	**₹ 5,386,850.59**
		Total Amount (In Cr)	**₹ 0.54**
Total estimated cost is Rs. 0.54 Crore. (On TPCODL CAPEX Scheme)			

Part-A: Augmentation of existing 100sqmm AAAC TO 232sqmm XLPE AAAC existing line- 2.5KM alongwith intermediate poles.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)			1		
MATERIALS FOR 33 KV DP With Isolator					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
13	33KV pin insulator polymer	EA	398.00	3	1,194.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
A1				**Total Cost of materials**	**228,390.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,110.37**
A				**Total landed Cost (A=A1 + A2)**	**269,501.29**
B				Stock, Storage & Insurance i.e 3% of A	8,085.04
C				**Sub Total (A+B)**	**277,586.33**
D				Contigency @ 3% of C	8,327.59
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,197.51
F				Transportation @ 7.5% of C	20,818.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,730.12
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**333,789.25**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	365,635.05
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**365,635.05**
O				CESS 1% of N	3,656.35
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**369,291.40**
No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)			1		
MATERIALS FOR 33 KV Cut Point with 180 Degree Angle					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	45.372	3,539.02
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/8 SWG Stay Wire	KG	75.00	15	1,125.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	33KV pin insulator polymer	EA	398.00	3	1,194.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00

15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**92,355.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,624.03**
A				**Total landed Cost (A=A1 + A2)**	**108,979.75**
B				Stock, Storage & Insurance i.e 3% of A	3,269.39
C				**Sub Total (A+B)**	**112,249.14**
D				Contigency @ 3% of C	3,367.47
E				Tools & Plants @ 2% of C	2,172.23
F				Transportation @ 7.5% of C	8,418.69
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,696.64
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,467.87
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**133,372.04**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1125	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**7,825.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,408.63**
K				**Total landed Cost (K=K1+ K2)**	**9,234.36**
L				**Total (J+K)**	142,606.40
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**142,606.40**
O				CESS 1% of N	1,426.06
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**144,032.46**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	1

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	89.202	6,957.76
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	33KV pin insulator polymer	EA	398.00	4	1,592.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	4	480.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**99,111.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**17,840.06**
A				**Total landed Cost (A=A1 + A2)**	**116,951.52**
B				Stock, Storage & Insurance i.e 3% of A	3,508.55
C				**Sub Total (A+B)**	**120,460.07**
D				Contigency @ 3% of C	3,613.80
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,267.92
F				Transportation @ 7.5% of C	9,034.51
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,696.64
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,946.34
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**143,019.28**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.550	3,656.87

2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.113	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**10,127.25**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,822.91**
K				**Total landed Cost (K=K1+ K2)**	**11,950.16**
L				**Total (J+K)**	154,969.43
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**154,969.43**
O				CESS 1% of N	1,549.69
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**156,519.13**
	33 Kv Line Length In KM with 40 Mtr. Span		2.5		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)				

MATERIALS FOR 33 KV Pin Points

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	5	304,150.00
2	33 KV V cross Arm (GI)	EA	1,701.00	5	8,505.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	5	405.00
4	Danger Plate	EA	180.00	5	900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	10.95	854.10
6	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
7	33 kV pin insulator polymer	EA	398.00	165	65,670.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	165	19,800.00
10	Earthing of Support (Coil Type)	EA	164.00	5	820.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.62	859.88
12	232 sq.mm XLPE AAA covered conductor	M	342.00	7725.00	2,641,950.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	6	4,500.00
A1				**Total Cost of materials**	**3,049,523.98**
A2				**Applicable Taxes to make it Landed Cost @18%**	**548,914.32**
A				**Total landed Cost (A=A1 + A2)**	**3,598,438.30**
B				Stock, Storage & Insurance i.e 3% of A	107,953.15
C				**Sub Total (A+B)**	**3,706,391.45**
D				Contigency @ 3% of C	111,191.74
E				Tools & Plants @ 2% of C	74,127.83
F				Transportation @ 7.5% of C	277,979.36
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				18,483.20
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				333,672.75
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,521,846.32**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.75	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.5	26,175.00
K1				**Total Civil & Services**	**53,796.02**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,683.28**
K				**Total landed Cost (K=K1+ K2)**	**63,479.30**
L				**Total (J+K)**	4,585,325.62
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**4,585,325.62**
O				CESS 1% of N	45,853.26
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**4,631,178.88**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	369,291.40
2	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	144,032.46
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	156,519.13
4	Gross Total Material +Services (N+O) for 33 KV Pin Points	4,631,178.88
Q	**Gross Total Material +Services**	**5,301,021.86**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00

S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	750.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)	540.00
W	Total Inspection Fees including GST (U+V)	3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**5,304,561.86**

Part-B: Dismantling

Standard BoQ and Estimate for Dismantling of Materials

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	7500	9.21	69,045.75
A1				**Sub Total (Civil Portion) (in Rs.)**	**69,045.75**
A2				**Applicable Taxes to make it Landed Cost @18%**	**12,428.24**
A				**Total landed Cost (A=A1+ A2)**	**81,473.99**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	81,473.99
D				**CESS @ 1% of C**	814.74
E				**Grand Total (C+D)**	82,288.72

ANNEXURE-11.5			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BED (BBSR-I)**	
Name of the Work :-		***Reliability Improvement of BBSR City Area by new linking line :*** New 33kV feeder from Balianta GSS to Bhingarpur PSS, for enabling reliable power supply by power evacuation and providing additional 33kV source to PSS.	
Scope of work:-		1. Construction of 3CX400sqmm without spare for length- 3.8KM 2. Construction of One No of 33 KV Outdoor Bay at Bhingarpur PSS Construction of 33kv ovehead line with 232sqmm for length- 7KM	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A: Construction of 3CX400sqmm without spare for length- 3.8KM	₹ 36,259,336.70
2	B	Part-B :- Construction of One No of 33 KV Outdoor Bay at Bhingarpur PSS	₹ 2,809,149.00
2	C	Part-C: Construction of 33kv ovehead line with 232sqmm for length- 7KM	₹ 25,833,900.80
		Total Amount	**₹ 64,902,386.51**
		Total Amount (In Cr)	**₹ 6.49**
Total estimated cost is Rs. 6.49 Crore. (On TPCODL CAPEX Scheme)			

Part-A: Construction of 3CX400sqmm without spare for length- 3.8KM

Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable along with 33kV RMU					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***2300***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***1500***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	3800	3,165.00	12,027,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	13	25,930.00	337,090.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	11,900.00	59,500.00
1.5	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	3	71,915.00	215,745.00
1.6	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	2300.00	812.00	1,867,600.00
	Sub Total (Supply Portion) (in Rs.)				**14,506,935.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	3800	115.00	437,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	21	2,000.00	42,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1500	2,970.00	4,455,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2300.00	195.00	448,500.00
	Sub Total (Erection Portion) (in Rs.)				**5,382,500.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	2050		
1.1.a	Earth work excavation of **soil**	M3	1722	716.03	1,233,003.66
1.1.b	Earth work excavation of **hard rock**	M3	738	1,759.39	1,298,429.82
1.2	Back filling with excavated soil outside and above the trench	M3	2460	220.00	541,200.00
1.3	Road Repair and restoration charges	KM	0.55	9,294,727.82	5,112,100.30
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	167,031.15
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	127	1,035.17	131,466.59
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	3.8	10,470.00	39,786.00
	Sub Total (Civil Portion) (in Rs.)				**8,523,017.52**

A1	**Sub Total (Supply Portion)**	**14,506,935.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**2,611,248.30**
A	**Total Landed Cost (A=A1 + A2)**	**17,118,183.30**
B	Stock, Storage & Insurance @ 3 % of A	513,545.50
C	**Sub Total (A+B)**	**17,631,728.80**
D	Contingency @ 3 % of C	528,951.86
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	1,322,379.66
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**19,483,060.32**
I1	Sub Total (Erection Portion + Civil Portion)	13,905,517.52
I2	**Applicable Taxes to make it Landed Cost @18%**	**2,502,993.15**
I	**Total landed Cost (I=I1+ I2)**	**16,408,510.67**
J	**Total Cost (H+I)**	**35,891,570.99**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**35,891,570.99**
M	CESS 1% of L	358,915.71
N	**Grand Total (L+M)**	**36,250,486.70**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	4,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**7,500.00**
T	GST @ 18% on Total Inspection Fees (S)	1,350.00
U	Total Inspection Fees including GST (S+T)	8,850.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**36,259,336.70**

Part-B :- Construction of One No of 33 KV Outdoor Bay at Bhingarpur PSS					
No. of BAY requirement			1		
No. of VCB Requirement			1		
No. of Bus isolator requirement					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	330	25,740.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	13	16,900.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	460	35,895.60
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	101,652.00	1	101,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	0	-
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	263,629.00	1	263,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	270,500.00	1	270,500.00
17	Indoor CR PANEL FOR Transformer PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	449,000.00	0	-
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	121,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	0	-
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00

23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
26	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	0	-
27	200 AH maintenance free VRLA Battery (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	Set	64,569.00	0	-
28	Float cum Boost Battery Charger with DCDB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	No	249,965.00	0	-
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,302,051.21**
A2				**Applicable Taxes to make it Landed Cost @18%**	**234,369.22**
A				**Total landed Cost (A=A1 + A2)**	**1,536,420.43**
B				Stock, Storage & Insurance i.e 3% of A	46,092.61
C				**Sub Total (A+B)**	**1,582,513.04**
D				Contigency @ 3% of C	47,475.39
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	31,239.46
F				Transportation @ 7.5% of C	118,688.48
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed	16,020.73
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	124,155.81
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,920,092.91**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	13	49,201.49
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06

2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				

5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	4.725	2,329.61
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	2	440.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.2835	1,487.66
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.85	18,949.22
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	34.5	8,004.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	2.3	3,404.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	2.3	11,569.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.6	34,500.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.2	31,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	56	15,120.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	991.4	101,122.80
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	1.2	9,540.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	530.2	55,140.80
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**728,381.58**
K2				**Applicable Taxes to make it Landed Cost @18%**	**131,108.68**
K				**Total landed Cost (K=K1+ K2)**	**859,490.26**
L				**Total Material +services (J+K)**	**2,779,583.17**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**2,779,583.17**
O				CESS 1% of (N)	27,795.83
P				**Total (N+O)**	2,807,379.00
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**2,809,149.00**

Part-C: Construction of 33kv ovehead line with 232sqmm for length- 7KM

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)				12	
MATERIALS FOR 33 KV DP Without Isolator					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	24	815,280.00
2	GI Channel,angle, flat of different size	KG	78.00	2525.304	196,973.71
3	Danger Plate	EA	180.00	24	4,320.00
4	H.T. Stay clamp	EA	260.00	48	12,480.00
5	H.T. Stay set (Complete)	SET	1,434.00	48	68,832.00
6	H.T. Stay Insulator Type-C	EA	87.00	96	8,352.00
7	7/8 SWG Stay Wire	KG	75.00	720	54,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	24	31,200.00
9	GI barbed wire anticlimbing device	KG	74.00	72	5,328.00
10	33 kV pin insulator polymer	EA	398.00	36	14,328.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	72	45,432.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	72	20,808.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	72	23,976.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	151.536	11,213.66
15	POLYCARBONATE BIRD GUARD	EA	21.00	108	2,268.00
A1				**Total Cost of materials**	**1,314,791.38**
A2				**Applicable Taxes to make it Landed Cost @18%**	**236,662.45**
A				**Total landed Cost (A=A1 + A2)**	**1,551,453.82**
B				Stock, Storage & Insurance i.e 3% of A	46,543.61
C				**Sub Total (A+B)**	**1,597,997.44**
D				Contigency @ 3% of C	47,939.92
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	27,709.35
F				Transportation @ 7.5% of C	119,849.81
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	49,544.57
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	39,457.64
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,882,498.73**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	48	110,473.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.2	87,764.82
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.7	17,951.90
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	24	90,833.52
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	12	10,032.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	24	6,800.16
K1				**Total Civil & Services**	**323,855.60**
K2				**Applicable Taxes to make it Landed Cost @18%**	**58,294.01**
K				**Total landed Cost (K=K1+ K2)**	**382,149.60**
L				**Total (J+K)**	2,264,648.33
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**2,264,648.33**
O				CESS 1% of N	22,646.48
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**2,287,294.82**
No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)				3	
MATERIALS FOR 33 KV DP With Isolator					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	203,820.00
2	GI Channel,angle & flat of different size	KG	78.00	1659.579	129,447.16
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
8	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	187,068.00
13	33KV pin insulator polymer	EA	398.00	9	3,582.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	18	11,358.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	18	5,994.00

17	GI Nut , Bolt & Washer of different sizes	KG	74.00	66.684	4,934.62
18	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**640,811.78**
A2				**Applicable Taxes to make it Landed Cost @18%**	**115,346.12**
A				**Total landed Cost (A=A1 + A2)**	**756,157.90**
B				Stock, Storage & Insurance i.e 3% of A	22,684.74
C				**Sub Total (A+B)**	**778,842.63**
D				Contigency @ 3% of C	23,365.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	14,514.20
F				Transportation @ 7.5% of C	58,413.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	47,798.74
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**935,320.20**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	1,030,857.60
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,030,857.60**
O				CESS 1% of N	10,308.58
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**1,041,166.17**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	7

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	7	425,810.00
2	GI Channel,angle & flat of different size	KG	78.00	315.728	24,626.78
3	Danger Plate	EA	180.00	7	1,260.00
4	H.T. Stay clamp	EA	260.00	14	3,640.00
5	H.T. Stay set (Complete)	SET	1,434.00	14	20,076.00
6	H.T. Stay Insulator Type-C	EA	87.00	28	2,436.00
7	7/8 SWG Stay Wire	KG	75.00	210	15,750.00
8	GI barbed wire anticlimbing device	KG	74.00	21	1,554.00
9	33KV pin insulator polymer	EA	398.00	21	8,358.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	42	26,502.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	42	12,138.00
12	Earthing of Support (Coil Type)	EA	164.00	7	1,148.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	42	13,986.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.548	2,778.55
15	POLYCARBONATE BIRD GUARD	EA	21.00	63	1,323.00
A1				**Total Cost of materials**	**561,386.34**
A2				**Applicable Taxes to make it Landed Cost @18%**	**101,049.54**
A				**Total landed Cost (A=A1 + A2)**	**662,435.88**
B				Stock, Storage & Insurance i.e 3% of A	19,873.08
C				**Sub Total (A+B)**	**682,308.95**
D				Contigency @ 3% of C	20,469.27
E				Tools & Plants @ 2% of C	12,627.63
F				Transportation @ 7.5% of C	51,173.17
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	25,876.47
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,385.18
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**803,840.67**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.85	25,598.07
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.7875	5,235.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	14	32,221.35
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	7	5,852.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	7	1,983.38
K1				**Total Civil & Services**	**70,890.77**
K2				**Applicable Taxes to make it Landed Cost @18%**	**12,760.34**
K				**Total landed Cost (K=K1+ K2)**	**83,651.11**
L				**Total (J+K)**	887,491.78
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**887,491.78**
O				CESS 1% of N	8,874.92
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**896,366.70**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	7

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	7	425,810.00
2	GI Channel,angle & flat of different size	KG	78.00	600.894	46,869.73
3	Danger Plate	EA	180.00	7	1,260.00
4	GI barbed wire anticlimbing device	KG	74.00	21	1,554.00
5	33KV pin insulator polymer	EA	398.00	28	11,144.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	42	26,502.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	42	12,138.00
8	Earthing of Support (Coil Type)	EA	164.00	7	1,148.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	42	13,986.00
10	H.T. Stay clamp	EA	260.00	14	3,640.00
11	H.T. Stay set (Complete)	SET	1,434.00	14	20,076.00
12	H.T. Stay Insulator Type-C	EA	87.00	14	1,218.00
13	7/8 SWG Stay Wire	KG	75.00	210	15,750.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	75.74	5,604.76
15	POLYCARBONATE BIRD GUARD	EA	21.00	70	1,470.00
A1				**Total Cost of materials**	**588,170.49**
A2				**Applicable Taxes to make it Landed Cost @18%**	**105,870.69**
A				**Total landed Cost (A=A1 + A2)**	**694,041.18**
B				Stock, Storage & Insurance i.e 3% of A	20,821.24
C				**Sub Total (A+B)**	**714,862.42**
D				Contigency @ 3% of C	21,445.87
E				Tools & Plants @ 2% of C (Except HT Stay Set)	13,308.30
F				Transportation @ 7.5% of C	53,614.68
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				25,876.47
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,788.56
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**843,896.31**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.850	25,598.07
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.788	5,235.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	14	32,221.35
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	7	5,852.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	7	1,983.38
K1				**Total Civil & Services**	**70,890.77**
K2				**Applicable Taxes to make it Landed Cost @18%**	**12,760.34**
K				**Total landed Cost (K=K1+ K2)**	**83,651.11**
L				**Total (J+K)**	927,547.42
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**927,547.42**
O				CESS 1% of N	9,275.47
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**				**936,822.89**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	7

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*

1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	146	8,881,180.00
2	33 KV V cross Arm (GI)	EA	1,701.00	146	248,346.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	146	11,826.00
4	Danger Plate	EA	180.00	146	26,280.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	319.74	24,939.72
6	GI barbed wire anticlimbing device	KG	74.00	438.00	32,412.00
7	33 kV pin insulator polymer	EA	398.00	438	174,324.00
8	Earthing of Support (Coil Type)	EA	164.00	146	23,944.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	341.93	25,302.97
10	232 sq.mm AAA conductor	M	181.65	21630.00	3,929,089.50
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	21	20,152.89
12	POLYCARBONATE BIRD GUARD	EA	21.00	438	9,198.00
A1				**Total Cost of materials**	**13,406,995.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,413,259.11**
A				**Total landed Cost (A=A1 + A2)**	**15,820,254.20**
B				Stock, Storage & Insurance i.e 3% of A	474,607.63
C				**Sub Total (A+B)**	**16,294,861.82**
D				Contigency @ 3% of C	488,845.85
E				Tools & Plants @ 2% of C	325,897.24
F				Transportation @ 7.5% of C	1,222,114.64
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				539,709.31
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				550,067.57
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**19,421,496.42**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	80.30	533,902.66
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	16.43	109,207.36
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	146	122,056.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	146	41,367.64
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7	73,290.00
K1				**Total Civil & Services**	**879,823.66**
K2				**Applicable Taxes to make it Landed Cost @18%**	**158,368.26**
K				**Total landed Cost (K=K1+ K2)**	**1,038,191.91**
L				**Total (J+K)**	20,459,688.34
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**20,459,688.34**
O				CESS 1% of N	204,596.88
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**20,664,285.22**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	2,287,294.82
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	1,041,166.17
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	896,366.70
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	936,822.89
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	20,664,285.22
Q	**Gross Total Material +Services**	**25,825,935.80**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	4,500.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**6,750.00**
V	GST @ 18% on Total Inspection Fees (U)	1,215.00
W	Total Inspection Fees including GST (U+V)	7,965.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**25,833,900.80**

Annexure-11.6			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**NED**	
Name of the Sub-Division : -		Nimapada	
Name of the Work :-		Refurbishment of 33kV Sutan Feeder from Labanya Chhaka to Eco retreat to providing reliable power supply.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 33kV, 3Ph, 3W OH Line Length= 2CKM, with 40 Mtr. Span on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 148 SQ.MM. -XLPE AAA Covered Conductor	₹ 45,28,040.18
2	B	PART B: Supply & Laying of 33kV 3CX400sqmm XLPE UG Cableof length = 2.95 KM with one run spare.	₹ 4,03,59,741.05
3	C	PART C: Dismantling of Materials	₹ 84,263.65
		Total Amount	**₹ 4,49,72,044.89**
		Total Amount (In Cr)	**4.50**
Total estimated cost is Rs. 4.5 Crore. (On TPCODL Capex Scheme)			

PART A: Construction of 33kV, 3Ph, 3W OH Line Length= 2CKM, with 40 Mtr. Span on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 148 SQ.MM. -XLPE AAA Covered Conductor

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	1

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle, flat of different size	KG	78.00	210.442	16,414.48
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	33 kV pin insulator polymer	EA	398.00	3	1,194.00
11	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	3	360.00
12	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.628	934.47
A1				**Total Cost of materials**	**1,25,232.95**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,541.93**
A				**Total landed Cost (A=A1 + A2)**	**1,47,774.88**
B				Stock, Storage & Insurance i.e 3% of A	4,433.25
C				**Sub Total (A+B)**	**1,52,208.12**
D				Contigency @ 3% of C	4,566.24
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,689.95
F				Transportation @ 7.5% of C	11,415.61
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,192.30
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,80,200.94**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	2,12,046.74
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**2,12,046.74**
O				CESS 1% of N	2,120.47
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**2,14,167.21**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1659.579	1,29,447.16
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00

5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	1,87,068.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	6	720.00
15	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
A1				**Total Cost of materials**	**5,64,046.91**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,01,528.44**
A				**Total landed Cost (A=A1 + A2)**	**6,65,575.35**
B				Stock, Storage & Insurance i.e 3% of A	19,967.26
C				**Sub Total (A+B)**	**6,85,542.61**
D				Contigency @ 3% of C	20,566.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	13,002.42
F				Transportation @ 7.5% of C	51,415.70
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	48,497.24
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**8,27,281.67**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	8,90,973.28
M	Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)				
N				**Sub-Total Material +Services (L+M)**	**8,90,973.28**
O				CESS 1% of N	8,909.73
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**8,99,883.01**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	2

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	2	1,21,660.00
2	GI Channel,angle & flat of different size	KG	78.00	90.744	7,078.03
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	33KV pin insulator polymer	EA	398.00	6	2,388.00
10	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	6	720.00
11	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41

A1	**Total Cost of materials**	**1,85,591.44**
A2	**Applicable Taxes to make it Landed Cost @18%**	**33,406.46**
A	**Total landed Cost (A=A1 + A2)**	**2,18,997.90**
B	Stock, Storage & Insurance i.e 3% of A	6,569.94
C	**Sub Total (A+B)**	**2,25,567.84**
D	Contigency @ 3% of C	6,767.04
E	Tools & Plants @ 2% of C	4,365.85
F	Transportation @ 7.5% of C	16,917.59
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,393.28
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,042.69
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**2,68,054.27**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1	**Total Civil & Services**				**15,651.46**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,817.26**
K	**Total landed Cost (K=K1+ K2)**				**18,468.72**
L	**Total (J+K)**				2,86,522.99
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**2,86,522.99**
O	CESS 1% of N				2,865.23
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**2,89,388.22**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	2

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	2	1,21,660.00
2	GI Channel,angle & flat of different size	KG	78.00	178.404	13,915.51
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	33KV pin insulator polymer	EA	398.00	8	3,184.00
6	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	8	960.00
7	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**1,99,102.92**
A2	**Applicable Taxes to make it Landed Cost @18%**				**35,838.53**
A	**Total landed Cost (A=A1 + A2)**				**2,34,941.45**
B	Stock, Storage & Insurance i.e 3% of A				7,048.24
C	**Sub Total (A+B)**				**2,41,989.69**
D	Contigency @ 3% of C				7,259.69
E	Tools & Plants @ 2% of C (Except HT Stay Set)				4,557.24
F	Transportation @ 7.5% of C				18,149.23
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,393.28
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,999.63

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**2,87,348.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.100	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1	**Total Civil & Services**				**20,254.51**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,645.81**
K	**Total landed Cost (K=K1+ K2)**				**23,900.32**
L	**Total (J+K)**				3,11,249.07
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**3,11,249.07**
O	CESS 1% of N				3,112.49
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**				**3,14,361.56**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	2

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	3	1,82,490.00
2	33 KV V cross Arm (GI)	EA	1,701.00	43	73,143.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	43	3,483.00
4	Danger Plate	EA	180.00	43	7,740.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	6.57	512.46
6	GI barbed wire anticlimbing device	KG	74.00	9.00	666.00
7	33 kV pin insulator polymer	EA	398.00	129	51,342.00
8	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	129	15,480.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
10	Earthing of Support (Coil Type)	EA	164.00	3	492.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	100.71	7,452.24
12	148 sq.mm XLPE AAA covered conductor	M	242.00	6180.00	14,95,560.00
13	Crimping type Midspan Compression Joint for 148 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	6	4,500.00
A1	**Total Cost of materials**				**18,44,180.70**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,31,952.53**
A	**Total landed Cost (A=A1 + A2)**				**21,76,133.23**
B	Stock, Storage & Insurance i.e 3% of A				65,284.00
C	**Sub Total (A+B)**				**22,41,417.23**
D	Contigency @ 3% of C				67,242.52
E	Tools & Plants @ 2% of C				44,828.34
F	Transportation @ 7.5% of C				1,68,106.29
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				11,089.92
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,01,961.89
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**27,34,646.19**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.65	10,970.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3	850.02
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1	**Total Civil & Services**				**37,512.61**

K2	**Applicable Taxes to make it Landed Cost @18%**	**6,752.27**
K	**Total landed Cost (K=K1+ K2)**	**44,264.88**
L	**Total (J+K)**	27,78,911.07
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N	**Sub-Total Material +Services (L+M)**	**27,78,911.07**
O	CESS 1% of N	27,789.11
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**28,06,700.18**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	2,14,167.21
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	8,99,883.01
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	2,89,388.22
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	3,14,361.56
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	28,06,700.18
Q	**Gross Total Material +Services**	**45,24,500.18**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	750.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)	540.00
W	Total Inspection Fees including GST (U+V)	3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**45,28,040.18**

PART B: Supply & Laying of 33kV 3CX400sqmm XLPE UG Cableof length = 2.95 KM with one run spare.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***2950***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	5900	3,165.00	1,86,73,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	24	25,930.00	6,22,320.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	11,900.00	47,600.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	5900.00	812.00	47,90,800.00
	Sub Total (Supply Portion) (in Rs.)				**2,41,34,220.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	5900	115.00	6,78,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	28	2,000.00	56,000.00
1.3	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	5900.00	195.00	11,50,500.00
	Sub Total (Erection Portion) (in Rs.)				**18,85,000.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	2918		
1.1.a	Earth work excavation of **soil**	M3	2451.12	716.03	17,55,075.45
1.1.b	Earth work excavation of **hard rock**	M3	1050.48	1,759.39	18,48,204.01
1.2	Back filling with excavated soil outside and above the trench	M3	3501.6	220.00	7,70,352.00
1.3	Road Repair and restoration charges	KM	0.2	92,94,727.82	
4	**Fencing**				
5	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	98	1,035.17	1,01,446.66
6	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.95	10,470.00	30,886.50
	Sub Total (Civil Portion) (in Rs.)				**45,05,964.62**
A1	**Sub Total (Supply Portion)**				**2,41,34,220.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**43,44,159.60**
A	**Total Landed Cost (A=A1 + A2)**				**2,84,78,379.60**
B	Stock, Storage & Insurance @ 3 % of A				8,54,351.39

C	**Sub Total (A+B)**	**2,93,32,730.99**
D	Contingency @ 3 % of C	8,79,981.93
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	21,99,954.82
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**3,24,12,667.74**
I1	Sub Total (Erection Portion + Civil Portion)	63,90,964.62
I2	**Applicable Taxes to make it Landed Cost @18%**	**11,50,373.63**
I	**Total landed Cost (I=I1+ I2)**	**75,41,338.25**
J	**Total Cost (H+I)**	**3,99,54,005.99**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**3,99,54,005.99**
M	CESS 1% of L	3,99,540.06
N	**Grand Total (L+M)**	**4,03,53,546.05**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)	945.00
U	Total Inspection Fees including GST (S+T)	6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**4,03,59,741.05**

PART C: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	10	1,380.92	13,809.15
2	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	6180	9.21	56,893.70
A1				**Sub Total (Civil Portion) (in Rs.)**	**70,702.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**12,726.51**
A				**Total landed Cost (A=A1+ A2)**	**83,429.36**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	83,429.36
D				**CESS @ 1% of C**	834.29
E				**Grand Total (C+D)**	84,263.65

Annexure-11.7			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**NED**	
Name of the Sub-		Nimapada	
Name of the Work :-		Refursbishment and augmentation of 33kV Dighalo-gop Feeder from Dighalo GSS to Gop PSS.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 33kV , 3Ph, 3W Line Length= 9.6 CKM with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor & 14 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP.	₹ 3,28,23,186.01
2	B	PART B: Supply & laying of 33kV 3CX400sqmm UG Cable length = 1 KM without spare run.	₹ 1,11,10,987.24
3	C	PART C: Construction of 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with 3 Nos. of Isolator and LA Set.	₹ 7,27,248.21
4	D	PART D: Dismantling of Materials	₹ 3,28,459.53
		Total Amount	**₹ 4,49,89,881.00**
		Total Amount (In Cr)	**4.50**
Total estimated cost is Rs. 4.5 Crore. (On TPCODL Capex Scheme)			

PART A: Construction of 33kV , 3Ph, 3W Line Length= 9.6 CKM with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor & 14 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP.

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	14

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	28	9,51,160.00
2	GI Channel,angle, flat of different size	KG	78.00	2946.188	2,29,802.66
3	Danger Plate	EA	180.00	28	5,040.00
4	H.T. Stay clamp	EA	260.00	56	14,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	56	80,304.00
6	H.T. Stay Insulator Type-C	EA	87.00	112	9,744.00
7	7/8 SWG Stay Wire	KG	75.00	840	63,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	28	36,400.00
9	GI barbed wire anticlimbing device	KG	74.00	84	6,216.00
10	33 kV pin insulator polymer	EA	398.00	42	16,716.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	84	53,004.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	84	24,276.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	84	27,972.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	176.792	13,082.61
15	POLYCARBONATE BIRD GUARD	EA	21.00	126	2,646.00
A1				**Total Cost of materials**	**15,33,923.27**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,76,106.19**
A				**Total landed Cost (A=A1 + A2)**	**18,10,029.46**
B				Stock, Storage & Insurance i.e 3% of A	54,300.88
C				**Sub Total (A+B)**	**18,64,330.34**
D				Contigency @ 3% of C	55,929.91
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	32,327.58
F				Transportation @ 7.5% of C	1,39,824.78
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	57,801.99
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	46,033.92
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**21,96,248.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	56	1,28,885.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	15.4	1,02,392.29
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.15	20,943.88
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	28	1,05,972.44
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	14	11,704.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	28	7,933.52
K1				**Total Civil & Services**	**3,77,831.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**68,009.67**
K				**Total landed Cost (K=K1+ K2)**	**4,45,841.20**
L				**Total (J+K)**	26,42,089.72
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**26,42,089.72**
O				CESS 1% of N	26,420.90
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**26,68,510.62**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	3

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	2,03,820.00
2	GI Channel,angle & flat of different size	KG	78.00	1659.579	1,29,447.16
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00

7	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
8	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	1,87,068.00
13	33KV pin insulator polymer	EA	398.00	9	3,582.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	18	11,358.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	18	5,994.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	66.684	4,934.62
18	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**6,40,811.78**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,15,346.12**
A				**Total landed Cost (A=A1 + A2)**	**7,56,157.90**
B				Stock, Storage & Insurance i.e 3% of A	22,684.74
C				**Sub Total (A+B)**	**7,78,842.63**
D				Contigency @ 3% of C	23,365.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	14,514.20
F				Transportation @ 7.5% of C	58,413.20
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	47,798.74
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**9,35,320.20**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	10,30,857.60
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**10,30,857.60**
O				CESS 1% of N	10,308.58
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**10,41,166.17**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	15

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	15	9,83,550.00
2	GI Channel,angle & flat of different size	KG	78.00	676.56	52,771.68
3	Danger Plate	EA	180.00	15	2,700.00
4	H.T. Stay clamp	EA	260.00	30	7,800.00
5	H.T. Stay set (Complete)	SET	1,434.00	30	43,020.00
6	H.T. Stay Insulator Type-C	EA	87.00	60	5,220.00
7	7/8 SWG Stay Wire	KG	75.00	450	33,750.00
8	GI barbed wire anticlimbing device	KG	74.00	45	3,330.00
9	33KV pin insulator polymer	EA	398.00	45	17,910.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	90	56,790.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	90	26,010.00
12	Earthing of Support (Coil Type)	EA	164.00	15	2,460.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	90	29,970.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	80.46	5,954.04
15	POLYCARBONATE BIRD GUARD	EA	21.00	135	2,835.00
A1				**Total Cost of materials**	**12,74,070.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,29,332.73**

A	**Total landed Cost (A=A1 + A2)**	**15,03,403.45**
B	Stock, Storage & Insurance i.e 3% of A	45,102.10
C	**Sub Total (A+B)**	**15,48,505.55**
D	Contigency @ 3% of C	46,455.17
E	Tools & Plants @ 2% of C	28,787.50
F	Transportation @ 7.5% of C	1,16,137.92
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	59,770.33
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	24,396.81
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**18,24,053.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.7	57,845.00
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.6875	11,219.93
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	30	69,045.75
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	15	12,540.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	15	4,250.10
K1	**Total Civil & Services**				**1,54,900.78**
K2	**Applicable Taxes to make it Landed Cost @18%**				**27,882.14**
K	**Total landed Cost (K=K1+ K2)**				**1,82,782.92**
L	**Total (J+K)**				20,06,836.20
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**20,06,836.20**
O	CESS 1% of N				20,068.36
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**20,26,904.56**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	8

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	8	5,24,560.00
2	GI Channel,angle & flat of different size	KG	78.00	686.736	53,565.41
3	Danger Plate	EA	180.00	8	1,440.00
4	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
5	33KV pin insulator polymer	EA	398.00	32	12,736.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	48	30,288.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	48	13,872.00
8	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	48	15,984.00
10	H.T. Stay clamp	EA	260.00	16	4,160.00
11	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
12	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
13	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	86.56	6,405.44
15	POLYCARBONATE BIRD GUARD	EA	21.00	80	1,680.00
A1	**Total Cost of materials**				**7,10,114.85**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,27,820.67**
A	**Total landed Cost (A=A1 + A2)**				**8,37,935.52**
B	Stock, Storage & Insurance i.e 3% of A				25,138.07
C	**Sub Total (A+B)**				**8,63,073.59**
D	Contigency @ 3% of C				25,892.21
E	Tools & Plants @ 2% of C (Except HT Stay Set)				16,131.25
F	Transportation @ 7.5% of C				64,730.52
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				31,877.51
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,901.21
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**10,18,606.28**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.640	30,850.66
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.900	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**82,613.75**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,870.47**
K				**Total landed Cost (K=K1+ K2)**	**97,484.22**
L				**Total (J+K)**	11,16,090.51
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**11,16,090.51**
O				CESS 1% of N	11,160.91
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**11,27,251.41**
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		8.2		

MATERIALS FOR 33 KV Pin Points

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	165	1,08,19,050.00
2	33 KV V cross Arm (GI)	EA	1,701.00	165	2,80,665.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	165	13,365.00
4	Danger Plate	EA	180.00	165	29,700.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	361.35	28,185.30
6	GI barbed wire anticlimbing device	KG	74.00	495.00	36,630.00
7	33 kV pin insulator polymer	EA	398.00	495	1,97,010.00
8	Earthing of Support (Coil Type)	EA	164.00	165	27,060.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	386.43	28,595.82
10	232 sq.mm AAA conductor	M	181.65	29664.00	53,88,465.60
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	24	23,031.88
12	POLYCARBONATE BIRD GUARD	EA	21.00	495	10,395.00
A1				**Total Cost of materials**	**1,68,82,153.60**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,38,787.65**
A				**Total landed Cost (A=A1 + A2)**	**1,99,20,941.25**
B				Stock, Storage & Insurance i.e 3% of A	5,97,628.24
C				**Sub Total (A+B)**	**2,05,18,569.48**
D				Contigency @ 3% of C	6,15,557.08
E				Tools & Plants @ 2% of C	4,10,371.39
F				Transportation @ 7.5% of C	15,38,892.71
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,57,473.67
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,36,909.61
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,44,77,773.95**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	95.70	6,36,294.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	18.56	1,23,419.28
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	165	1,37,940.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	165	46,751.10
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	8.2	85,854.00
K1				**Total Civil & Services**	**10,30,259.32**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,85,446.68**
K				**Total landed Cost (K=K1+ K2)**	**12,15,706.00**
L				**Total (J+K)**	2,56,93,479.95
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				

N	**Sub-Total Material +Services (L+M)**	**2,56,93,479.95**
O	CESS 1% of N	2,56,934.80
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**2,59,50,414.75**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	26,68,510.62
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	10,41,166.17
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	20,26,904.56
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	11,27,251.41
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	2,59,50,414.75
Q	**Gross Total Material +Services**	**3,28,14,247.51**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	5,325.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**7,575.00**
V	GST @ 18% on Total Inspection Fees (U)	1,363.50
W	Total Inspection Fees including GST (U+V)	8,938.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**3,28,23,186.01**

PART B: Supply & laying of 33kV 3CX400sqmm UG Cable length = 1 KM without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***500***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***500***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1000	3,165.00	31,65,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	25,930.00	77,790.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	500.00	812.00	4,06,000.00
	Sub Total (Supply Portion) (in Rs.)				**36,72,590.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1000	115.00	1,15,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	5	2,000.00	10,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	500	2,970.00	14,85,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	500.00	195.00	97,500.00
	Sub Total (Erection Portion) (in Rs.)				**17,07,500.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	474		
1.1.a	Earth work excavation of **soil**	M3	398.16	716.03	2,85,094.50
1.1.b	Earth work excavation of **hard rock**	M3	170.64	1,759.39	3,00,222.31
1.2	Back filling with excavated soil outside and above the trench	M3	568.8	220.00	1,25,136.00
1.3	Road Repair and restoration charges	KM	0.27	92,94,727.82	25,09,576.51
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
3	**Fencing**				
4	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	33	1,035.17	34,160.61

5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	10,470.00	10,470.00
	Sub Total (Civil Portion) (in Rs.)				**34,31,691.08**
A1	**Sub Total (Supply Portion)**				**36,72,590.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**6,61,066.20**
A	**Total Landed Cost (A=A1 + A2)**				**43,33,656.20**
B	Stock, Storage & Insurance @ 3 % of A				1,30,009.69
C	**Sub Total (A+B)**				**44,63,665.89**
D	Contingency @ 3 % of C				1,33,909.98
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				3,34,774.94
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**49,32,350.80**
I1	Sub Total (Erection Portion + Civil Portion)				51,39,191.08
I2	**Applicable Taxes to make it Landed Cost @18%**				**9,25,054.39**
I	**Total landed Cost (I=I1+ I2)**				**60,64,245.48**
J	**Total Cost (H+I)**				**1,09,96,596.28**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,09,96,596.28**
M	CESS 1% of L				1,09,965.96
N	**Grand Total (L+M)**				**1,11,06,562.24**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**3,750.00**
T	GST @ 18% on Total Inspection Fees (S)				675.00
U	Total Inspection Fees including GST (S+T)				4,425.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,11,10,987.24**

PART C: Construction of 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with 3 Nos. of Isolator and LA Set.					
No. of 33 KV 4-Pole with Isolator (Ref. Drawing No.-PD-1346-TPCODL-33 KV-OH-8012)				1	
MATERIALS FOR 33 KV 4-P With Isolator					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for 4-Pole	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	986.773	76,968.29
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	Danger Plate	EA	180.00	4	720.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	1,87,068.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S)90KN,4 Bolt	EA	631.00	15	9,465.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	15	4,335.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	15	4,995.00
17	232 sq.mm AAA conductor	M	181.65	39	7,084.35
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	36.936	2,733.26
19	POLYCARBONATE BIRD GUARD	EA	21.00	21	441.00
A1				**Total Cost of materials**	**4,61,774.91**
A2				**Applicable Taxes to make it Landed Cost @18%**	**83,119.48**
A				**Total landed Cost (A=A1 + A2)**	**5,44,894.39**
B				Stock, Storage & Insurance i.e 3% of A	16,346.83
C				**Sub Total (A+B)**	**5,61,241.22**
D				Contigency @ 3% of C	16,837.24
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/stay set)	10,870.61
F				Transportation @ 7.5% of C	42,093.09
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing/stay set) (With Applicable Taxes @ 18% to make it Landed Cost)	37,838.19
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,77,137.77**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**36,364.37**
K2				Applicable Taxes to make it Landed Cost @18%	6,545.59
K				**Total landed Cost (K=K1+ K2)**	**42,909.96**
L				**Total (J+K)**	7,20,047.73
M				Other overheads (Including 6% supervision charges) of L (for 33 KV 4-P With Isolator)	
N				**Sub Total (L+M)**	**7,20,047.73**
O				CESS 1% of N	7,200.48
P				**Gross Total Material +Services (N+O)**	**7,27,248.21**

PART D: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	56	1,380.92	77,331.24
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	50	950.00	47,500.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	16377	9.21	1,50,768.30
A1	**Sub Total (Civil Portion) (in Rs.)**				**2,75,599.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**49,607.92**
A	**Total landed Cost (A=A1+ A2)**				**3,25,207.46**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				3,25,207.46
D	**CESS @ 1% of C**				3,252.07
E	**Grand Total (C+D)**				3,28,459.53

Annexure-11.8			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**Balugaon**	
Name of the Sub Division :-		**Balugaon**	
Name of the Work :-		Proposal for augmentation of 33KV Balugaon Feeder from Blaugaon GSS.	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 1.8 CKM 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor & 13 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP. (Refer PSLD point B-C)	₹ 73,19,550.30
2	B	PART B: Supply & Laying of 0.6 KM 33kV 1CX630sqmm U/G Cable without spare run. (Refer PSLD point A-B)	₹ 78,69,714.28
3	C	PART C: Dismantling of Materials	₹ 1,08,032.17
		Total Amount	**₹ 1,52,97,296.74**
		Total Amount (In Cr)	**₹ 1.53**
Total estimated cost is Rs. 1.53 Crore. (On TPCODL Capex Scheme)			

PART A: Construction of 1.8 CKM 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor & 13 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP. (Refer PSLD point B-C)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	3

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	2,03,820.00
2	GI Channel,angle, flat of different size	KG	78.00	631.326	49,243.43
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	33 kV pin insulator polymer	EA	398.00	9	3,582.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	18	11,358.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	18	5,994.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.884	2,803.42
15	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**3,28,697.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**59,165.61**
A				**Total landed Cost (A=A1 + A2)**	**3,87,863.46**
B				Stock, Storage & Insurance i.e 3% of A	11,635.90
C				**Sub Total (A+B)**	**3,99,499.36**
D				Contigency @ 3% of C	11,984.98
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,927.34
F				Transportation @ 7.5% of C	29,962.45
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,864.41
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,70,624.68**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	5,66,162.08
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**5,66,162.08**
O				CESS 1% of N	5,661.62
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**5,71,823.70**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
12	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch	EA	1,01,652.00	1	1,01,652.00

13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	12	3,996.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
18	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**4,66,503.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**83,970.69**
A				**Total landed Cost (A=A1 + A2)**	**5,50,474.55**
B				Stock, Storage & Insurance i.e 3% of A	16,514.24
C				**Sub Total (A+B)**	**5,66,988.78**
D				Contigency @ 3% of C	17,009.66
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	10,631.34
F				Transportation @ 7.5% of C	42,524.16
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	36,641.86
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,82,053.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	7,45,744.84
M	Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)				
N				**Sub-Total Material +Services (L+M)**	**7,45,744.84**
O				CESS 1% of N	7,457.45
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**7,53,202.28**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	4

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	2	1,21,660.00
2	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	2	1,31,140.00
2	GI Channel,angle & flat of different size	KG	78.00	180.416	14,072.45
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	33KV pin insulator polymer	EA	398.00	12	4,776.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	24	15,144.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
12	Earthing of Support (Coil Type)	EA	164.00	4	656.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	24	7,992.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	21.456	1,587.74
15	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
A1				**Total Cost of materials**	**3,30,272.19**
A2				**Applicable Taxes to make it Landed Cost @18%**	**59,448.99**
A				**Total landed Cost (A=A1 + A2)**	**3,89,721.19**
B				Stock, Storage & Insurance i.e 3% of A	11,691.64
C				**Sub Total (A+B)**	**4,01,412.82**
D				Contigency @ 3% of C	12,042.38
E				Tools & Plants @ 2% of C	7,446.23
F				Transportation @ 7.5% of C	30,105.96
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,393.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	22,444.57
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**4,80,845.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.16	7,712.67
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**40,907.94**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,363.43**
K				**Total landed Cost (K=K1+ K2)**	**48,271.37**
L				**Total (J+K)**	5,29,116.62
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**5,29,116.62**
O				CESS 1% of N	5,291.17
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**5,34,407.78**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	3

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	3	1,82,490.00
2	GI Channel,angle & flat of different size	KG	78.00	257.526	20,087.03
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	33KV pin insulator polymer	EA	398.00	12	4,776.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	18	11,358.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	18	5,202.00
8	Earthing of Support (Coil Type)	EA	164.00	3	492.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	18	5,994.00
10	H.T. Stay clamp	EA	260.00	6	1,560.00
11	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
12	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
13	7/8 SWG Stay Wire	KG	75.00	90	6,750.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	32.46	2,402.04
15	POLYCARBONATE BIRD GUARD	EA	21.00	30	630.00
A1				**Total Cost of materials**	**2,52,073.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,373.15**
A				**Total landed Cost (A=A1 + A2)**	**2,97,446.22**
B				Stock, Storage & Insurance i.e 3% of A	8,923.39
C				**Sub Total (A+B)**	**3,06,369.61**
D				Contigency @ 3% of C	9,191.09
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,703.56
F				Transportation @ 7.5% of C	22,977.72
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				11,089.92
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,337.95
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,61,669.85**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.650	10,970.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.338	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3	850.02
K1				**Total Civil & Services**	**30,381.76**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,468.72**
K				**Total landed Cost (K=K1+ K2)**	**35,850.48**
L				**Total (J+K)**	3,97,520.32
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**3,97,520.32**
O				CESS 1% of N	3,975.20
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**4,01,495.52**

	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)			1.8	
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	35	21,29,050.00
2	33 KV V cross Arm (GI)	EA	1,701.00	35	59,535.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	35	2,835.00
4	Danger Plate	EA	180.00	35	6,300.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	76.65	5,978.70
6	GI barbed wire anticlimbing device	KG	74.00	105.00	7,770.00
7	33 kV pin insulator polymer	EA	398.00	105	41,790.00
8	Earthing of Support (Coil Type)	EA	164.00	35	5,740.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	81.97	6,065.78
10	232 sq.mm AAA conductor	M	181.65	5562.00	10,10,337.30
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	3	2,878.98
12	POLYCARBONATE BIRD GUARD	EA	21.00	105	2,205.00
A1				**Total Cost of materials**	**32,80,485.76**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,90,487.44**
A				**Total landed Cost (A=A1 + A2)**	**38,70,973.20**
B				Stock, Storage & Insurance i.e 3% of A	1,16,129.20
C				**Sub Total (A+B)**	**39,87,102.40**
D				Contigency @ 3% of C	1,19,613.07
E				Tools & Plants @ 2% of C	79,742.05
F				Transportation @ 7.5% of C	2,99,032.68
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,29,382.37
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,39,945.50
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**47,54,818.07**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	19.25	1,27,990.36
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.94	26,179.85
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	35	29,260.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	35	9,916.90
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.8	18,846.00
K1				**Total Civil & Services**	**2,12,193.11**
K2				**Applicable Taxes to make it Landed Cost @18%**	**38,194.76**
K				**Total landed Cost (K=K1+ K2)**	**2,50,387.87**
L				**Total (J+K)**	50,05,205.94
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**50,05,205.94**
O				CESS 1% of N	50,052.06
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**50,55,258.00**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				5,71,823.70
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				7,53,202.28
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				5,34,407.78
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				4,01,495.52
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				50,55,258.00
Q				**Gross Total Material +Services**	**73,16,187.30**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				600.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**2,850.00**
V	GST @ 18% on Total Inspection Fees (U)				513.00
W	Total Inspection Fees including GST (U+V)				3,363.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**73,19,550.30**

PART B: Supply & Laying of 0.6 KM 33kV 1CX630sqmm U/G Cable without spare run. (Refer PSLD point A-B)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
a	***Length of 33kV 1C, 630sqmm cable (open trench)***	***M***	***550***		
1.1	Supply of 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA- 20kA)	M	2200	1,279.00	28,13,800.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium U/G Cable kits for 1Core	EA	8	14,230.00	1,13,840.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	8	7,521.00	60,168.00
1.6	Supply of materials for High Density Polyethelene (HDPE) pipe 110mm diameter, PE 80- PN8 for laying of 33kV U/G cable	M	2200.00	261.00	5,74,200.00
	Sub Total (Supply Portion) (in Rs.)				**35,62,008.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by **open trench method**.	M	2200	96.66	2,12,652.00
1.2	Erection of **Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits** Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium UG cable kits	EA	16	2,129.37	34,069.93
1.3	Laying of HDPE pipe (110mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,100.00	-
1.4	Laying of **110mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2200.00	195.00	4,29,000.00
	Sub Total (Erection Portion) (in Rs.)				**6,75,721.93**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	486		
1.1.a	Earth work excavation of **soil**	M3	408.24	716.03	2,92,312.09
1.1.b	Earth work excavation of **hard rock**	M3	174.96	1,759.39	3,07,822.87
1.2	Back filling with excavated soil outside and above the trench	M3	583.2	220.00	1,28,304.00
1.3	Road Repair and restoration charges	KM	0.12	92,94,727.82	11,15,367.34
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	18	1,035.17	18,633.06
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.55	10,470.00	5,758.50
	Sub Total (Civil Portion) (in Rs.)				**18,68,197.86**
A1	**Sub Total (Supply Portion)**				**35,62,008.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**6,41,161.44**

A	**Total Landed Cost (A=A1 + A2)**	**42,03,169.44**
B	Stock, Storage & Insurance @ 3 % of A	1,26,095.08
C	**Sub Total (A+B)**	**43,29,264.52**
D	Contingency @ 3 % of C	1,29,877.94
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	3,24,694.84
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**47,83,837.30**
I1	Sub Total (Erection Portion + Civil Portion)	25,43,919.79
I2	**Applicable Taxes to make it Landed Cost @18%**	**4,57,905.56**
I	**Total landed Cost (I=I1+ I2)**	**30,01,825.36**
J	**Total Cost (H+I)**	**77,85,662.66**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**77,85,662.66**
M	CESS 1% of L	77,856.63
N	**Grand Total (L+M)**	**78,63,519.28**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)	945.00
U	Total Inspection Fees including GST (S+T)	6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**78,69,714.28**

PART C: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	30	1,300.00	39,000.00
2	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	750	9.21	6,904.58
3	Dismantling of ACSR/AAAC 148/232mm2 from overhead line	M	4050	11.05	44,741.65
A1				**Sub Total (Civil Portion) (in Rs.)**	**90,646.22**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,316.32**
A				**Total landed Cost (A=A1+ A2)**	**1,06,962.54**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,06,962.54
D				**CESS @ 1% of C**	1,069.63
E				**Grand Total (C+D)**	1,08,032.17

Annexure-11.9			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BAED**	
Name of the Sub-		Balugaon	
Name of the Work :-		Provision of 2nd Source to Solari PSS through 33 kV Bay and N-1 Reliability for 33 kV Ankulapadar Feeder.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Supply & laying of 33kV 3CX400sqmm UG Cable length = 0.32 KM without spare run.	₹ 94,19,722.62
2	B	PART B: Construction of 33kV , 3Ph, 3W Line Length= 2.8 CKM with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor over 13 Mtr H-Pole & WPB Pole.	₹ 1,17,11,867.31
3	C	PART C: Construction of One No of 33 KV Outdoor line bay.	₹ 36,63,786.06
		Total Amount	**₹ 2,47,95,375.98**
		Total Amount (In Cr)	**2.48**
Total estimated cost is Rs. 2.48 Crore. (On TPCODL Capex Scheme)			

PART A: Supply & laying of 33kV 3CX400sqmm UG Cable length = 0.32 KM without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***220***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***100***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	320	3,165.00	10,12,800.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	7	11,900.00	83,300.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	3	71,915.00	2,15,745.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	220.00	812.00	1,78,640.00
2	**Supply of 33kV RMU**				
a	***No. of 33kV 4Way RMU LLVV(2ISO+2BKR)+ AUX.PT***	***EA***	***1***		
2.1	Supply of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	30,18,066.00	30,18,066.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***EA***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	EA	1	1,56,247.00	1,56,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	1	95,000.00	95,000.00
4.3	Networking Accessories	SET	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	32	275.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	16	275.00	4,400.00
4.6	Battery Charger	EA	1	17,500.00	17,500.00
4.7	Battery	EA	1	12,500.00	12,500.00
4.8	4G Modem cum Router	EA	1	24,400.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	40	309.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	40	299.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	40	382.00	15,280.00
4.12	4 C X 4 mm2 Copper cable for extension of CT & PT	M	20	185.59	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	10	210.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	20.0	229.00	4,580.00
4.15	Armored CAT6 SFTP Cable	M	20	107.00	2,140.00

4.16	Un-Armored CAT6 SFTP Cable	M	20	55.00	1,100.00
4.17	Multi Function Meter	EA	2	14,000.00	28,000.00
	Sub Total (Supply Portion) (in Rs.)				**49,12,331.40**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	320	115.00	36,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	10	2,000.00	20,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	100	2,970.00	2,97,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	220.00	195.00	42,900.00
2	**Erection, Commissioning, Wiring and Testing of 33kV RMU**				
2.1	Erection of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	14,000.00	14,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	6,755.00	6,755.00
	Sub Total (Erection Portion) (in Rs.)				**4,17,455.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	144		
1.1.a	Earth work excavation of **soil**	M3	120.96	716.03	86,610.99
1.1.b	Earth work excavation of **hard rock**	M3	51.84	1,759.39	91,206.78
1.2	Back filling with excavated soil outside and above the trench	M3	172.8	220.00	38,016.00
1.3	Road Repair and restoration charges	KM	0.1152	92,94,727.82	10,70,752.64
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**20**	16,703.11	3,34,062.29
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
2	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	11	1,035.17	11,386.87

7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.32	10,470.00	3,350.40
	Sub Total (Civil Portion) (in Rs.)				**18,90,027.73**
A1	**Sub Total (Supply Portion)**				**49,12,331.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,84,219.65**
A	**Total Landed Cost (A=A1 + A2)**				**57,96,551.05**
B	Stock, Storage & Insurance @ 3 % of A				1,73,896.53
C	**Sub Total (A+B)**				**59,70,447.58**
D	Contingency @ 3 % of C				1,79,113.43
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				4,47,783.57
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**65,97,494.74**
I1	Sub Total (Erection Portion + Civil Portion)				23,07,482.73
I2	**Applicable Taxes to make it Landed Cost @18%**				**4,15,346.89**
I	**Total landed Cost (I=I1+ I2)**				**27,22,829.63**
J	**Total Cost (H+I)**				**93,20,324.37**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**93,20,324.37**
M	CESS 1% of L				93,203.24
N	**Grand Total (L+M)**				**94,13,527.62**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)				945.00
U	Total Inspection Fees including GST (S+T)				6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**94,19,722.62**

PART B: Construction of 33kV , 3Ph, 3W Line Length= 2.8 CKM with 40 Mtr. Span using 232 SQ.MM. -AAA Conductor over 13 Mtr H-Pole & WPB Pole.					
No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)			4		
MATERIALS FOR 33 KV DP Without Isolator					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	8	2,71,760.00
2	GI Channel,angle, flat of different size	KG	78.00	841.768	65,657.90
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	16	4,160.00
5	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
6	H.T. Stay Insulator Type-C	EA	87.00	32	2,784.00
7	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
9	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
10	33 kV pin insulator polymer	EA	398.00	12	4,776.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	24	15,144.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	24	6,936.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	24	7,992.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	50.512	3,737.89
15	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
A1				**Total Cost of materials**	**4,38,263.79**
A2				**Applicable Taxes to make it Landed Cost @18%**	**78,887.48**
A				**Total landed Cost (A=A1 + A2)**	**5,17,151.27**
B				Stock, Storage & Insurance i.e 3% of A	15,514.54
C				**Sub Total (A+B)**	**5,32,665.81**
D				Contigency @ 3% of C	15,979.97
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	9,236.45
F				Transportation @ 7.5% of C	39,949.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,514.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,152.55
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,27,499.58**
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**1,07,951.87**
K2				**Applicable Taxes to make it Landed Cost @18%**	**19,431.34**
K				**Total landed Cost (K=K1+ K2)**	**1,27,383.20**
L				**Total (J+K)**	7,54,882.78
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**7,54,882.78**
O				CESS 1% of N	7,548.83
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**7,62,431.61**
No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)			6		
MATERIALS FOR 33 KV DP With Isolator					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	12	4,07,640.00
2	GI Channel,angle & flat of different size	KG	78.00	3319.158	2,58,894.32
3	DMC Insulator for LA (70/10)	EA	113.50	48	5,448.00
4	Danger Plate	EA	180.00	12	2,160.00
5	H.T. Stay clamp	EA	260.00	24	6,240.00
6	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
7	H.T. Stay Insulator Type-C	EA	87.00	48	4,176.00

8	7/8 SWG Stay Wire	KG	75.00	360	27,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00
10	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	18	79,974.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	6	3,74,136.00
13	33KV pin insulator polymer	EA	398.00	18	7,164.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	36	22,716.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	36	10,404.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	36	11,988.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	133.368	9,869.23
18	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00
A1				**Total Cost of materials**	**12,81,623.56**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,30,692.24**
A				**Total landed Cost (A=A1 + A2)**	**15,12,315.80**
B				Stock, Storage & Insurance i.e 3% of A	45,369.47
C				**Sub Total (A+B)**	**15,57,685.27**
D				Contigency @ 3% of C	46,730.56
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	29,028.41
F				Transportation @ 7.5% of C	1,16,826.40
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,772.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	95,597.48
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**18,70,640.39**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.6	43,882.41
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**1,61,927.80**
K2				**Applicable Taxes to make it Landed Cost @18%**	**29,147.00**
K				**Total landed Cost (K=K1+ K2)**	**1,91,074.80**
L				**Total (J+K)**	20,61,715.19
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**20,61,715.19**
O				CESS 1% of N	20,617.15
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**20,82,332.34**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	5

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	5	3,04,150.00
2	GI Channel,angle & flat of different size	KG	78.00	225.52	17,590.56
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	10	2,600.00
5	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
6	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
7	7/8 SWG Stay Wire	KG	75.00	150	11,250.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	33KV pin insulator polymer	EA	398.00	15	5,970.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	30	18,930.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	30	8,670.00
12	Earthing of Support (Coil Type)	EA	164.00	5	820.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	30	9,990.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	26.82	1,984.68
15	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
A1				**Total Cost of materials**	**4,00,990.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**72,178.24**
A				**Total landed Cost (A=A1 + A2)**	**4,73,168.48**

B	Stock, Storage & Insurance i.e 3% of A	14,195.05
C	**Sub Total (A+B)**	**4,87,363.54**
D	Contigency @ 3% of C	14,620.91
E	Tools & Plants @ 2% of C	9,019.73
F	Transportation @ 7.5% of C	36,552.27
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	18,483.20
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,132.27
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**5,74,171.91**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.75	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5625	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
K1				**Total Civil & Services**	**50,636.27**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,114.53**
K				**Total landed Cost (K=K1+ K2)**	**59,750.79**
L				**Total (J+K)**	6,33,922.70
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**6,33,922.70**
O				CESS 1% of N	6,339.23
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**6,40,261.93**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	3

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	3	1,82,490.00
2	GI Channel,angle & flat of different size	KG	78.00	257.526	20,087.03
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	33KV pin insulator polymer	EA	398.00	12	4,776.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	18	11,358.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	18	5,202.00
8	Earthing of Support (Coil Type)	EA	164.00	3	492.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	18	5,994.00
10	H.T. Stay clamp	EA	260.00	6	1,560.00
11	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
12	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
13	7/8 SWG Stay Wire	KG	75.00	90	6,750.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	32.46	2,402.04
15	POLYCARBONATE BIRD GUARD	EA	21.00	30	630.00
A1				**Total Cost of materials**	**2,52,073.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,373.15**
A				**Total landed Cost (A=A1 + A2)**	**2,97,446.22**
B	Stock, Storage & Insurance i.e 3% of A				8,923.39
C	**Sub Total (A+B)**				**3,06,369.61**
D	Contigency @ 3% of C				9,191.09
E	Tools & Plants @ 2% of C (Except HT Stay Set)				5,703.56
F	Transportation @ 7.5% of C				22,977.72
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				11,089.92
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,337.95
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**3,61,669.85**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.650	10,970.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.338	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3	850.02
K1				**Total Civil & Services**	**30,381.76**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,468.72**
K				**Total landed Cost (K=K1+ K2)**	**35,850.48**
L				**Total (J+K)**	3,97,520.32
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**3,97,520.32**
O				CESS 1% of N	3,975.20
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**4,01,495.52**
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		2.8		

MATERIALS FOR 33 KV Pin Points

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	54	32,84,820.00
2	33 KV V cross Arm (GI)	EA	1,701.00	54	91,854.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	54	4,374.00
4	Danger Plate	EA	180.00	54	9,720.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	118.26	9,224.28
6	GI barbed wire anticlimbing device	KG	74.00	162.00	11,988.00
7	33 kV pin insulator polymer	EA	398.00	162	64,476.00
8	Earthing of Support (Coil Type)	EA	164.00	54	8,856.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	126.47	9,358.63
10	232 sq.mm AAA conductor	M	181.65	8652.00	15,71,635.80
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	6	5,757.97
12	POLYCARBONATE BIRD GUARD	EA	21.00	162	3,402.00
A1				**Total Cost of materials**	**50,75,466.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,13,584.00**
A				**Total landed Cost (A=A1 + A2)**	**59,89,050.68**
B				Stock, Storage & Insurance i.e 3% of A	1,79,671.52
C				**Sub Total (A+B)**	**61,68,722.20**
D				Contigency @ 3% of C	1,85,061.67
E				Tools & Plants @ 2% of C	1,23,374.44
F				Transportation @ 7.5% of C	4,62,654.17
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,99,618.51
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,17,635.20
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**73,57,066.19**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	29.70	1,97,470.85
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.08	40,391.76
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	54	45,144.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	54	15,300.36
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.8	29,316.00
K1				**Total Civil & Services**	**3,27,622.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**58,972.13**
K				**Total landed Cost (K=K1+ K2)**	**3,86,595.10**
L				**Total (J+K)**	77,43,661.29
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				

N	**Sub-Total Material +Services (L+M)**	**77,43,661.29**
O	CESS 1% of N	77,436.61
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**78,21,097.91**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	7,62,431.61
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	20,82,332.34
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	6,40,261.93
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	4,01,495.52
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	78,21,097.91
Q	**Gross Total Material +Services**	**1,17,07,619.31**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	1,350.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,600.00**
V	GST @ 18% on Total Inspection Fees (U)	648.00
W	Total Inspection Fees including GST (U+V)	4,248.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,17,11,867.31**

PART C: Construction of One No of 33 KV Outdoor line bay.					
No. of BAY requirement			1		
No. of VCB Requirement			1		
No. of Bus isolator requirement					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	20	26,000.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	708	55,224.00
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	1	1,01,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	1	2,63,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,70,500.00	1	2,70,500.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	1,21,653.00

19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	9	2,16,252.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
26	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	20	2,940.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**16,03,514.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,88,632.63**
A				**Total landed Cost (A=A1 + A2)**	**18,92,147.24**
B				Stock, Storage & Insurance i.e 3% of A	56,764.42
C				**Sub Total (A+B)**	**19,48,911.66**
D				Contigency @ 3% of C	58,467.35
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	38,346.23
F				Transportation @ 7.5% of C	1,46,168.37
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,59,689.66
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**23,67,604.00**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	20	75,694.60
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06

2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31

3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70

4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45

5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	69	16,008.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	4.6	6,808.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	4.6	23,138.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	9.2	69,000.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	8.4	63,000.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	112	30,240.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	1982.8	2,02,245.60

6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	2.4	19,080.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1060.4	1,10,281.60
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**10,66,232.61**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,91,921.87**
K				**Total landed Cost (K=K1+ K2)**	**12,58,154.47**
L				**Total Material +services (J+K)**	**36,25,758.47**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**36,25,758.47**
O				CESS 1% of (N)	36,257.58
P				**Total (N+O)**	36,62,016.06
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**36,63,786.06**

Annexure-11.10			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**BAED**	
Name of the Sub-		Balugaon	
Name of the Work :-		Construction of a New 33 kV Interlinking Line between the 33 kV Tangi Feeder and 33 kV Tangi–Chandpur Feeder to Achieve N-1 Connectivity and Improve Network Reliability.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Construction of 33kV , 3Ph, 3W Line Length= 2.55 CKM with 40 Mtr. Span using 148 SQ.MM. -AAA Conductor Over existing pole & 13 Mtr WPB Pole.	₹ 48,60,324.24
2	B	PART B: Supply & laying of 33kV 3CX400sqmm UG Cable length = 1 KM without spare run.	₹ 1,22,28,060.68
		Total Amount	**₹ 1,70,88,384.93**
		Total Amount (In Cr)	**1.71**
Total estimated cost is Rs. 1.71 Crore. (On TPCODL Capex Scheme)			

PART A: Construction of 33kV , 3Ph, 3W Line Length= 2.55 CKM with 40 Mtr. Span using 148 SQ.MM. -AAA Conductor Over existing pole & 13 Mtr WPB Pole.

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	4

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	8	2,71,760.00
2	GI Channel,angle, flat of different size	KG	78.00	841.768	65,657.90
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	16	4,160.00
5	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
6	H.T. Stay Insulator Type-C	EA	87.00	32	2,784.00
7	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
9	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
10	33 kV pin insulator polymer	EA	398.00	12	4,776.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	24	15,144.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	24	6,936.00
13	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	24	6,192.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	50.512	3,737.89
15	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
A1				**Total Cost of materials**	**4,36,463.79**
A2				**Applicable Taxes to make it Landed Cost @18%**	**78,563.48**
A				**Total landed Cost (A=A1 + A2)**	**5,15,027.27**
B				Stock, Storage & Insurance i.e 3% of A	15,450.82
C				**Sub Total (A+B)**	**5,30,478.09**
D				Contigency @ 3% of C	15,914.34
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	9,192.70
F				Transportation @ 7.5% of C	39,785.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,514.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,933.78
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,24,819.62**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**1,07,951.87**
K2				**Applicable Taxes to make it Landed Cost @18%**	**19,431.34**
K				**Total landed Cost (K=K1+ K2)**	**1,27,383.20**
L				**Total (J+K)**	7,52,202.82
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**7,52,202.82**
O				CESS 1% of N	7,522.03
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**7,59,724.85**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00

9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	1,24,712.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	12	3,096.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
18	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**4,26,307.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**76,735.41**
A				**Total landed Cost (A=A1 + A2)**	**5,03,043.27**
B				Stock, Storage & Insurance i.e 3% of A	15,091.30
C				**Sub Total (A+B)**	**5,18,134.56**
D				Contigency @ 3% of C	15,544.04
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	9,654.26
F				Transportation @ 7.5% of C	38,860.09
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,756.44
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,22,206.82**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	6,85,898.42
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**6,85,898.42**
O				CESS 1% of N	6,858.98
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**6,92,757.40**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	4

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	181.488	14,156.06
3	Danger Plate, 1 no's.	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	33KV pin insulator polymer	EA	398.00	12	4,776.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	24	15,144.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
12	Earthing of Support (Coil Type)	EA	164.00	4	656.00
13	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	24	6,192.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
15	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
A1				**Total Cost of materials**	**2,01,034.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,186.28**
A				**Total landed Cost (A=A1 + A2)**	**2,37,221.16**
B				Stock, Storage & Insurance i.e 3% of A	7,116.63
C				**Sub Total (A+B)**	**2,44,337.79**
D				Contigency @ 3% of C	7,330.13

E	Tools & Plants @ 2% of C	4,595.74
F	Transportation @ 7.5% of C	18,325.33
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	6,463.85
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**2,89,310.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1	**Total Civil & Services**				**31,302.91**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,634.52**
K	**Total landed Cost (K=K1+ K2)**				**36,937.44**
L	**Total (J+K)**				3,26,247.71
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**3,26,247.71**
O	CESS 1% of N				3,262.48
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**3,29,510.19**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	2

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	178.404	13,915.51
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	33KV pin insulator polymer	EA	398.00	8	3,184.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	12	7,572.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	12	3,096.00
10	H.T. Stay clamp	EA	260.00	4	1,040.00
11	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
12	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
13	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
15	POLYCARBONATE BIRD GUARD	EA	21.00	20	420.00
A1	**Total Cost of materials**				**1,13,830.92**
A2	**Applicable Taxes to make it Landed Cost @18%**				**20,489.57**
A	**Total landed Cost (A=A1 + A2)**				**1,34,320.49**
B	Stock, Storage & Insurance i.e 3% of A				4,029.61
C	**Sub Total (A+B)**				**1,38,350.10**
D	Contigency @ 3% of C				4,150.50
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,484.45
F	Transportation @ 7.5% of C				10,376.26
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				4,128.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,164.80
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,63,654.82**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.100	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68

K1	**Total Civil & Services**	**20,254.51**
K2	**Applicable Taxes to make it Landed Cost @18%**	**3,645.81**
K	**Total landed Cost (K=K1+ K2)**	**23,900.32**
L	**Total (J+K)**	1,87,555.14
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)	
N	**Sub-Total Material +Services (L+M)**	**1,87,555.14**
O	CESS 1% of N	1,875.55
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**1,89,430.69**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	2.55

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	24	8,15,280.00
2	33 KV V cross Arm (GI)	EA	1,701.00	24	40,824.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	24	1,944.00
4	Danger Plate	EA	180.00	24	4,320.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	36.96	2,882.88
6	GI barbed wire anticlimbing device	KG	74.00	72.00	5,328.00
7	33 kV pin insulator polymer	EA	398.00	72	28,656.00
8	Earthing of Support (Coil Type)	EA	164.00	24	3,936.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.53	2,925.07
10	148 sq.mm AAA conductor	KM	1,16,360.00	7.88	9,16,858.62
11	Crimping type Midspan Compression Joint for 148 sq.mm AAA conductor	EA	175.25	6	1,051.50
12	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
A1	**Total Cost of materials**				**18,25,518.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**3,28,593.25**
A	**Total landed Cost (A=A1 + A2)**				**21,54,111.32**
B	Stock, Storage & Insurance i.e 3% of A				64,623.34
C	**Sub Total (A+B)**				**22,18,734.66**
D	Contigency @ 3% of C				66,562.04
E	Tools & Plants @ 2% of C				44,374.69
F	Transportation @ 7.5% of C				1,66,405.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				49,544.57
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,22,784.34
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**26,68,405.40**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.20	87,764.82
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	24	20,064.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	24	6,800.16
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.55	26,698.50
K1	**Total Civil & Services**				**1,59,279.38**
K2	**Applicable Taxes to make it Landed Cost @18%**				**28,670.29**
K	**Total landed Cost (K=K1+ K2)**				**1,87,949.66**
L	**Total (J+K)**				28,56,355.06
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**28,56,355.06**
O	CESS 1% of N				28,563.55
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**28,84,918.61**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	7,59,724.85
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	6,92,757.40
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	3,29,510.19
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	1,89,430.69
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	28,84,918.61

Q	**Gross Total Material +Services**	**48,56,341.74**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	1,125.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,375.00**
V	GST @ 18% on Total Inspection Fees (U)	607.50
W	Total Inspection Fees including GST (U+V)	3,982.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**48,60,324.24**

PART B: Supply & laying of 33kV 3CX400sqmm UG Cable length = 1 KM without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***500***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***500***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1000	3,165.00	31,65,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	25,930.00	77,790.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	500.00	812.00	4,06,000.00
	Sub Total (Supply Portion) (in Rs.)				**36,72,590.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1000	115.00	1,15,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	5	2,000.00	10,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	500	2,970.00	14,85,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	500.00	195.00	97,500.00
	Sub Total (Erection Portion) (in Rs.)				**17,07,500.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	484		
1.1.a	Earth work excavation of **soil**	M3	406.56	716.03	2,91,109.16
1.1.b	Earth work excavation of **hard rock**	M3	174.24	1,759.39	3,06,556.11
1.2	Back filling with excavated soil outside and above the trench	M3	580.8	220.00	1,27,776.00
1.3	Road Repair and restoration charges	KM	0.3872	92,94,727.82	35,98,918.61
2	**Fencing**				
3	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	33	1,035.17	34,160.61
4	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1	10,470.00	10,470.00
	Sub Total (Civil Portion) (in Rs.)				**43,68,990.49**

A1	**Sub Total (Supply Portion)**	**36,72,590.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**6,61,066.20**
A	**Total Landed Cost (A=A1 + A2)**	**43,33,656.20**
B	Stock, Storage & Insurance @ 3 % of A	1,30,009.69
C	**Sub Total (A+B)**	**44,63,665.89**
D	Contingency @ 3 % of C	1,33,909.98
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	3,34,774.94
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**49,32,350.80**
I1	Sub Total (Erection Portion + Civil Portion)	60,76,490.49
I2	**Applicable Taxes to make it Landed Cost @18%**	**10,93,768.29**
I	**Total landed Cost (I=I1+ I2)**	**71,70,258.78**
J	**Total Cost (H+I)**	**1,21,02,609.58**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,21,02,609.58**
M	CESS 1% of L	1,21,026.10
N	**Grand Total (L+M)**	**1,22,23,635.68**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**3,750.00**
T	GST @ 18% on Total Inspection Fees (S)	675.00
U	Total Inspection Fees including GST (S+T)	4,425.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,22,28,060.68**

Annexure-11.11			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**PED and KHD**	
Name of the Sub-		PURI-II and Khordha	
Name of the Work :-		Refurbishment & augmentation of Existing 33kV Delanga feeder.	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Supply & Laying of 33kV 3CX400sqmm UG Cable length= 1.4 KM without spare run.	₹ 1,74,36,312.31
2	B	PART B: Construction of 33kV , 3Ph, 3W Overhead Line Line Length= 8.2 CKM, with 40 Mtr. Span using 148 SQ.MM. -AAA Conductor & 13 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP	₹ 3,14,12,989.17
3	C	PART C: Construction of 33kV , 3Ph, 3W Overhead Line Line Length= 2.5 CKM, with 40 Mtr. Span on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 148 SQ.MM. -XLPE AAA Covered Conductor	₹ 1,10,33,112.32
4	D	PART D: Shifting of 3 Nos. outdoor Bay.	₹ 80,74,854.09
5	E	PART E: Construction of 2 Nos. 33kV Bus.	₹ 32,38,272.51
6	F	PART F: Dismantling of Materials	₹ 12,27,311.25
		Total Amount	**₹ 7,24,22,851.65**
		Total Amount (In Cr)	**7.24**
Total estimated cost is Rs. 7.24 Crore. (On TPCODL Capex Scheme)			

PART A: Supply & Laying of 33kV 3CX400sqmm UG Cable length= 1.4 KM without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***800***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***600***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	1400	3,165.00	44,31,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	4	25,930.00	1,03,720.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	12	11,900.00	1,42,800.00
1.4	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	800.00	812.00	6,49,600.00
	Sub Total (Supply Portion) (in Rs.)				**53,27,120.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	1400	115.00	1,61,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	16	2,000.00	32,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	600	2,970.00	17,82,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	800.00	195.00	1,56,000.00
	Sub Total (Erection Portion) (in Rs.)				**21,31,000.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	694		
1.1.a	Earth work excavation of **soil**	M3	582.96	716.03	4,17,416.85
1.1.b	Earth work excavation of **hard rock**	M3	249.84	1,759.39	4,39,566.00
1.2	Back filling with excavated soil outside and above the trench	M3	832.8	220.00	1,83,216.00
1.3	Road Repair and restoration charges	KM	0.5552	92,94,727.82	51,60,432.89
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
3	**Fencing**				
4	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	47	1,035.17	48,652.99

5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.4	10,470.00	14,658.00
	Sub Total (Civil Portion) (in Rs.)				**64,30,973.87**
A1	**Sub Total (Supply Portion)**				**53,27,120.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**9,58,881.60**
A	**Total Landed Cost (A=A1 + A2)**				**62,86,001.60**
B	Stock, Storage & Insurance @ 3 % of A				1,88,580.05
C	**Sub Total (A+B)**				**64,74,581.65**
D	Contingency @ 3 % of C				1,94,237.45
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				4,85,593.62
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**71,54,412.72**
I1	Sub Total (Erection Portion + Civil Portion)				85,61,973.87
I2	**Applicable Taxes to make it Landed Cost @18%**				**15,41,155.30**
I	**Total landed Cost (I=I1+ I2)**				**1,01,03,129.17**
J	**Total Cost (H+I)**				**1,72,57,541.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,72,57,541.89**
M	CESS 1% of L				1,72,575.42
N	**Grand Total (L+M)**				**1,74,30,117.31**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**5,250.00**
T	GST @ 18% on Total Inspection Fees (S)				945.00
U	Total Inspection Fees including GST (S+T)				6,195.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,74,36,312.31**

PART B: Construction of 33kV , 3Ph, 3W Overhead Line Line Length= 8.2 CKM, with 40 Mtr. Span using 148 SQ.MM. -AAA Conductor & 13 Mtr. H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	8

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	16	5,43,520.00
2	GI Channel,angle, flat of different size	KG	78.00	1683.536	1,31,315.81
3	Danger Plate	EA	180.00	16	2,880.00
4	H.T. Stay clamp	EA	260.00	32	8,320.00
5	H.T. Stay set (Complete)	SET	1,434.00	32	45,888.00
6	H.T. Stay Insulator Type-C	EA	87.00	64	5,568.00
7	7/8 SWG Stay Wire	KG	75.00	480	36,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	16	20,800.00
9	GI barbed wire anticlimbing device	KG	74.00	48	3,552.00
10	33 kV pin insulator polymer	EA	398.00	24	9,552.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	48	30,288.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	48	13,872.00
13	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	48	12,384.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	101.024	7,475.78
15	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
A1				**Total Cost of materials**	**8,72,927.58**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,57,126.97**
A				**Total landed Cost (A=A1 + A2)**	**10,30,054.55**
B				Stock, Storage & Insurance i.e 3% of A	30,901.64
C				**Sub Total (A+B)**	**10,60,956.19**
D				Contigency @ 3% of C	31,828.69
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	18,385.39
F				Transportation @ 7.5% of C	79,571.71
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	33,029.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	25,867.55
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**12,49,639.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	32	73,648.80
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.8	58,509.88
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	16	60,555.68
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	16	4,533.44
K1				**Total Civil & Services**	**2,15,903.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**38,862.67**
K				**Total landed Cost (K=K1+ K2)**	**2,54,766.40**
L				**Total (J+K)**	15,04,405.64
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**15,04,405.64**
O				CESS 1% of N	15,044.06
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**15,19,449.70**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	6

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	12	4,07,640.00
2	GI Channel,angle & flat of different size	KG	78.00	3872.351	3,02,043.38
3	DMC Insulator for LA (70/10)	EA	113.50	48	5,448.00
4	Danger Plate	EA	180.00	12	2,160.00
5	H.T. Stay clamp	EA	260.00	24	6,240.00
6	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
7	H.T. Stay Insulator Type-C	EA	87.00	48	4,176.00
8	7/8 SWG Stay Wire	KG	75.00	360	27,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00

10	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	18	79,974.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	7	4,36,492.00
13	33KV pin insulator polymer	EA	398.00	18	7,164.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	36	22,716.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	36	10,404.00
16	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	36	9,288.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	133.368	9,869.23
18	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00
A1				**Total Cost of materials**	**13,84,428.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,49,197.15**
A				**Total landed Cost (A=A1 + A2)**	**16,33,625.76**
B				Stock, Storage & Insurance i.e 3% of A	49,008.77
C				**Sub Total (A+B)**	**16,82,634.53**
D				Contigency @ 3% of C	50,479.04
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	31,527.39
F				Transportation @ 7.5% of C	1,26,197.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,772.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,08,092.40
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**20,23,703.24**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.6	43,882.41
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**1,61,927.80**
K2				**Applicable Taxes to make it Landed Cost @18%**	**29,147.00**
K				**Total landed Cost (K=K1+ K2)**	**1,91,074.80**
L				**Total (J+K)**	22,14,778.04
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**22,14,778.04**
O				CESS 1% of N	22,147.78
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**22,36,925.82**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	40

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	40	26,22,800.00
2	GI Channel,angle & flat of different size	KG	78.00	1804.16	1,40,724.48
3	Danger Plate	EA	180.00	40	7,200.00
4	H.T. Stay clamp	EA	260.00	80	20,800.00
5	H.T. Stay set (Complete)	SET	1,434.00	80	1,14,720.00
6	H.T. Stay Insulator Type-C	EA	87.00	160	13,920.00
7	7/8 SWG Stay Wire	KG	75.00	1200	90,000.00
8	GI barbed wire anticlimbing device	KG	74.00	120	8,880.00
9	33KV pin insulator polymer	EA	398.00	120	47,760.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	240	1,51,440.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	240	69,360.00
12	Earthing of Support (Coil Type)	EA	164.00	40	6,560.00
13	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	240	61,920.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	214.56	15,877.44
15	POLYCARBONATE BIRD GUARD	EA	21.00	360	7,560.00
A1				**Total Cost of materials**	**33,79,521.92**
A2				**Applicable Taxes to make it Landed Cost @18%**	**6,08,313.95**
A				**Total landed Cost (A=A1 + A2)**	**39,87,835.87**
B				Stock, Storage & Insurance i.e 3% of A	1,19,635.08
C				**Sub Total (A+B)**	**41,07,470.94**
D				Contigency @ 3% of C	1,23,224.13
E				Tools & Plants @ 2% of C	76,329.11

F	Transportation @ 7.5% of C	3,08,060.32
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,59,387.56
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	62,870.44
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**48,37,342.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	22	1,46,274.70
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	80	1,84,122.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	40	33,440.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	40	11,333.60
K1				**Total Civil & Services**	**4,05,090.13**
K2				**Applicable Taxes to make it Landed Cost @18%**	**72,916.22**
K				**Total landed Cost (K=K1+ K2)**	**4,78,006.35**
L				**Total (J+K)**	53,15,348.85
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**53,15,348.85**
O				CESS 1% of N	53,153.49
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**53,68,502.34**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	18

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	18	10,94,940.00
2	GI Channel,angle & flat of different size	KG	78.00	1545.156	1,20,522.17
3	Danger Plate	EA	180.00	18	3,240.00
4	GI barbed wire anticlimbing device	KG	74.00	54	3,996.00
5	33KV pin insulator polymer	EA	398.00	72	28,656.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	108	68,148.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	108	31,212.00
8	Earthing of Support (Coil Type)	EA	164.00	18	2,952.00
9	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	108	27,864.00
10	H.T. Stay clamp	EA	260.00	36	9,360.00
11	H.T. Stay set (Complete)	SET	1,434.00	36	51,624.00
12	H.T. Stay Insulator Type-C	EA	87.00	36	3,132.00
13	7/8 SWG Stay Wire	KG	75.00	540	40,500.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	194.76	14,412.24
15	POLYCARBONATE BIRD GUARD	EA	21.00	180	3,780.00
A1				**Total Cost of materials**	**15,04,338.41**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,70,780.91**
A				**Total landed Cost (A=A1 + A2)**	**17,75,119.32**
B				Stock, Storage & Insurance i.e 3% of A	53,253.58
C				**Sub Total (A+B)**	**18,28,372.90**
D				Contigency @ 3% of C	54,851.19
E				Tools & Plants @ 2% of C (Except HT Stay Set)	34,024.45
F				Transportation @ 7.5% of C	1,37,127.97
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				66,539.50
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				37,043.25
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,57,959.27**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.900	65,823.62
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.025	13,463.92
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	36	82,854.90
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	18	15,048.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	18	5,100.12
K1				**Total Civil & Services**	**1,82,290.56**

K2	**Applicable Taxes to make it Landed Cost @18%**	**32,812.30**
K	**Total landed Cost (K=K1+ K2)**	**2,15,102.86**
L	**Total (J+K)**	23,73,062.12
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)	
N	**Sub-Total Material +Services (L+M)**	**23,73,062.12**
O	CESS 1% of N	23,730.62
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**23,96,792.74**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	8.2

MATERIALS FOR 33 KV Pin Points

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	153	93,06,990.00
2	33 KV V cross Arm (GI)	EA	1,701.00	153	2,60,253.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	153	12,393.00
4	Danger Plate	EA	180.00	153	27,540.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	335.07	26,135.46
6	GI barbed wire anticlimbing device	KG	74.00	459.00	33,966.00
7	33 kV pin insulator polymer	EA	398.00	459	1,82,682.00
8	Earthing of Support (Coil Type)	EA	164.00	153	25,092.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	358.33	26,516.12
10	148 sq.mm AAA conductor	KM	1,16,360.00	25.34	29,48,329.68
11	Crimping type Midspan Compression Joint for 148 sq.mm AAA conductor	EA	175.25	24	4,206.00
12	POLYCARBONATE BIRD GUARD	EA	21.00	459	9,639.00
A1				**Total Cost of materials**	**1,28,63,742.26**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,15,473.61**
A				**Total landed Cost (A=A1 + A2)**	**1,51,79,215.87**
B				Stock, Storage & Insurance i.e 3% of A	4,55,376.48
C				**Sub Total (A+B)**	**1,56,34,592.35**
D				Contigency @ 3% of C	4,69,037.77
E				Tools & Plants @ 2% of C	3,12,691.85
F				Transportation @ 7.5% of C	11,72,594.43
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,65,585.78
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,32,287.67
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,85,86,789.84**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	84.15	5,59,500.73
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	17.21	1,14,443.33
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	153	1,27,908.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	153	43,351.02
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	8.2	85,854.00
K1				**Total Civil & Services**	**9,31,057.08**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,67,590.27**
K				**Total landed Cost (K=K1+ K2)**	**10,98,647.35**
L				**Total (J+K)**	1,96,85,437.20
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N				**Sub-Total Material +Services (L+M)**	**1,96,85,437.20**
O				CESS 1% of N	1,96,854.37
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**1,98,82,291.57**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	15,19,449.70
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	22,36,925.82
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	53,68,502.34
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	23,96,792.74
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	1,98,82,291.57
Q	**Gross Total Material +Services**	**3,14,03,962.17**

R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	5,400.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**7,650.00**
V	GST @ 18% on Total Inspection Fees (U)	1,377.00
W	Total Inspection Fees including GST (U+V)	9,027.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**3,14,12,989.17**

PART C: Construction of 33kV , 3Ph, 3W Overhead Line Line Length= 2.5 CKM, with 40 Mtr. Span on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 148 SQ.MM. -XLPE AAA Covered Conductor

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	2

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle, flat of different size	KG	78.00	420.884	32,828.95
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	33 kV pin insulator polymer	EA	398.00	6	2,388.00
11	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	6	720.00
12	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	25.256	1,868.94
A1				**Total Cost of materials**	**2,50,465.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,083.86**
A				**Total landed Cost (A=A1 + A2)**	**2,95,549.76**
B				Stock, Storage & Insurance i.e 3% of A	8,866.49
C				**Sub Total (A+B)**	**3,04,416.25**
D				Contigency @ 3% of C	9,132.49
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,379.89
F				Transportation @ 7.5% of C	22,831.22
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	10,384.61
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,60,401.88**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	4,24,093.48
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**4,24,093.48**
O				CESS 1% of N	4,240.93
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**4,28,334.42**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00

5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	1,24,712.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	6	720.00
15	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
A1				**Total Cost of materials**	**4,58,541.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**82,537.53**
A				**Total landed Cost (A=A1 + A2)**	**5,41,079.39**
B				Stock, Storage & Insurance i.e 3% of A	16,232.38
C				**Sub Total (A+B)**	**5,57,311.77**
D				Contigency @ 3% of C	16,719.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	10,437.80
F				Transportation @ 7.5% of C	41,798.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	35,674.16
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**6,70,198.89**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	7,33,890.49
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**7,33,890.49**
O				CESS 1% of N	7,338.90
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**7,41,229.40**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	8

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	8	5,24,560.00
2	GI Channel,angle & flat of different size	KG	78.00	362.976	28,312.13
3	Danger Plate	EA	180.00	8	1,440.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
9	33KV pin insulator polymer	EA	398.00	24	9,552.00
10	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	24	2,880.00
11	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	48	43,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
13	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	48	1,20,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	48	13,872.00
15	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63

A1	**Total Cost of materials**	**7,80,285.76**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,40,451.44**
A	**Total landed Cost (A=A1 + A2)**	**9,20,737.20**
B	Stock, Storage & Insurance i.e 3% of A	27,622.12
C	**Sub Total (A+B)**	**9,48,359.31**
D	Contigency @ 3% of C	28,450.78
E	Tools & Plants @ 2% of C	18,385.16
F	Transportation @ 7.5% of C	71,126.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	31,877.51
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	28,170.76
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**11,26,370.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**62,605.83**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,269.05**
K				**Total landed Cost (K=K1+ K2)**	**73,874.87**
L				**Total (J+K)**	12,00,245.34
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**12,00,245.34**
O				CESS 1% of N	12,002.45
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**12,12,247.79**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	4

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	4	2,43,320.00
2	GI Channel,angle & flat of different size	KG	78.00	356.808	27,831.02
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00
5	33KV pin insulator polymer	EA	398.00	16	6,368.00
6	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	16	1,920.00
7	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
9	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
11	Earthing of Support (Coil Type)	EA	164.00	4	656.00
12	H.T. Stay clamp	EA	260.00	8	2,080.00
13	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
14	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
15	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**3,98,205.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**71,677.05**
A				**Total landed Cost (A=A1 + A2)**	**4,69,882.89**
B				Stock, Storage & Insurance i.e 3% of A	14,096.49
C				**Sub Total (A+B)**	**4,83,979.38**
D				Contigency @ 3% of C	14,519.38
E				Tools & Plants @ 2% of C (Except HT Stay Set)	9,114.48
F				Transportation @ 7.5% of C	36,298.45
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,786.56
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,999.26

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**5,74,697.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.200	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.450	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1	**Total Civil & Services**				**40,509.01**
K2	**Applicable Taxes to make it Landed Cost @18%**				**7,291.62**
K	**Total landed Cost (K=K1+ K2)**				**47,800.63**
L	**Total (J+K)**				6,22,498.14
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**6,22,498.14**
O	CESS 1% of N				6,224.98
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**				**6,28,723.12**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	2.5

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	51	31,02,330.00
2	33 KV V cross Arm (GI)	EA	1,701.00	51	86,751.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	51	4,131.00
4	Danger Plate	EA	180.00	51	9,180.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	111.69	8,711.82
6	GI barbed wire anticlimbing device	KG	74.00	153.00	11,322.00
7	33 kV pin insulator polymer	EA	398.00	153	60,894.00
8	NON METALLIC TIES-33KV 148SQMM CVRD AAAC	EA	120.00	153	18,360.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	102	22,440.00
10	Earthing of Support (Coil Type)	EA	164.00	51	8,364.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	119.44	8,838.71
12	148 sq.mm XLPE AAA covered conductor	M	242.00	7725.00	18,69,450.00
13	Crimping type Midspan Compression Joint for 148 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	6	4,500.00
A1	**Total Cost of materials**				**52,15,272.53**
A2	**Applicable Taxes to make it Landed Cost @18%**				**9,38,749.06**
A	**Total landed Cost (A=A1 + A2)**				**61,54,021.58**
B	Stock, Storage & Insurance i.e 3% of A				1,84,620.65
C	**Sub Total (A+B)**				**63,38,642.23**
D	Contigency @ 3% of C				1,90,159.27
E	Tools & Plants @ 2% of C				1,26,772.84
F	Transportation @ 7.5% of C				4,75,398.17
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,88,528.59
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,56,807.03
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**75,76,308.14**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	28.05	1,86,500.24
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.74	38,147.78
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	51	42,636.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	51	14,450.34
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.5	26,175.00
K1	**Total Civil & Services**				**3,07,909.36**

K2	**Applicable Taxes to make it Landed Cost @18%**	**55,423.68**
K	**Total landed Cost (K=K1+ K2)**	**3,63,333.04**
L	**Total (J+K)**	79,39,641.18
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N	**Sub-Total Material +Services (L+M)**	**79,39,641.18**
O	CESS 1% of N	79,396.41
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**80,19,037.59**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	4,28,334.42
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	7,41,229.40
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	12,12,247.79
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	6,28,723.12
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	80,19,037.59
Q	**Gross Total Material +Services**	**1,10,29,572.32**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	750.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)	540.00
W	Total Inspection Fees including GST (U+V)	3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,10,33,112.32**

PART D: Shifting of 3 Nos. outdoor Bay.

No. of BAY requirement	3
No. of VCB Requirement	3

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	5280	4,11,840.00
2	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	630	49,140.00
3	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	52	67,600.00
4	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	1841	1,43,582.40
5	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	150	27,247.50
6	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	1,01,652.00	4	4,06,608.00
7	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	12	10,42,296.00
8	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	2,63,629.00	3	
9	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	9	3,64,959.00
10	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	9	2,16,252.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
12	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	9	1,07,100.00
13	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	150	49,350.00
14	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	150	63,900.00
15	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	150	18,600.00
16	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	150	29,400.00
17	1 Core x 16 mm2 Aluminium cable from Battery to Battery Charger & Battery Charger to DCDB	M	147.00	60	8,820.00
18	Disc insulator (B&S) 90 KN polymer	No.	289.00	54	15,606.00
19	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	54	34,074.00
20	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	36	11,988.00
21	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	600	44,400.00
22	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	3	22,167.33
A1				**Total Cost of materials**	**31,74,917.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,71,485.10**
A				**Total landed Cost (A=A1 + A2)**	**37,46,402.33**
B				Stock, Storage & Insurance i.e 3% of A	1,12,392.07
C				**Sub Total (A+B)**	**38,58,794.40**
D				Contigency @ 3% of C	1,15,763.83
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	75,532.67

F	Transportation @ 7.5% of C	2,89,409.58
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,77,663.34
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**47,17,163.82**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	52	1,96,805.96
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	21.84	10,767.99
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	12	2,640.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	1.02375	1,047.19
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.365	7,162.81
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	8.475	56,349.00

2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	39.75	12,238.63
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	420	46,830.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	23.90625	11,786.74
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	13.5	2,970.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	1.089	1,113.94
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	1.089	5,714.50
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	7.0875	47,123.72
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	44.82	13,799.63
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	367.29	40,952.84
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	153.9293	75,893.28

4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	72	15,840.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	6.3	33,059.11
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	42.525	2,82,742.35
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	268.92	82,797.78
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	2203.74	2,45,717.01
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	75.6	37,273.82
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	32	7,040.00

5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	4.536	23,802.56
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	45.6	3,03,187.56
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	239.04	73,598.03
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	1958.88	2,18,415.12
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	103.5	24,012.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	6.9	10,212.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	6.9	34,707.00

6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	13.8	1,03,500.00
6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	12.6	94,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	168	45,360.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	2974.2	3,03,368.40
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	3.6	28,620.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	1590.6	1,65,422.40
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	64.8	42,120.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	21.6	64,800.00
K1				**Total Civil & Services**	**27,73,291.35**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,99,192.44**
K				**Total landed Cost (K=K1+ K2)**	**32,72,483.80**
L				**Total Material +services (J+K)**	**79,89,647.62**
M				Other overheads (Including 6% supervision charges)	

N	**Sub-Total (L+M)**	**79,89,647.62**
O	CESS 1% of (N)	79,896.48
P	**Total (N+O)**	80,69,544.09
Q	Inspection Fee of VCB - Rs. 1500/ VCB	4,500.00
R	GST @ 18% on Total Inspection Fees (Q)	810.00
S	Total Inspection Fees including GST (Q+R)	5,310.00
T	**Gross Total Material, Services and Inspection Fees (P+S)**	**80,74,854.09**

PART E: Construction of 2 Nos. 33kV Bus.					
No. of 33 KV 4-Pole with Isolator (Ref. Drawing No.-PD-1346-TPCODL-33 KV-OH-8012)				6	
MATERIALS FOR 33 KV 4-P With Isolator					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for 4-Pole	EA	33,970.00	24	8,15,280.00
2	GI Channel,angle & flat of different size	KG	78.00	5920.638	4,61,809.76
3	DMC Insulator for LA (70/10)	EA	113.50	48	5,448.00
4	H.T. Stay clamp	EA	260.00	24	6,240.00
5	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
6	H.T. Stay Insulator Type-C	EA	87.00	48	4,176.00
7	7/8 SWG Stay Wire	KG	75.00	360	27,000.00
8	Danger Plate	EA	180.00	24	4,320.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00
10	GI barbed wire anticlimbing device	KG	74.00	72	5,328.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	18	79,974.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	6	3,74,136.00
13	33KV pin insulator polymer	EA	398.00	36	14,328.00
14	H W fitting(B&S)90KN,4 Bolt	EA	631.00	90	56,790.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	90	26,010.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	90	29,970.00
17	232 sq.mm AAA conductor	M	181.65	234	42,506.10
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	221.616	16,399.58
19	POLYCARBONATE BIRD GUARD	EA	21.00	126	2,646.00
A1				**Total Cost of materials**	**20,22,377.45**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,64,027.94**
A				**Total landed Cost (A=A1 + A2)**	**23,86,405.39**
B				Stock, Storage & Insurance i.e 3% of A	71,592.16
C				**Sub Total (A+B)**	**24,57,997.55**
D				Contigency @ 3% of C	73,739.93
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/stay set)	47,034.65
F				Transportation @ 7.5% of C	1,84,349.82
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	49,544.57
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing/stay set) (With Applicable Taxes @ 18% to make it Landed Cost)	1,36,084.14
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**29,48,750.65**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.2	87,764.82
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.7	17,951.90
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	24	6,800.16
K1				**Total Civil & Services**	**2,18,186.24**
K2				Applicable Taxes to make it Landed Cost @18%	39,273.52
K				**Total landed Cost (K=K1+ K2)**	**2,57,459.76**
L				**Total (J+K)**	32,06,210.41
M				Other overheads (Including 6% supervision charges) of L (for 33 KV 4-P With Isolator)	
N				**Sub Total (L+M)**	**32,06,210.41**
O				CESS 1% of N	32,062.10
P				**Gross Total Material +Services (N+O)**	**32,38,272.51**

PART F: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	120	1,300.00	1,56,000.00
2	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	50	1,380.92	69,045.75
3	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	36	950.00	34,200.00
4	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	30900	9.21	2,84,468.49
5	Dismantling of faulty Equipmet like CB, CT, PT , Isolator	EA	27	18,003.04	4,86,082.08
A1				**Sub Total (Civil Portion) (in Rs.)**	**10,29,796.32**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,85,363.34**
A				**Total landed Cost (A=A1+ A2)**	**12,15,159.66**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	12,15,159.66
D				**CESS @ 1% of C**	12,151.60
E				**Grand Total (C+D)**	12,27,311.25

Annexure-11.12		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Cicle :-		BBSR-2
Name of the Division :-		NYED
Name of the Sub-Division : -		Nayagarh
Name of the Work :-		Proposal for refubrishment and augmentation of 33KV Binodpada Feeder.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 4.2 KM 33kV O/H Line using 232SQ.MM. -AAA Conductor.	62,14,281.85
2	PART B: Construction of 6 nos. of 14 Mtr. H-Pole for exsiting 11kV OH line crossing.	8,12,531.82
3	PART C: Augmentation of 0.5 CKM 33kV O/H Line Length on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 232 SQ.MM. -XLPE AAA Covered Conductor.	13,09,418.73
4	PART D: Dismantling of Materials	2,13,577.72
5	**Total Gross**	**85,49,810.13**
Total estimated cost is Rs. 0.86 Cr.		

PART A: Augmentation of 4.2 KM 33kV O/H Line using 232SQ.MM. -AAA Conductor.

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	3

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	2,03,820.00
2	GI Channel,angle, flat of different size	KG	78.00	631.326	49,243.43
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	33 kV pin insulator polymer	EA	398.00	9	3,582.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	18	11,358.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	18	5,994.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.884	2,803.42
15	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**3,28,697.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**59,165.61**
A				**Total landed Cost (A=A1 + A2)**	**3,87,863.46**
B				Stock, Storage & Insurance i.e 3% of A	11,635.90
C				**Sub Total (A+B)**	**3,99,499.36**
D				Contigency @ 3% of C	11,984.98
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,927.34
F				Transportation @ 7.5% of C	29,962.45
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,864.41
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,70,624.68**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	5,66,162.08
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**5,66,162.08**
O				CESS 1% of N	5,661.62
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**5,71,823.70**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	5

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	5	1,69,850.00

2	GI Channel,angle & flat of different size	KG	78.00	226.86	17,695.08
3	Danger Plate, 1 no's.	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
7	7/8 SWG Stay Wire	KG	75.00	75	5,625.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	33KV pin insulator polymer	EA	398.00	15	5,970.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	30	18,930.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	30	8,670.00
12	Earthing of Support (Coil Type)	EA	164.00	5	820.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	30	9,990.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
15	POLYCARBONATE BIRD GUARD	EA	21.00	45	945.00
A1				**Total Cost of materials**	**2,53,543.60**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,637.85**
A				**Total landed Cost (A=A1 + A2)**	**2,99,181.45**
B				Stock, Storage & Insurance i.e 3% of A	8,975.44
C				**Sub Total (A+B)**	**3,08,156.89**
D				Contigency @ 3% of C	9,244.71
E				Tools & Plants @ 2% of C	5,799.37
F				Transportation @ 7.5% of C	23,111.77
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,321.78
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,353.27
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,64,987.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.75	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5625	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
K1				**Total Civil & Services**	**39,128.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,043.16**
K				**Total landed Cost (K=K1+ K2)**	**46,171.80**
L				**Total (J+K)**	4,11,159.59
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**4,11,159.59**
O				CESS 1% of N	4,111.60
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**4,15,271.18**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	4

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	356.808	27,831.02
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00
5	33KV pin insulator polymer	EA	398.00	16	6,368.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	24	15,144.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
8	Earthing of Support (Coil Type)	EA	164.00	4	656.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	24	7,992.00
10	H.T. Stay clamp	EA	260.00	8	2,080.00

11	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
12	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
13	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
15	POLYCARBONATE BIRD GUARD	EA	21.00	40	840.00
A1				**Total Cost of materials**	**2,29,461.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**41,303.13**
A				**Total landed Cost (A=A1 + A2)**	**2,70,764.97**
B				Stock, Storage & Insurance i.e 3% of A	8,122.95
C				**Sub Total (A+B)**	**2,78,887.92**
D				Contigency @ 3% of C	8,366.64
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,012.65
F				Transportation @ 7.5% of C	20,916.59
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,548.37
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,29,989.60**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.200	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.450	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**40,509.01**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,291.62**
K				**Total landed Cost (K=K1+ K2)**	**47,800.63**
L				**Total (J+K)**	3,77,790.24
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**3,77,790.24**
O				CESS 1% of N	3,777.90
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**3,81,568.14**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	4.2

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	20	6,79,400.00
2	33 KV V cross Arm (GI)	EA	1,701.00	20	34,020.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	20	1,620.00
4	Danger Plate	EA	180.00	20	3,600.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	30.80	2,402.40
6	GI barbed wire anticlimbing device	KG	74.00	60.00	4,440.00
7	33 kV pin insulator polymer	EA	398.00	60	23,880.00
8	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	32.94	2,437.56
10	232 sq.mm AAA conductor	M	181.65	12978.00	23,57,453.70
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	12	11,515.94
12	POLYCARBONATE BIRD GUARD	EA	21.00	60	1,260.00
A1				**Total Cost of materials**	**31,25,309.60**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,62,555.73**
A				**Total landed Cost (A=A1 + A2)**	**36,87,865.33**
B				Stock, Storage & Insurance i.e 3% of A	1,10,635.96

C	**Sub Total (A+B)**	**37,98,501.29**
D	Contigency @ 3% of C	1,13,955.04
E	Tools & Plants @ 2% of C	75,970.03
F	Transportation @ 7.5% of C	2,84,887.60
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	41,287.14
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,97,275.85
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**46,11,876.94**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.00	73,137.35
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.2	43,974.00
K1				**Total Civil & Services**	**1,54,458.06**
K2				**Applicable Taxes to make it Landed Cost @18%**	**27,802.45**
K				**Total landed Cost (K=K1+ K2)**	**1,82,260.51**
L				**Total (J+K)**	47,94,137.45
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N				**Sub-Total Material +Services (L+M)**	**47,94,137.45**
O				CESS 1% of N	47,941.37
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**48,42,078.83**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	5,71,823.70
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	-
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	4,15,271.18
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	3,81,568.14
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	48,42,078.83
Q	**Gross Total Material +Services**	**62,10,741.85**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	750.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)	540.00
W	Total Inspection Fees including GST (U+V)	3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**62,14,281.85**

PART B: Construction of 6 nos. of 14 Mtr. H-Pole for exsiting 11kV OH line crossing.

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	6

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Quantity for 1 No's 180 deg. Cut Point	No. of Cut Point Requirment	Unit Rate	Total Quantity	Total Amount
1	14 Mtr. Long H-Pole(GI) for SP	EA	1	6	65,570.00	6	3,93,420.00
2	GI Channel,angle & flat of different size	KG	45.10	6	78.00	270.624	21,108.67
3	Danger Plate	EA	1	6	180.00	6	1,080.00
4	H.T. Stay clamp	EA	2	6	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	2	6	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	4	6	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	30	6	75.00	180	13,500.00
8	GI barbed wire anticlimbing device	KG	3	6	74.00	18	1,332.00
9	33KV pin insulator polymer	EA	3	6	398.00	18	7,164.00
10	H W fitting(B&S)90KN,4 Bolt	EA	6	6	631.00	36	22,716.00
11	Disc insulator (B&S)90 KN polymer	EA	6	6	289.00	36	10,404.00
12	Earthing of Support (Coil Type)	EA	1	6	164.00	6	984.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	6	6	333.00	36	11,988.00
14	GI Nut , Bolt & Washer of different sizes	KG	5.36	6	74.00	32.184	2,381.62
15	POLYCARBONATE BIRD GUARD	EA	9.00	6	21.00	54	1,134.00
A1						**Total Cost of materials**	**5,09,628.29**
A2						**Applicable Taxes to make it Landed Cost @18%**	**91,733.09**
A						**Total landed Cost (A=A1 + A2)**	**6,01,361.38**
B						Stock, Storage & Insurance i.e 3% of A	18,040.84
C						**Sub Total (A+B)**	**6,19,402.22**
D						Contigency @ 3% of C	18,582.07
E						Tools & Plants @ 2% of C	11,515.00
F						Transportation @ 7.5% of C	46,455.17
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)						23,908.13
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)						9,758.72
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)						-
J						**Sum of (C to I)**	**7,29,621.31**

Civil & Services

Sl. No.	Description of Materials	Unit	Quantity for 1 No's 180 deg. Cut Point	No. of Cut Point Requirment	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	0.58	6	6,648.85	3.48	23,138.00
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	0.11	6	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2.00	6	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	1	6	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	1	6	283.34	6	1,700.04
K1						**Total Civil & Services**	**61,960.31**
K2						**Applicable Taxes to make it Landed Cost @18%**	**11,152.86**
K						**Total landed Cost (K=K1+ K2)**	**73,113.17**
L						**Total (J+K)**	8,02,734.48
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)						
N						**Sub-Total Material +Services (L+M)**	**8,02,734.48**
O						CESS 1% of N	8,027.34
P						**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**8,10,761.82**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	8,10,761.82
Q	**Gross Total Material +Services**	**8,10,761.82**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**1,500.00**
V	GST @ 18% on Total Inspection Fees (U)	270.00
W	Total Inspection Fees including GST (U+V)	1,770.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**8,12,531.82**

PART C: Augmentation of 0.5 CKM 33kV O/H Line Length on 13 mtr H-Pole for Pin-Points and Cut-Points & 13 Mtr WPB Pole for DP using 232 SQ.MM. -XLPE AAA Covered Conductor.

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	0.5

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	5	3,04,150.00
2	33 KV V cross Arm (GI)	EA	1,701.00	5	8,505.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	5	405.00
4	Danger Plate	EA	180.00	5	900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	10.95	854.10
6	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
7	33 kV pin insulator polymer	EA	398.00	15	5,970.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	15	1,800.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
10	Earthing of Support (Coil Type)	EA	164.00	5	820.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.62	859.88
12	232 sq.mm XLPE AAA covered conductor	M	342.00	1545.00	5,28,390.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	0	-
A1				**Total Cost of materials**	**8,55,963.98**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,54,073.52**
A				**Total landed Cost (A=A1 + A2)**	**10,10,037.50**
B				Stock, Storage & Insurance i.e 3% of A	30,301.12
C				**Sub Total (A+B)**	**10,40,338.62**
D				Contigency @ 3% of C	31,210.16
E				Tools & Plants @ 2% of C	20,806.77
F				Transportation @ 7.5% of C	78,025.40
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	18,483.20
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	67,067.47
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**12,55,931.62**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.75	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.5	5,235.00
K1				**Total Civil & Services**	**32,856.02**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,914.08**
K				**Total landed Cost (K=K1+ K2)**	**38,770.10**
L				**Total (J+K)**	12,94,701.71
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N				**Sub-Total Material +Services (L+M)**	**12,94,701.71**
O				CESS 1% of N	12,947.02
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**13,07,648.73**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV Pin Points	13,07,648.73
Q	**Gross Total Material +Services**	**13,07,648.73**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	

U	**Total Inspection Fees (R+S+T)**	**1,500.00**
V	GST @ 18% on Total Inspection Fees (U)	270.00
W	Total Inspection Fees including GST (U+V)	1,770.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**13,09,418.73**

PART D: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	52	950.00	49,400.00
2	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	14100	9.21	1,29,806.01
A1	**Sub Total (Civil Portion) (in Rs.)**				**1,79,206.01**
A2	**Applicable Taxes to make it Landed Cost @18%**				**32,257.08**
A	**Total landed Cost (A=A1+ A2)**				**2,11,463.09**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				2,11,463.09
D	**CESS @ 1% of C**				2,114.63
E	**Grand Total (C+D)**				2,13,577.72

Annexure-11.13			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**PED**	
Name of the Sub-		PURI-I & PURI-III	
Name of the Work :-		Extension of 33kV JBPC feeder from JBPC to Atharnala PSS to Talabania PSS for reliability improvement in puri town area	
Names of Schemes: -		**TPCODL CAPEX (FY 27-28)**	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A:- Supply & laying of 33kV, 3CX400 sq.mm XLPE U/G Cable =4.2 Km Without spare run.(Refer proposed SLD point A-B, C-D & E-F)	₹ 5,85,63,393.51
2	B	PART B:- Installation of 3 Nos. of metering cubicle for feeder out going.	₹ 9,67,777.64
		Total Amount	**₹ 5,95,31,171.15**
		Total Amount (In Cr)	**5.95**
Total estimated cost is Rs. 5.95 Crore. (On TPCODL Capex Scheme)			

PART A:- Supply & laying of 33kV, 3CX400 sq.mm XLPE U/G Cable =4.2 Km Without spare run.(Refer proposed SLD point A-B, C-D & E-F)					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***2100***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	4200	3,165.00	1,32,93,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	22	25,930.00	5,70,460.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	8	71,915.00	5,75,320.00
1.6	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	4200.00	812.00	34,10,400.00
2	**Supply of 33kV RMU**				
a	***No. of 33kV 4Way RMU LLVV(2ISO+2BKR)+ AUX.PT***	***EA***	***1***		
b	***No. of 33KV RMU 4WAY 630A LVVV(1ISO+3BKR)+AUXPT***	***EA***	***1***		
2.1	Supply of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	30,18,066.00	
2.2	Supply of 33KV RMU 4WAY 630A LVVV(1ISO+3BKR)+AUXPT	EA	1	31,79,375.00	31,79,375.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***EA***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	EA	1	1,56,247.00	1,56,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	1	95,000.00	95,000.00
4.3	Networking Accessories	SET	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	32	275.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	16	275.00	4,400.00
4.6	Battery Charger	EA	1	17,500.00	17,500.00
4.7	Battery	EA	1	12,500.00	12,500.00
4.8	4G Modem cum Router	EA	1	24,400.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	40	309.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	40	299.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	40	382.00	15,280.00
4.12	4 C X 4 mm2 Copper cable for extension of CT & PT	M	20	185.59	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	10	210.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	20.0	229.00	4,580.00

4.15	Armored CAT6 SFTP Cable	M	20	107.00	2,140.00
4.16	Un-Armored CAT6 SFTP Cable	M	20	55.00	1,100.00
4.17	Multi Function Meter	EA	2	14,000.00	28,000.00
	Sub Total (Supply Portion) (in Rs.)				**2,14,35,965.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	4200	115.00	4,83,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	30	2,000.00	60,000.00
1.3	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	4200.00	195.00	8,19,000.00
2	**Erection, Commissioning, Wiring and Testing of 33kV RMU**				
2.5	Erection of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	14,000.00	14,000.00
2.11	Erection of 33KV RMU 4WAY 630A LVVV(1ISO+3BKR)+AUXPT	EA	1	14,000.00	14,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System (One Extra for existing RMU relaction)	EA	2.0	6,755.00	13,510.00
	Sub Total (Erection Portion) (in Rs.)				**14,03,510.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	2090		
1.1.a	Earth work excavation of **soil**	M3	1755.6	716.03	12,57,062.27
1.1.b	Earth work excavation of **hard rock**	M3	752.4	1,759.39	13,23,765.04
1.2	Back filling with excavated soil outside and above the trench	M3	2508	220.00	5,51,760.00
1.3	Road Repair and restoration charges	KM	2.09	92,94,727.82	1,94,25,981.14
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	70	1,035.17	72,461.90

7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.1	10,470.00	21,987.00
	Sub Total (Civil Portion) (in Rs.)				**2,33,29,332.01**
A1	**Sub Total (Supply Portion)**				**2,14,35,965.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**38,58,473.70**
A	**Total Landed Cost (A=A1 + A2)**				**2,52,94,438.70**
B	Stock, Storage & Insurance @ 3 % of A				7,58,833.16
C	**Sub Total (A+B)**				**2,60,53,271.86**
D	Contingency @ 3 % of C				7,81,598.16
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				19,53,995.39
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**2,87,89,165.74**
I1	Sub Total (Erection Portion + Civil Portion)				2,47,32,842.01
I2	**Applicable Taxes to make it Landed Cost @18%**				**44,51,911.56**
I	**Total landed Cost (I=I1+ I2)**				**2,91,84,753.58**
J	**Total Cost (H+I)**				**5,79,73,919.31**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**5,79,73,919.31**
M	CESS 1% of L				5,79,739.19
N	**Grand Total (L+M)**				**5,85,53,658.51**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				1,500.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**8,250.00**
T	GST @ 18% on Total Inspection Fees (S)				1,485.00
U	Total Inspection Fees including GST (S+T)				9,735.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**5,85,63,393.51**

PART B:- Installation of 3 Nos. of metering cubicle for feeder out going.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Supply of 4C X 4.0 MM2 Armoured Copper LT Power cable for 240 V AC supply at HT Metering Cubicle (From Aux. PT to Metering Cubicle)	M	30	185.59	5,567.70
2	**Supply of 33 kV Metering Cubicle**				
i	**No. of 33KV CT PT 600/5 A-RESN.CAST CUBICLE**	***EA***	***3***		
2.1	Supply of 33KV CT PT 600/5 A-RESN.CAST CUBICLE	EA	3	1,93,050.00	5,79,150.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	39.60	78.00	3,088.80
3.2	Pipe Earthing 40mm. GI Pipe	EA	6	1,300.00	7,800.00
	Sub Total (Supply Portion) (in Rs.)				**5,95,606.50**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Laying, Commissioning & Testing of LT Power cable	M	30	16.57	497.10
2	Erection of Metering Cubicle	EA	3	8,851.15	26,553.45
	Sub Total (Erection Portion) (in Rs.)				**27,050.55**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	EA	6	3,784.73	22,708.38
2	Metering Cubicle Plinth	EA	3	28,000.00	84,000.00
	Sub Total (Civil Portion) (in Rs.)				**1,06,708.38**

A1	**Sub Total (Supply Portion)**	**5,95,606.50**
A2	**Applicable Taxes to make it Landed Cost @18%**	**1,07,209.17**
A	**Total Landed Cost (A=A1 + A2)**	**7,02,815.67**
B	Stock, Storage & Insurance @ 3 % of A	21,084.47
C	**Sub Total (A+B)**	**7,23,900.14**
D	Contingency @ 3 % of C	21,717.00
E	Tools & Plants Charges @ 2% of C (considered for earthing and 3 Ph Meter items)	75.08
F	Transportation @ 7.5% of C	54,292.51
G	Erection Charges @ 10% of earthing items and 3 Phase Meter items (With Applicable Taxes @ 18% to make it Landed Cost)	375.41
H	**Total (C+D+E+F+G)**	**8,00,360.15**
I1	Sub Total (Erection Portion + Civil Portion)	1,33,758.93

I2	**Applicable Taxes to make it Landed Cost @18%**	**24,076.61**
I	**Total landed Cost (I=I1+ I2)**	**1,57,835.54**
J	**Total Cost (H+I)**	**9,58,195.69**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**9,58,195.69**
M	CESS 1% of L	9,581.96
N	**Grand Total (L+M)**	**9,67,777.64**

Annexure- 11.14		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Cicle :-		BBSR-2
Name of the Division :-		NYED
Name of the Sub-Division : -		Daspalla
Name of the Work :-		Refurbishment for 33kV Daspalla feeder from Daspalla PSS to Banigocha PSS, to improve reliability of network and provide quality power supply.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part A: Refubrishment of 33kV Line Length OF 3 CKM using 148 SQ.MM. -XLPE AAA Covered Conductor using 13 Mtr WPB intermidiate pole.	1,05,67,383.52
2	Part B: Dismantling of Materials	1,49,482.56
3	**Total Gross**	**1,07,16,866.09**
Total estimated cost is Rs. 1.07 Cr.		

Part A: Refubrishment of 33kV Line Length OF 3 CKM using 148 SQ.MM. -XLPE AAA Covered Conductor using 13 Mtr WPB intermidiate pole.

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	4

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	8	2,71,760.00
2	GI Channel,angle & flat of different size	KG	78.00	2212.772	1,72,596.22
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	32	2,784.00
8	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	12	53,316.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	4	2,49,424.00
13	33KV pin insulator polymer	EA	398.00	12	4,776.00
14	NON METALLIC TIES-33KV 148 SQMM CVRD AAAC	EA	120.00	12	1,440.00
15	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	24	6,936.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	88.912	6,579.49
A1				**Total Cost of materials**	**9,17,083.70**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,65,075.07**
A				**Total landed Cost (A=A1 + A2)**	**10,82,158.77**
B				Stock, Storage & Insurance i.e 3% of A	32,464.76
C				**Sub Total (A+B)**	**11,14,623.53**
D				Contigency @ 3% of C	33,438.71
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	20,875.61
F				Transportation @ 7.5% of C	83,596.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,514.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	71,348.32
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**13,40,397.79**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**1,07,951.87**
K2				**Applicable Taxes to make it Landed Cost @18%**	**19,431.34**
K				**Total landed Cost (K=K1+ K2)**	**1,27,383.20**
L				**Total (J+K)**	14,67,780.99
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**14,67,780.99**
O				CESS 1% of N	14,677.81
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**14,82,458.80**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	16

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	4	1,35,880.00
2	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	12	7,86,840.00
3	GI Channel,angle & flat of different size	KG	78.00	725.952	56,624.26
4	Danger Plate	EA	180.00	16	2,880.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	32	2,784.00
8	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
9	GI barbed wire anticlimbing device	KG	74.00	48	3,552.00
10	33KV pin insulator polymer	EA	398.00	48	19,104.00
11	NON METALLIC TIES-33KV 148 SQMM CVRD AAAC	EA	120.00	48	5,760.00
12	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	96	86,400.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	32	7,040.00
14	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	96	2,40,000.00
15	Disc insulator (B&S)90 KN polymer	EA	289.00	96	27,744.00
16	Earthing of Support (Coil Type)	EA	164.00	16	2,624.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	159.936	11,835.26
A1				**Total Cost of materials**	**14,34,171.52**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,58,150.87**
A				**Total landed Cost (A=A1 + A2)**	**16,92,322.39**
B				Stock, Storage & Insurance i.e 3% of A	50,769.67
C				**Sub Total (A+B)**	**17,43,092.07**
D				Contigency @ 3% of C	52,292.76
E				Tools & Plants @ 2% of C	33,697.78
F				Transportation @ 7.5% of C	1,30,731.90
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,257.43
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,51,974.04
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,20,045.98**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.96	46,276.00
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
4	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	16	13,376.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	16	4,533.44
K1				**Total Civil & Services**	**1,27,605.24**
K2				**Applicable Taxes to make it Landed Cost @18%**	**22,968.94**
K				**Total landed Cost (K=K1+ K2)**	**1,50,574.18**
L				**Total (J+K)**	22,70,620.16
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**22,70,620.16**
O				CESS 1% of N	22,706.20
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**22,93,326.36**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	4

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	4	1,35,880.00
2	GI Channel,angle & flat of different size	KG	78.00	3056.808	2,38,431.02
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00

5	33KV pin insulator polymer	EA	398.00	16	6,368.00
6	NON METALLIC TIES-33KV 148 SQMM CVRD AAAC	EA	120.00	16	1,920.00
7	IPC for 148 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
9	Dead end assembly with accessories for 148 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	624	1,80,336.00
11	Earthing of Support (Coil Type)	EA	164.00	4	656.00
12	H.T. Stay clamp	EA	260.00	8	2,080.00
13	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
14	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
15	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	639.984	47,358.82
A1				**Total Cost of materials**	**7,19,165.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,29,449.85**
A				**Total landed Cost (A=A1 + A2)**	**8,48,615.69**
B				Stock, Storage & Insurance i.e 3% of A	25,458.47
C				**Sub Total (A+B)**	**8,74,074.16**
D				Contigency @ 3% of C	26,222.22
E				Tools & Plants @ 2% of C (Except HT Stay Set)	16,916.37
F				Transportation @ 7.5% of C	65,555.56
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	68,067.00
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**10,59,092.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.200	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.450	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**40,509.01**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,291.62**
K				**Total landed Cost (K=K1+ K2)**	**47,800.63**
L				**Total (J+K)**	11,06,893.38
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**11,06,893.38**
O				CESS 1% of N	11,068.93
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**11,17,962.32**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)	3

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	36	12,22,920.00
2	33 KV V cross Arm (GI)	EA	1,701.00	36	61,236.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	36	2,916.00
4	Danger Plate	EA	180.00	36	6,480.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	55.44	4,324.32
6	GI barbed wire anticlimbing device	KG	74.00	108.00	7,992.00
7	33 kV pin insulator polymer	EA	398.00	108	42,984.00
8	NON METALLIC TIES-33KV 148 SQMM CVRD AAAC	EA	120.00	108	12,960.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	72	15,840.00
10	Earthing of Support (Coil Type)	EA	164.00	36	5,904.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.29	4,387.61
12	148 sq.mm XLPE AAA covered conductor	M	242.00	9270.00	22,43,340.00
13	Crimping type Midspan Compression Joint for 148 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	9	6,750.00

A1	**Total Cost of materials**	**36,38,033.93**
A2	**Applicable Taxes to make it Landed Cost @18%**	**6,54,846.11**
A	**Total landed Cost (A=A1 + A2)**	**42,92,880.04**
B	Stock, Storage & Insurance i.e 3% of A	1,28,786.40
C	**Sub Total (A+B)**	**44,21,666.44**
D	Contigency @ 3% of C	1,32,649.99
E	Tools & Plants @ 2% of C	88,433.33
F	Transportation @ 7.5% of C	3,31,624.98
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	74,316.85
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,93,532.95
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**53,42,224.54**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	19.80	1,31,647.23
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.05	26,927.84
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	36	30,096.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	36	10,200.24
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00

K1	**Total Civil & Services**	**2,30,281.31**
K2	**Applicable Taxes to make it Landed Cost @18%**	**41,450.64**
K	**Total landed Cost (K=K1+ K2)**	**2,71,731.95**
L	**Total (J+K)**	56,13,956.48
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N	**Sub-Total Material +Services (L+M)**	**56,13,956.48**
O	CESS 1% of N	56,139.56
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**56,70,096.05**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	-
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	14,82,458.80
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	22,93,326.36
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	11,17,962.32
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	56,70,096.05
Q	**Gross Total Material +Services**	**1,05,63,843.52**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	750.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,000.00**
V	GST @ 18% on Total Inspection Fees (U)	540.00
W	Total Inspection Fees including GST (U+V)	3,540.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,05,67,383.52**

Part B: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	20	1,300.00	26,000.00
2	Dismantling of ACSR/AAAC 148/232mm2 from overhead line	M	9000	11.05	99,425.88
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,25,425.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,576.66**
A				**Total landed Cost (A=A1+ A2)**	**1,48,002.54**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,48,002.54
D				**CESS @ 1% of C**	1,480.03
E				**Grand Total (C+D)**	1,49,482.56

ANNEXURE-11.15

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	**CED**
Name of the Sub-Division : -	Gopalpur
Name of the Work :-	Proposal for construction of 33 kV line from 33/11 kV Dahaliabag PSS to Grand Bazar for N-1 connectivity between 33 kV Balikuda & Phulnakhra feeder.
Names of Schemes: -	TPCODL CAPEX (FY 27-28)

ABSTRACT OF ESTIMATE

Sl. No.	Description	Amount
1	Part-A :- 1. Supply and Laying of 6.5 KM 33 kV 3C X 400 Sq.mm. U/G cable without spare. 2. Supply and Installation of 1 No. of 33 kV 4 Way RMU at Dhaliabag PSS	60,367,468.93
	Total Amount	**60,367,468.93**
	Total Amount (In Cr.)	**6.04**

Total estimated cost is Rs.6.04 Crore. (On TPCODL Capex Scheme)

Part-A :-
1. Supply and Laying of 6.5 KM 33 kV 3C X 400 Sq.mm. U/G cable without spare.
2. Supply and Installation of 1 No. of 33 kV 4 Way RMU at Dhaliabag PSS

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***4000***		
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***2500***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	6500	3,165.00	20,572,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	25	25,930.00	648,250.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	11,900.00	35,700.00
1.4	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	5	71,915.00	359,575.00
1.5	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	4000.00	812.00	3,248,000.00
2	**Supply of 33kV RMU**				
a	***No. of 33kV 4Way RMU LLVV(2ISO+2BKR)+ AUX.PT***	***EA***	***1***		
2.1	Supply of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	3,018,066.00	3,018,066.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***EA***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	EA	1	156,247.00	156,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	1	95,000.00	95,000.00
4.3	Networking Accessories	SET	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	32	275.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	16	275.00	4,400.00
4.6	Battery Charger	EA	1	17,500.00	17,500.00
4.7	Battery	EA	1	12,500.00	12,500.00
4.8	4G Modem cum Router	EA	1	24,400.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	40	309.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	40	299.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	40	382.00	15,280.00
4.12	4 C X 4 mm2 Copper cable for extension of CT & PT	M	20	185.59	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	10	210.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	20.0	229.00	4,580.00
4.15	Armored CAT6 SFTP Cable	M	20	107.00	2,140.00
4.16	Un-Armored CAT6 SFTP Cable	M	20	55.00	1,100.00
4.17	Multi Function Meter	EA	2	14,000.00	28,000.00
	Sub Total (Supply Portion) (in Rs.)				**28,285,871.40**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	6500	115.00	747,500.00

1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	33	2,000.00	66,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2500	2,970.00	7,425,000.00
1.4	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	4000.00	195.00	780,000.00
2	**Erection, Commissioning, Wiring and Testing of 33kV RMU**				
2.1	Erection of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	14,000.00	14,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	6,755.00	6,755.00
	Sub Total (Erection Portion) (in Rs.)				**9,039,255.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	3976		
1.1.a	Earth work excavation of **soil**	M3	3339.84	716.03	2,391,425.64
1.1.b	Earth work excavation of **hard rock**	M3	1431.36	1,759.39	2,518,320.47
1.2	Back filling with excavated soil outside and above the trench	M3	4771.2	220.00	1,049,664.00
1.3	Road Repair and restoration charges	KM	0.32	9,294,727.82	2,974,312.90
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	171,056.00	171,056.00
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	217	1,035.17	224,631.89
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	6.5	10,470.00	68,055.00
	Sub Total (Civil Portion) (in Rs.)				**9,406,035.36**
A1	**Sub Total (Supply Portion)**				**28,285,871.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**5,091,456.85**
A	**Total Landed Cost (A=A1 + A2)**				**33,377,328.25**
B	Stock, Storage & Insurance @ 3 % of A				1,001,319.85
C	**Sub Total (A+B)**				**34,378,648.10**
D	Contingency @ 3 % of C				1,031,359.44
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				2,578,398.61
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**37,988,556.32**
I1	Sub Total (Erection Portion + Civil Portion)				18,445,290.36
I2	**Applicable Taxes to make it Landed Cost @18%**				**3,320,152.26**
I	**Total landed Cost (I=I1+ I2)**				**21,765,442.62**
J	**Total Cost (H+I)**				**59,753,998.94**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**59,753,998.94**
M	CESS 1% of L				597,539.99
N	**Grand Total (L+M)**				**60,351,538.93**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				8,250.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**13,500.00**
T	GST @ 18% on Total Inspection Fees (S)				2,430.00
U	Total Inspection Fees including GST (S+T)				15,930.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**60,367,468.93**

ANNEXURE-11.16		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	**CDD-II**	
Name of the Sub-Division : -	Badambadi	
Name of the Work :-	Proposal for 33 kV linking line of 0.45 KM from CRRI-1 Fdr. to Matagajpur PSS for N-1 connectivity	
Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
ABSTRACT OF ESTIMATE		
Sl. No.	**Description**	**Amount**
1	Part-A:- Laying of 0.45 KM 33 kV 3Cx400 Sq.mm. U/G Cable without spare run from existing 4 pole at JICA to Matagajpur PSS.	4,243,461.88
2	Part-B :- Installation of 1 No. of 33 kV Line Bay at Matagajpur PSS (Refer SLD point)	3,153,527.78
	Total Amount	**7,396,989.66**
	Total Amount (In Cr.)	**0.74**
Total estimated cost is Rs. 0.74 Crore. (On TPCODL Capex Scheme)		

Part-A:- Laying of 0.45 KM 33 kV 3Cx400 Sq.mm. U/G Cable without spare run from existing 4 pole at JICA to Matagajpur PSS.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***			
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***450***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	450	3,165.00	1,424,250.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	1	25,930.00	25,930.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
	Sub Total (Supply Portion) (in Rs.)				**1,473,980.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	450	115.00	51,750.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	3	2,000.00	6,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	450	2,970.00	1,336,500.00
	Sub Total (Erection Portion) (in Rs.)				**1,394,250.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Road Repair and restoration charges	KM	0.05	9,294,727.82	464,736.39
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	15	1,035.17	15,527.55
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.45	10,470.00	4,711.50
	Sub Total (Civil Portion) (in Rs.)				**484,975.44**

A1	**Sub Total (Supply Portion)**	**1,473,980.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**265,316.40**
A	**Total Landed Cost (A=A1 + A2)**	**1,739,296.40**
B	Stock, Storage & Insurance @ 3 % of A	52,178.89
C	**Sub Total (A+B)**	**1,791,475.29**
D	Contingency @ 3 % of C	53,744.26
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	134,360.65
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**1,979,580.20**
I1	Sub Total (Erection Portion + Civil Portion)	1,879,225.44
I2	**Applicable Taxes to make it Landed Cost @18%**	**338,260.58**
I	**Total landed Cost (I=I1+ I2)**	**2,217,486.02**
J	**Total Cost (H+I)**	**4,197,066.22**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**4,197,066.22**
M	CESS 1% of L	41,970.66
N	**Grand Total (L+M)**	**4,239,036.88**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**3,750.00**
T	GST @ 18% on Total Inspection Fees (S)	675.00
U	Total Inspection Fees including GST (S+T)	4,425.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**4,243,461.88**

Part-B :-

Installation of 1 No. of 33 kV Line Bay at Matagajpur PSS (Refer SLD point)

No. of BAY requirement	1
No. of VCB Requirement	1

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	990	77,220.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	17	22,100.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	602	46,940.40
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	101,652.00	1	101,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	2	173,716.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	263,629.00	1	263,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	270,500.00	1	270,500.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	121,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00

33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,453,861.01**
A2				**Applicable Taxes to make it Landed Cost @18%**	**261,694.98**
A				**Total landed Cost (A=A1 + A2)**	**1,715,555.99**
B				Stock, Storage & Insurance i.e 3% of A	51,466.68
C				**Sub Total (A+B)**	**1,767,022.67**
D				Contigency @ 3% of C	53,010.68
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	34,803.25
F				Transportation @ 7.5% of C	132,526.70
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				141,974.76
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,145,358.80**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	17	64,340.41
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60

2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88

3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	14.175	6,988.84
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	6	1,320.00

5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.8505	4,462.98
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	8.55	56,847.67
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	44.82	13,799.63
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	367.29	40,952.84
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	34.5	8,004.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	2.3	3,404.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	2.3	11,569.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.6	34,500.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.2	31,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	56	15,120.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	991.4	101,122.80
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	1.2	9,540.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	530.2	55,140.80
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**826,435.13**
K2				**Applicable Taxes to make it Landed Cost @18%**	**148,758.32**
K				**Total landed Cost (K=K1+ K2)**	**975,193.46**
L				**Total Material +services (J+K)**	**3,120,552.25**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**3,120,552.25**
O				CESS 1% of (N)	31,205.52
P				**Total (N+O)**	3,151,757.78
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**3,153,527.78**

ANNEXURE-11.17		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	**AED**	
Name of the Sub-Division : -	Athagarh	
Name of the Work :-	Proposal for 33 kV linking line of 0.1 KM from Athagarh Fdr. to Tigiria PSS for N-1 connectivity and augmentation of 2.7 CKM of 33 kV Athagarh Fdr. of Khuntuni GSS.	
Names of Schemes: -	TPCODL CAPEX (FY 27-28)	
ABSTRACT OF ESTIMATE		
Sl. No.	**Description**	**Amount**
1	Part-A :- Construction of 0.1 KM 33 kV line with 232 Sq.mm. AAAC (Refer SLD point- A-B)	579,784.10
2	Part-B :- 1. Installation of 1 No. of 33 kV Line Bay at Tigiria PSS (Refer SLD point- B) 2. Strengthening of 33 kV Bus at Tigiria PSS. 3. Shifting of 33/0.4 kV Station Transformer.	4,448,446.85
3	Part-C:- Augmentation of 2.7 KM 33 kV line with 232 Sq.mm. XLPE AAAC of Athagarh Fdr. emanating from Khuntia Grid. (Refer SLD)	8,139,352.53
4	Part-D:- Laying of 0.25 KM 33 kV 3Cx400 Sq.mm. U/G Cable (2 Run) with Back to back arrangement for 132 kV line crossing.	3,362,073.42
	Total Amount	**16,529,656.90**
	Total Amount (In Cr.)	**1.65**
Total estimated cost is Rs. 1.65 Crore. (On TPCODL Capex Scheme)		

Part-A :- Construction of 0.1 KM 33 kV line with 232 Sq.mm. AAAC (Refer SLD point- A-B)

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	1

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
13	33KV pin insulator polymer	EA	398.00	3	1,194.00
14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	6	3,786.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	6	1,998.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
18	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
A1				**Total Cost of materials**	**213,603.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**38,448.71**
A				**Total landed Cost (A=A1 + A2)**	**252,052.63**
B				Stock, Storage & Insurance i.e 3% of A	7,561.58
C				**Sub Total (A+B)**	**259,614.21**
D				Contigency @ 3% of C	7,788.43
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,838.07
F				Transportation @ 7.5% of C	19,471.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,932.91
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**311,773.40**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	343,619.20
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**343,619.20**
O				CESS 1% of N	3,436.19
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**347,055.39**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	1

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	1	33,970.00
2	GI Channel,angle & flat of different size	KG	78.00	45.372	3,539.02
3	Danger Plate, 1 no's.	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00

5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/8 SWG Stay Wire	KG	75.00	15	1,125.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	33KV pin insulator polymer	EA	398.00	3	1,194.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	6	3,786.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
12	Earthing of Support (Coil Type)	EA	164.00	1	164.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	6	1,998.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
15	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
A1				**Total Cost of materials**	**50,708.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,127.57**
A				**Total landed Cost (A=A1 + A2)**	**59,836.29**
B				Stock, Storage & Insurance i.e 3% of A	1,795.09
C				**Sub Total (A+B)**	**61,631.38**
D				Contigency @ 3% of C	1,848.94
E				Tools & Plants @ 2% of C	1,159.87
F				Transportation @ 7.5% of C	4,622.35
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				2,064.36
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,670.65
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**72,997.56**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1125	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**7,825.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,408.63**
K				**Total landed Cost (K=K1+ K2)**	**9,234.36**
L				**Total (J+K)**	82,231.92
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**82,231.92**
O				CESS 1% of N	822.32
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**83,054.24**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)		0.1			

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	1	33,970.00
2	33 KV V cross Arm (GI)	EA	1,701.00	1	1,701.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	1	81.00
4	Danger Plate	EA	180.00	1	180.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	1.54	120.12
6	GI barbed wire anticlimbing device	KG	74.00	3.00	222.00
7	33 kV pin insulator polymer	EA	398.00	3	1,194.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	1.65	121.88
10	232 sq.mm AAA conductor	M	181.65	309.00	56,129.85
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	3	63.00
A1				**Total Cost of materials**	**93,946.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,910.43**
A				**Total landed Cost (A=A1 + A2)**	**110,857.28**
B				Stock, Storage & Insurance i.e 3% of A	3,325.72
C				**Sub Total (A+B)**	**114,183.00**

D	Contigency @ 3% of C	3,425.49
E	Tools & Plants @ 2% of C	2,283.66
F	Transportation @ 7.5% of C	8,563.72
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	2,064.36
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,289.59
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**137,809.82**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**6,571.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,182.82**
K				**Total landed Cost (K=K1+ K2)**	**7,754.02**
L				**Total (J+K)**	145,563.84
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N				**Sub-Total Material +Services (L+M)**	**145,563.84**
O				CESS 1% of N	1,455.64
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**147,019.48**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	347,055.39
2	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	83,054.24
3	Gross Total Material +Services (N+O) for 33 KV Pin Points	147,019.48
Q	**Gross Total Material +Services**	**577,129.10**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**2,250.00**
V	GST @ 18% on Total Inspection Fees (U)	405.00
W	Total Inspection Fees including GST (U+V)	2,655.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**579,784.10**

Part-B :-

1. Installation of 1 No. of 33 kV Line Bay at Tigiria PSS (Refer SLD point- B)

2. Strengthening of 33 kV Bus at Tigiria PSS.

3. Shifting of 33/0.4 kV Station Transformer.

No. of BAY requirement	1
No. of VCB Requirement	1

No. of Bus isolator requirement

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	16	20,800.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	566	44,179.20
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	101,652.00	1	101,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	263,629.00	1	263,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	270,500.00	1	270,500.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	121,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
20	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00

22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00
31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	AB Switch(11KV,200A.3pole,50Hz)	SET	9,080.00	1	9,080.00
34	DO.Fuse(11KV.200A.3Pole)	SET	3,214.00	1	3,214.00
35	10 AMP Fuse Link	EA	40.00	3	120.00
36	4 Cx 150 mm2 LT XLPE Cable(Armoured) - FOR 100 KVA Trf.	M	850.00	50	42,500.00
37	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,495,075.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**269,113.65**
A				**Total landed Cost (A=A1 + A2)**	**1,764,189.46**
B				Stock, Storage & Insurance i.e 3% of A	52,925.68
C				**Sub Total (A+B)**	**1,817,115.14**
D				Contigency @ 3% of C	54,513.45
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	35,836.70
F				Transportation @ 7.5% of C	136,283.64
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed	16,020.73
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	147,142.01
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,206,911.67**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	16	60,555.68
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06

2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60
2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83

3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88
3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				

5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	172.5	40,020.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	11.5	17,020.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	11.5	57,845.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	23	172,500.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	21	157,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	280	75,600.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	4957	505,614.00
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	6	47,700.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	2651	275,704.00
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**1,860,795.49**
K2				**Applicable Taxes to make it Landed Cost @18%**	**334,943.19**
K				**Total landed Cost (K=K1+ K2)**	**2,195,738.67**
L				**Total Material +services (J+K)**	**4,402,650.35**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**4,402,650.35**
O				CESS 1% of (N)	44,026.50
P				**Total (N+O)**	4,446,676.85
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**4,448,446.85**

Part-C:- Augmentation of 2.7 KM 33 kV line with 232 Sq.mm. XLPE AAAC of Athagarh Fdr. emanating from Khuntia Grid. (Refer SLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	2

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle, flat of different size	KG	78.00	420.884	32,828.95
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	8	2,080.00
5	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
6	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
7	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	33 kV pin insulator polymer	EA	398.00	6	2,388.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	25.256	1,868.94
A1				**Total Cost of materials**	**250,465.90**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,083.86**
A				**Total landed Cost (A=A1 + A2)**	**295,549.76**
B				Stock, Storage & Insurance i.e 3% of A	8,866.49
C				**Sub Total (A+B)**	**304,416.25**
D				Contigency @ 3% of C	9,132.49
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,379.89
F				Transportation @ 7.5% of C	22,831.22
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	10,384.61
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**360,401.88**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	424,093.48
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**424,093.48**
O				CESS 1% of N	4,240.93
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**428,334.42**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	124,712.00

13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
A1				**Total Cost of materials**	**458,541.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**82,537.53**
A				**Total landed Cost (A=A1 + A2)**	**541,079.39**
B				Stock, Storage & Insurance i.e 3% of A	16,232.38
C				**Sub Total (A+B)**	**557,311.77**
D				Contigency @ 3% of C	16,719.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	10,437.80
F				Transportation @ 7.5% of C	41,798.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	35,674.16
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**670,198.89**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	733,890.49
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**733,890.49**
O				CESS 1% of N	7,338.90
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**741,229.40**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	2

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	90.744	7,078.03
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	33KV pin insulator polymer	EA	398.00	6	2,388.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**131,871.44**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,736.86**
A				**Total landed Cost (A=A1 + A2)**	**155,608.30**
B				Stock, Storage & Insurance i.e 3% of A	4,668.25
C				**Sub Total (A+B)**	**160,276.55**
D				Contigency @ 3% of C	4,808.30
E				Tools & Plants @ 2% of C	3,060.02
F				Transportation @ 7.5% of C	12,020.74
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,042.69

I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**191,337.01**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**15,651.46**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,817.26**
K				**Total landed Cost (K=K1+ K2)**	**18,468.72**
L				**Total (J+K)**	209,805.73
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**209,805.73**
O				CESS 1% of N	2,098.06
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**211,903.79**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	2

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	178.404	13,915.51
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	33KV pin insulator polymer	EA	398.00	8	3,184.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	8	960.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**145,382.92**
A2				**Applicable Taxes to make it Landed Cost @18%**	**26,168.93**
A				**Total landed Cost (A=A1 + A2)**	**171,551.85**
B				Stock, Storage & Insurance i.e 3% of A	5,146.56
C				**Sub Total (A+B)**	**176,698.40**
D				Contigency @ 3% of C	5,300.95
E				Tools & Plants @ 2% of C (Except HT Stay Set)	3,251.41
F				Transportation @ 7.5% of C	13,252.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				4,128.71
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,999.63
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**210,631.49**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.100	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**20,254.51**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,645.81**
K				**Total landed Cost (K=K1+ K2)**	**23,900.32**
L				**Total (J+K)**	234,531.81
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**234,531.81**

O	CESS 1% of N	2,345.32
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**236,877.13**

	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)		2.7		
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	35	1,188,950.00
2	33 KV V cross Arm (GI)	EA	1,701.00	35	59,535.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	35	2,835.00
4	Danger Plate	EA	180.00	35	6,300.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	53.90	4,204.20
6	GI barbed wire anticlimbing device	KG	74.00	105.00	7,770.00
7	33 kV pin insulator polymer	EA	398.00	105	41,790.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	105	12,600.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	70	15,400.00
10	Earthing of Support (Coil Type)	EA	164.00	35	5,740.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	57.65	4,265.73
12	232 sq.mm XLPE AAA covered conductor	M	342.00	8343.00	2,853,306.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	6	4,500.00
A1	**Total Cost of materials**				**4,207,195.93**
A2	**Applicable Taxes to make it Landed Cost @18%**				**757,295.27**
A	**Total landed Cost (A=A1 + A2)**				**4,964,491.20**
B	Stock, Storage & Insurance i.e 3% of A				148,934.74
C	**Sub Total (A+B)**				**5,113,425.93**
D	Contigency @ 3% of C				153,402.78
E	Tools & Plants @ 2% of C				102,268.52
F	Transportation @ 7.5% of C				383,506.94
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				72,252.49
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				366,837.61
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**6,191,694.28**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	19.25	127,990.36
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.94	26,179.85
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	35	29,260.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	35	9,916.90
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.7	28,269.00
K1	**Total Civil & Services**				**221,616.11**
K2	**Applicable Taxes to make it Landed Cost @18%**				**39,890.90**
K	**Total landed Cost (K=K1+ K2)**				**261,507.01**
L	**Total (J+K)**				6,453,201.29
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**6,453,201.29**
O	CESS 1% of N				64,532.01
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**6,517,733.30**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				428,334.42
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				741,229.40
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				211,903.79
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				236,877.13
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				6,517,733.30
Q	**Gross Total Material +Services**				**8,136,078.03**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				1,275.00
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**2,775.00**
V	GST @ 18% on Total Inspection Fees (U)				499.50
W	Total Inspection Fees including GST (U+V)				3,274.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**8,139,352.53**

Part-D:- Laying of 0.25 KM 33 kV 3Cx400 Sq.mm. U/G Cable (2 Run) with Back to back arrangement for 132 kV line crossing.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***250***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	500	3,165.00	1,582,500.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	11,900.00	47,600.00
1.3	Supply of materials for High Density Polyethelene **(HDPE) pipe 200mm** diameter, PE 80- PN8 for laying of 33kV UG cable	M	500.00	812.00	406,000.00
	Sub Total (Supply Portion) (in Rs.)				**2,036,100.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	500	115.00	57,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	4	2,000.00	8,000.00
1.3	Laying of 200**mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	500.00	195.00	97,500.00
	Sub Total (Erection Portion) (in Rs.)				**163,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	218		
1.1.a	Earth work excavation of **soil**	M3	183.12	716.03	131,119.41
1.1.b	Earth work excavation of **hard rock**	M3	78.48	1,759.39	138,076.93
1.2	Back filling with excavated soil outside and above the trench	M3	261.6	220.00	57,552.00
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	8	1,035.17	8,281.36
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.25	10,470.00	2,617.50
	Sub Total (Civil Portion) (in Rs.)				**337,647.20**

A1	**Sub Total (Supply Portion)**	**2,036,100.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**366,498.00**
A	**Total Landed Cost (A=A1 + A2)**	**2,402,598.00**
B	Stock, Storage & Insurance @ 3 % of A	72,077.94
C	**Sub Total (A+B)**	**2,474,675.94**
D	Contingency @ 3 % of C	74,240.28
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	185,600.70
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**2,734,516.91**
I1	Sub Total (Erection Portion + Civil Portion)	500,647.20
I2	**Applicable Taxes to make it Landed Cost @18%**	**90,116.50**
I	**Total landed Cost (I=I1+ I2)**	**590,763.70**
J	**Total Cost (H+I)**	**3,325,280.61**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**3,325,280.61**
M	CESS 1% of L	33,252.81
N	**Grand Total (L+M)**	**3,358,533.42**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,000.00**
T	GST @ 18% on Total Inspection Fees (S)	540.00
U	Total Inspection Fees including GST (S+T)	3,540.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**3,362,073.42**

ANNEXURE-11.18			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**DED (Dhenkanal)**	
Name of the Work :-		***Reliability of 33kV NIhalprasad feeder by linking of 33kV Joranda Feeder in Gondia PSS :*** Linking of 33kV Nihalprasad feeder to 33kV Jornada Feeder, improve network reliability by improve voltage profile, reduction in feeder length and reduction technical loss of network.	
Scope of work:-		Proposal Details 1.33kV UG Cable -120mtr 2.4-Pole-1nos	
WBS:-			
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable without spare = 0.12 kM	₹ 778,601.08
2	B	PART B: Standard BoQ and Estimate for 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with One No. of Isolator and LA Set	₹ 539,712.09
3	C	PART C: 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor	₹ 741,229.40
		Total Amount	**₹ 2,059,542.56**
		Total Amount (In Cr)	**₹ 0.21**

PART A: Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable without spare = 0.12 kM

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 33kV 3C, 400sqmm cable (open trench)***	***M***	***120***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	120	3,165.00	379,800.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
	Sub Total (Supply Portion) (in Rs.)				**403,600.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	120	115.00	13,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
	Sub Total (Erection Portion) (in Rs.)				**17,800.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Trench**				
1.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	167,031.15
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	4	1,035.17	4,140.68
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.12	10,470.00	1,256.40
	Sub Total (Civil Portion) (in Rs.)				**172,428.23**

A1	**Sub Total (Supply Portion)**	**403,600.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**72,648.00**
A	**Total Landed Cost (A=A1 + A2)**	**476,248.00**
B	Stock, Storage & Insurance @ 3 % of A	14,287.44
C	**Sub Total (A+B)**	**490,535.44**
D	Contingency @ 3 % of C	14,716.06
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	36,790.16
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**542,041.66**
I1	Sub Total (Erection Portion + Civil Portion)	190,228.23
I2	**Applicable Taxes to make it Landed Cost @18%**	**34,241.08**
I	**Total landed Cost (I=I1+ I2)**	**224,469.31**
J	**Total Cost (H+I)**	**766,510.97**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**766,510.97**
M	CESS 1% of L	7,665.11
N	**Grand Total (L+M)**	**774,176.08**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**3,750.00**
T	GST @ 18% on Total Inspection Fees (S)	675.00
U	Total Inspection Fees including GST (S+T)	4,425.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**778,601.08**

PART B: Standard BoQ and Estimate for 33 KV 4 Pole using WPB GI Pole 160x152 (13Mtr. Long) with One No. of Isolator and LA Set					
No. of 33 KV 4-Pole with Isolator (Ref. Drawing No.-PD-1346-TPCODL-33 KV-OH-8012)				1	
MATERIALS FOR 33 KV 4-P With Isolator					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for 4-Pole	EA	33,970.00	4	135,880.00
2	GI Channel,angle & flat of different size	KG	78.00	986.773	76,968.29
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	Danger Plate	EA	180.00	4	720.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S)90KN,4 Bolt	EA	631.00	15	9,465.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	15	4,335.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	15	4,995.00
17	232 sq.mm AAA conductor	M	181.65	39	7,084.35
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	36.936	2,733.26
19	POLYCARBONATE BIRD GUARD	EA	21.00	21	441.00
A1				**Total Cost of materials**	**337,062.91**
A2				**Applicable Taxes to make it Landed Cost @18%**	**60,671.32**
A				**Total landed Cost (A=A1 + A2)**	**397,734.23**
B				Stock, Storage & Insurance i.e 3% of A	11,932.03
C				**Sub Total (A+B)**	**409,666.26**
D				Contigency @ 3% of C	12,289.99
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/stay set)	7,839.11
F				Transportation @ 7.5% of C	30,724.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing/stay set) (With Applicable Taxes @ 18% to make it Landed Cost)	22,680.69
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**491,458.44**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**36,364.37**
K2				Applicable Taxes to make it Landed Cost @18%	6,545.59
K				**Total landed Cost (K=K1+ K2)**	**42,909.96**
L				**Total (J+K)**	534,368.40
M				Other overheads (Including 6% supervision charges) of L (for 33 KV 4-P With Isolator)	
N				**Sub Total (L+M)**	**534,368.40**
O				CESS 1% of N	5,343.68
P				**Gross Total Material +Services (N+O)**	**539,712.09**

PART C: 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	4	135,880.00
2	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	124,712.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	6	720.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	12	10,800.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
A1				**Total Cost of materials**	**458,541.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**82,537.53**
A				**Total landed Cost (A=A1 + A2)**	**541,079.39**
B				Stock, Storage & Insurance i.e 3% of A	16,232.38
C				**Sub Total (A+B)**	**557,311.77**
D				Contigency @ 3% of C	16,719.35
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	10,437.80
F				Transportation @ 7.5% of C	41,798.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	35,674.16
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**670,198.89**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**53,975.93**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,715.67**
K				**Total landed Cost (K=K1+ K2)**	**63,691.60**
L				**Total (J+K)**	733,890.49
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**733,890.49**
O				CESS 1% of N	7,338.90
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**741,229.40**

ANNEXURE-11.19			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**ANED (Dhenkanal)**	
Name of the Work :-		Augmentation of 33kV Angul-2 Feeder of 0.4 CKM for to improve N-1 reliability.	
Scope of work:-		Proposal Details 1. 33kV 232sqmm OH XLPE line- 0.4Ckm	
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-0.4ckm	₹ 1,519,179.86
		Total Amount	**₹ 1,519,179.86**
		Total Amount (In Cr)	**₹ 0.15**

PART A: 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-0.4ckm

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	1

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle, flat of different size	KG	78.00	210.442	16,414.48
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	33 kV pin insulator polymer	EA	398.00	3	1,194.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.628	934.47
A1				**Total Cost of materials**	**125,232.95**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,541.93**
A				**Total landed Cost (A=A1 + A2)**	**147,774.88**
B				Stock, Storage & Insurance i.e 3% of A	4,433.25
C				**Sub Total (A+B)**	**152,208.12**
D				Contigency @ 3% of C	4,566.24
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,689.95
F				Transportation @ 7.5% of C	11,415.61
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,192.30
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**180,200.94**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	212,046.74
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**212,046.74**
O				CESS 1% of N	2,120.47
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**214,167.21**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	0	-
2	GI Channel,angle & flat of different size	KG	78.00	0	-
3	DMC Insulator for LA (70/10)	EA	113.50	0	-
4	Danger Plate	EA	180.00	0	-
5	H.T. Stay clamp	EA	260.00	0	-
6	H.T. Stay set (Complete)	SET	1,434.00	0	-
7	H.T. Stay Insulator Type-C	EA	87.00	0	-
8	7/8 SWG Stay Wire	KG	75.00	0	-
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	0	-
10	GI barbed wire anticlimbing device	KG	74.00	0	-
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	0	-
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	0	-
13	33KV pin insulator polymer	EA	398.00	0	-

14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	0	-
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	0	-
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	0	-
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	0	-
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	0	-
A1				**Total Cost of materials**	**-**
A2				**Applicable Taxes to make it Landed Cost @18%**	**-**
A				**Total landed Cost (A=A1 + A2)**	**-**
B				Stock, Storage & Insurance i.e 3% of A	-
C				**Sub Total (A+B)**	**-**
D				Contigency @ 3% of C	-
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	-
F				Transportation @ 7.5% of C	-
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	-
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**-**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	0	-
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0	-
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0	-
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	0	-
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	0	-
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	0	-
K1				**Total Civil & Services**	**-**
K2				**Applicable Taxes to make it Landed Cost @18%**	**-**
K				**Total landed Cost (K=K1+ K2)**	**-**
L				**Total (J+K)**	-
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**-**
O				CESS 1% of N	-
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**-**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	1

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	1	33,970.00
2	GI Channel,angle & flat of different size	KG	78.00	45.372	3,539.02
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/8 SWG Stay Wire	KG	75.00	15	1,125.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	33KV pin insulator polymer	EA	398.00	3	1,194.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**65,935.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**11,868.43**
A				**Total landed Cost (A=A1 + A2)**	**77,804.15**
B				Stock, Storage & Insurance i.e 3% of A	2,334.12
C				**Sub Total (A+B)**	**80,138.27**
D				Contigency @ 3% of C	2,404.15
E				Tools & Plants @ 2% of C	1,530.01
F				Transportation @ 7.5% of C	6,010.37
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	2,064.36
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,521.34
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J	**Sum of (C to I)**	**95,668.51**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1125	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1	**Total Civil & Services**				**7,825.73**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,408.63**
K	**Total landed Cost (K=K1+ K2)**				**9,234.36**
L	**Total (J+K)**				104,902.86
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**104,902.86**
O	CESS 1% of N				1,049.03
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**105,951.89**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	1

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	1	33,970.00
2	GI Channel,angle & flat of different size	KG	78.00	89.202	6,957.76
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	33KV pin insulator polymer	EA	398.00	4	1,592.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	4	480.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**72,691.46**
A2	**Applicable Taxes to make it Landed Cost @18%**				**13,084.46**
A	**Total landed Cost (A=A1 + A2)**				**85,775.92**
B	Stock, Storage & Insurance i.e 3% of A				2,573.28
C	**Sub Total (A+B)**				**88,349.20**
D	Contigency @ 3% of C				2,650.48
E	Tools & Plants @ 2% of C (Except HT Stay Set)				1,625.71
F	Transportation @ 7.5% of C				6,626.19
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				2,064.36
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,999.82
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**105,315.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.550	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.113	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1	**Total Civil & Services**				**10,127.25**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,822.91**
K	**Total landed Cost (K=K1+ K2)**				**11,950.16**
L	**Total (J+K)**				117,265.90
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**117,265.90**
O	CESS 1% of N				1,172.66

P	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				118,438.56
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)		0.4		

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	7	237,790.00
2	33 KV V cross Arm (GI)	EA	1,701.00	7	11,907.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	7	567.00
4	Danger Plate	EA	180.00	7	1,260.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	10.78	840.84
6	GI barbed wire anticlimbing device	KG	74.00	21.00	1,554.00
7	33 kV pin insulator polymer	EA	398.00	21	8,358.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	21	2,520.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	14	3,080.00
10	Earthing of Support (Coil Type)	EA	164.00	7	1,148.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.53	853.15
12	232 sq.mm XLPE AAA covered conductor	M	342.00	1236.00	422,712.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	0	-
A1				**Total Cost of materials**	**692,589.99**
A2				**Applicable Taxes to make it Landed Cost @18%**	**124,666.20**
A				**Total landed Cost (A=A1 + A2)**	**817,256.18**
B				Stock, Storage & Insurance i.e 3% of A	24,517.69
C				**Sub Total (A+B)**	**841,773.87**
D				Contigency @ 3% of C	25,253.22
E				Tools & Plants @ 2% of C	16,835.48
F				Transportation @ 7.5% of C	63,133.04
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,450.50
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				55,276.39
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,016,722.49**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.85	25,598.07
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.79	5,235.97
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	7	5,852.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	7	1,983.38
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.4	4,188.00
K1				**Total Civil & Services**	**42,857.42**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,714.34**
K				**Total landed Cost (K=K1+ K2)**	**50,571.76**
L				**Total (J+K)**	1,067,294.25
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**1,067,294.25**
O				CESS 1% of N	10,672.94
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**1,077,967.19**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	214,167.21
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	-
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	105,951.89
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	118,438.56
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	1,077,967.19
Q	**Gross Total Material +Services**	**1,516,524.86**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**2,250.00**
V	GST @ 18% on Total Inspection Fees (U)	405.00
W	Total Inspection Fees including GST (U+V)	2,655.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,519,179.86**

ANNEXURE-11.20			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Division :-		**ANED (Dhenkanal)**	
Name of the Work :-		Augmentation of 33kV Ganesh Sponge feeder from Angul GSS to Badakera 6-Pole to improve network reliability	
Scope of work:-		Proposal Details 2. Aug 33kV 232sqmm OH XLPE line- 6.78Ckm 3. 33kV UG cable - 0.72km	
WBS:-			
Names of Schemes: -		***TPCODL CAPEX (FY 27-28)***	
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	PART A: 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-6.78ckm	₹ 19,226,124.07
2	B	PART B: Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable-0.72ckm	₹ 5,930,150.88
3	C	PART C: Standard BoQ and Estimate for Dismantling of Materials	₹ 246,866.17
		Total Amount	**₹ 25,403,141.12**
		Total Amount (In Cr)	**₹ 2.54**

PART A: 33kV Line Length with 40 Mtr. Span using 232 SQ.MM. -XLPE AAA Covered Conductor-6.78ckm

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	1

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle, flat of different size	KG	78.00	210.442	16,414.48
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	33 kV pin insulator polymer	EA	398.00	3	1,194.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.628	934.47
A1				**Total Cost of materials**	**125,232.95**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,541.93**
A				**Total landed Cost (A=A1 + A2)**	**147,774.88**
B				Stock, Storage & Insurance i.e 3% of A	4,433.25
C				**Sub Total (A+B)**	**152,208.12**
D				Contigency @ 3% of C	4,566.24
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,689.95
F				Transportation @ 7.5% of C	11,415.61
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,192.30
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**180,200.94**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	212,046.74
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**212,046.74**
O				CESS 1% of N	2,120.47
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**214,167.21**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	6

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	12	407,640.00
2	GI Channel,angle & flat of different size	KG	78.00	3319.158	258,894.32
3	DMC Insulator for LA (70/10)	EA	113.50	48	5,448.00
4	Danger Plate	EA	180.00	12	2,160.00
5	H.T. Stay clamp	EA	260.00	24	6,240.00
6	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
7	H.T. Stay Insulator Type-C	EA	87.00	48	4,176.00
8	7/8 SWG Stay Wire	KG	75.00	360	27,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00
10	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	18	79,974.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	6	374,136.00
13	33KV pin insulator polymer	EA	398.00	18	7,164.00

14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	18	2,160.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	36	32,400.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	24	5,280.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	36	90,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	36	10,404.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	133.368	9,869.23
A1				**Total Cost of materials**	**1,375,625.56**
A2				**Applicable Taxes to make it Landed Cost @18%**	**247,612.60**
A				**Total landed Cost (A=A1 + A2)**	**1,623,238.16**
B				Stock, Storage & Insurance i.e 3% of A	48,697.14
C				**Sub Total (A+B)**	**1,671,935.30**
D				Contigency @ 3% of C	50,158.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	31,313.41
F				Transportation @ 7.5% of C	125,395.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,772.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	107,022.48
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,010,596.68**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.6	43,882.41
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**161,927.80**
K2				**Applicable Taxes to make it Landed Cost @18%**	**29,147.00**
K				**Total landed Cost (K=K1+ K2)**	**191,074.80**
L				**Total (J+K)**	2,201,671.48
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**2,201,671.48**
O				CESS 1% of N	22,016.71
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**2,223,688.19**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8009)	5

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	5	169,850.00
2	GI Channel,angle & flat of different size	KG	78.00	226.86	17,695.08
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
7	7/8 SWG Stay Wire	KG	75.00	75	5,625.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	33KV pin insulator polymer	EA	398.00	15	5,970.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	15	1,800.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	30	27,000.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	30	8,670.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**329,678.60**
A2				**Applicable Taxes to make it Landed Cost @18%**	**59,342.15**
A				**Total landed Cost (A=A1 + A2)**	**389,020.75**
B				Stock, Storage & Insurance i.e 3% of A	11,670.62
C				**Sub Total (A+B)**	**400,691.37**
D				Contigency @ 3% of C	12,020.74
E				Tools & Plants @ 2% of C	7,650.06
F				Transportation @ 7.5% of C	30,051.85
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,321.78
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,606.72
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**478,342.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.75	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5625	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
K1				**Total Civil & Services**	**39,128.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,043.16**
K				**Total landed Cost (K=K1+ K2)**	**46,171.80**
L				**Total (J+K)**	524,514.32
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**524,514.32**
O				CESS 1% of N	5,245.14
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**529,759.47**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8007)	5

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	5	169,850.00
2	GI Channel,angle & flat of different size	KG	78.00	446.01	34,788.78
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	33KV pin insulator polymer	EA	398.00	20	7,960.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	20	2,400.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	30	27,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	30	8,670.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/8 SWG Stay Wire	KG	75.00	150	11,250.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**363,457.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**65,422.31**
A				**Total landed Cost (A=A1 + A2)**	**428,879.61**
B				Stock, Storage & Insurance i.e 3% of A	12,866.39
C				**Sub Total (A+B)**	**441,746.00**
D				Contigency @ 3% of C	13,252.38
E				Tools & Plants @ 2% of C (Except HT Stay Set)	8,128.53
F				Transportation @ 7.5% of C	33,130.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				10,321.78
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				19,999.08
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**526,578.73**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.750	18,284.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.563	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
K1				**Total Civil & Services**	**50,636.27**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,114.53**
K				**Total landed Cost (K=K1+ K2)**	**59,750.79**
L				**Total (J+K)**	586,329.52
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**586,329.52**
O				CESS 1% of N	5,863.30

P	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				592,192.81
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8001)		6.78		

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	76.5	2,598,705.00
2	33 KV V cross Arm (GI)	EA	1,701.00	77	130,126.50
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	77	6,196.50
4	Danger Plate	EA	180.00	77	13,770.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	117.81	9,189.18
6	GI barbed wire anticlimbing device	KG	74.00	229.50	16,983.00
7	33 kV pin insulator polymer	EA	398.00	230	91,341.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	230	27,540.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	153	33,660.00
10	Earthing of Support (Coil Type)	EA	164.00	77	12,546.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	126.00	9,323.67
12	232 sq.mm XLPE AAA covered conductor	M	342.00	20950.20	7,164,968.40
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	18	13,500.00
A1	**Total Cost of materials**				**10,127,849.25**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,823,012.86**
A	**Total landed Cost (A=A1 + A2)**				**11,950,862.11**
B	Stock, Storage & Insurance i.e 3% of A				358,525.86
C	**Sub Total (A+B)**				**12,309,387.97**
D	Contigency @ 3% of C				369,281.64
E	Tools & Plants @ 2% of C				246,187.76
F	Transportation @ 7.5% of C				923,204.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				157,923.30
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				915,092.19
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**14,921,076.97**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	42.08	279,750.36
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.61	57,221.67
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	76.5	63,954.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	76.5	21,675.51
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	6.78	70,986.60
K1	**Total Civil & Services**				**493,588.14**
K2	**Applicable Taxes to make it Landed Cost @18%**				**88,845.87**
K	**Total landed Cost (K=K1+ K2)**				**582,434.00**
L	**Total (J+K)**				15,503,510.97
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**15,503,510.97**
O	CESS 1% of N				155,035.11
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**15,658,546.08**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	214,167.21
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	2,223,688.19
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	529,759.47
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	592,192.81
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	15,658,546.08
Q	**Gross Total Material +Services**	**19,218,353.77**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	4,335.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**6,585.00**
V	GST @ 18% on Total Inspection Fees (U)	1,185.30
W	Total Inspection Fees including GST (U+V)	7,770.30
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**19,226,124.07**

PART B: Standard BoQ and Estimate for 33kV 3C, 400sqmm UG Cable-0.72ckm					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
b	***Length of 33kV 3C, 400sqmm cable (HDD)***	***M***	***720***		
1.1	Supply of 33kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with spare (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA-20kA)	M	720	3,165.00	2,278,800.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	25,930.00	77,790.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	11,900.00	23,800.00
	Sub Total (Supply Portion) (in Rs.)				**2,380,390.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 33kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by **open trench method**.	M	720	115.00	82,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, aluminium UG cable kits	EA	5	2,000.00	10,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	720	2,970.00	2,138,400.00
	Sub Total (Erection Portion) (in Rs.)				**2,231,200.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	24	1,035.17	24,844.08
2	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.72	10,470.00	7,538.40
	Sub Total (Civil Portion) (in Rs.)				**32,382.48**
A1	**Sub Total (Supply Portion)**				**2,380,390.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**428,470.20**
A	**Total Landed Cost (A=A1 + A2)**				**2,808,860.20**
B	Stock, Storage & Insurance @ 3 % of A				84,265.81
C	**Sub Total (A+B)**				**2,893,126.01**
D	Contingency @ 3 % of C				86,793.78
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				216,984.45
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**3,196,904.24**
I1	Sub Total (Erection Portion + Civil Portion)				2,263,582.48
I2	**Applicable Taxes to make it Landed Cost @18%**				**407,444.85**
I	**Total landed Cost (I=I1+ I2)**				**2,671,027.33**
J	**Total Cost (H+I)**				**5,867,931.56**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**5,867,931.56**
M	CESS 1% of L				58,679.32
N	**Grand Total (L+M)**				**5,926,610.88**

O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,000.00**
T	GST @ 18% on Total Inspection Fees (S)	540.00
U	Total Inspection Fees including GST (S+T)	3,540.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**5,930,150.88**

PART C: Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	22500	9.21	207,137.25
A1				**Sub Total (Civil Portion) (in Rs.)**	**207,137.25**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,284.71**
A				**Total landed Cost (A=A1+ A2)**	**244,421.96**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	244,421.96
D				**CESS @ 1% of C**	2,444.22
E				**Grand Total (C+D)**	246,866.17

ANNEXURE-11.21		
TPCODL		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Korua	
Name of the Work :-	Proposal for N-1 connectivity between 33/11 kV Nagaspur & Korua PSS	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 12.8 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)	56,871,576.79
2	PART B: Supply & laying of 0.65 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD)	9,940,396.03
3	PART C: Installation of 01 No. of 33 kV Bay(Outdoor type) at Bhatpada PSS(Refer PSLD N)	3,038,303.67
4	PART D: Installation of 05 Nos 33 kV line protecting guarding having span 30 Mtr. each(Refer PSLD)	146,721.57
5	**Total Gross**	**69,996,998.06**
Total estimated cost is Rs. 7.00 Cr.		

PART A: Construction of 12.8 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	20

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	40	1,358,800.00
2	GI Channel,angle, flat of different size	KG	78.00	4208.84	328,289.52
3	Danger Plate	EA	180.00	40	7,200.00
4	H.T. Stay clamp	EA	260.00	80	20,800.00
5	H.T. Stay set (Complete)	SET	1,434.00	80	114,720.00
6	H.T. Stay Insulator Type-C	EA	87.00	160	13,920.00
7	7/8 SWG Stay Wire	KG	75.00	1200	90,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	40	52,000.00
9	GI barbed wire anticlimbing device	KG	74.00	120	8,880.00
10	33 kV pin insulator polymer	EA	398.00	60	23,880.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	60	7,200.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	120	108,000.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	120	300,000.00
14	Disc insulator (B&S) 90 KN polymer	EA	289.00	120	34,680.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	252.56	18,689.44
A1				**Total Cost of materials**	**2,487,058.96**
A2				**Applicable Taxes to make it Landed Cost @18%**	**447,670.61**
A				**Total landed Cost (A=A1 + A2)**	**2,934,729.57**
B				Stock, Storage & Insurance i.e 3% of A	88,041.89
C				**Sub Total (A+B)**	**3,022,771.46**
D				Contigency @ 3% of C	90,683.14
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	53,371.11
F				Transportation @ 7.5% of C	226,707.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	82,574.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	101,706.98
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,577,814.82**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	80	184,122.00
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	22	146,274.70
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	40	151,389.20
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	40	11,333.60
K1				**Total Civil & Services**	**539,759.33**
K2				**Applicable Taxes to make it Landed Cost @18%**	**97,156.68**
K				**Total landed Cost (K=K1+ K2)**	**636,916.00**
L				**Total (J+K)**	4,214,730.82
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**4,214,730.82**
O				CESS 1% of N	42,147.31
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**4,256,878.13**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	6

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	12	407,640.00
2	GI Channel,angle & flat of different size	KG	78.00	3319.158	258,894.32
3	DMC Insulator for LA (70/10)	EA	113.50	48	5,448.00
4	Danger Plate	EA	180.00	12	2,160.00
5	H.T. Stay clamp	EA	260.00	24	6,240.00
6	H.T. Stay set (Complete)	SET	1,434.00	24	34,416.00
7	H.T. Stay Insulator Type-C	EA	87.00	48	4,176.00
8	7/8 SWG Stay Wire	KG	75.00	360	27,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	12	15,600.00
10	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	18	79,974.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	6	374,136.00
13	33KV pin insulator polymer	EA	398.00	18	7,164.00

14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	18	2,160.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	36	32,400.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	36	90,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	36	10,404.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	133.368	9,869.23
A1				**Total Cost of materials**	**1,370,345.56**
A2				**Applicable Taxes to make it Landed Cost @18%**	**246,662.20**
A				**Total landed Cost (A=A1 + A2)**	**1,617,007.76**
B				Stock, Storage & Insurance i.e 3% of A	48,510.23
C				**Sub Total (A+B)**	**1,665,517.99**
D				Contigency @ 3% of C	49,965.54
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	31,185.06
F				Transportation @ 7.5% of C	124,913.85
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	24,772.28
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	106,380.75
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,002,735.47**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	24	55,236.60
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.6	43,882.41
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	12	45,416.76
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
K1				**Total Civil & Services**	**161,927.80**
K2				**Applicable Taxes to make it Landed Cost @18%**	**29,147.00**
K				**Total landed Cost (K=K1+ K2)**	**191,074.80**
L				**Total (J+K)**	2,193,810.27
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**2,193,810.27**
O				CESS 1% of N	21,938.10
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**2,215,748.37**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	13

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	13	790,790.00
2	GI Channel,angle & flat of different size	KG	78.00	589.836	46,007.21
3	Danger Plate	EA	180.00	13	2,340.00
4	H.T. Stay clamp	EA	260.00	13	3,380.00
5	H.T. Stay set (Complete)	SET	1,434.00	13	18,642.00
6	H.T. Stay Insulator Type-C	EA	87.00	26	2,262.00
7	7/8 SWG Stay Wire	KG	75.00	195	14,625.00
8	GI barbed wire anticlimbing device	KG	74.00	39	2,886.00
9	33KV pin insulator polymer	EA	398.00	39	15,522.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	39	4,680.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	78	70,200.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	78	195,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	78	22,542.00
15	Earthing of Support (Coil Type)	EA	164.00	13	2,132.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	129.948	9,616.15
A1				**Total Cost of materials**	**1,200,624.36**
A2				**Applicable Taxes to make it Landed Cost @18%**	**216,112.38**
A				**Total landed Cost (A=A1 + A2)**	**1,416,736.74**
B				Stock, Storage & Insurance i.e 3% of A	42,502.10
C				**Sub Total (A+B)**	**1,459,238.85**
D				Contigency @ 3% of C	43,777.17
E				Tools & Plants @ 2% of C	28,238.98
F				Transportation @ 7.5% of C	109,442.91
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	48,056.31
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	45,082.27
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**1,733,836.48**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.15	47,539.28
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4625	9,723.94
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	13	29,919.83
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	13	10,868.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	13	3,683.42
K1				**Total Civil & Services**	**101,734.47**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,312.20**
K				**Total landed Cost (K=K1+ K2)**	**120,046.67**
L				**Total (J+K)**	1,853,883.15
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**1,853,883.15**
O				CESS 1% of N	18,538.83
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**1,872,421.98**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	14

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	14	851,620.00
2	GI Channel,angle & flat of different size	KG	78.00	1248.828	97,408.58
3	Danger Plate	EA	180.00	14	2,520.00
4	GI barbed wire anticlimbing device	KG	74.00	42	3,108.00
5	33KV pin insulator polymer	EA	398.00	56	22,288.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	56	6,720.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	84	75,600.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	84	210,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	84	24,276.00
11	Earthing of Support (Coil Type)	EA	164.00	14	2,296.00
12	H.T. Stay clamp	EA	260.00	28	7,280.00
13	H.T. Stay set (Complete)	SET	1,434.00	28	40,152.00
14	H.T. Stay Insulator Type-C	EA	87.00	28	2,436.00
15	7/8 SWG Stay Wire	KG	75.00	420	31,500.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	139.944	10,355.86
A1				**Total Cost of materials**	**1,387,560.44**
A2				**Applicable Taxes to make it Landed Cost @18%**	**249,760.88**
A				**Total landed Cost (A=A1 + A2)**	**1,637,321.32**
B				Stock, Storage & Insurance i.e 3% of A	49,119.64
C				**Sub Total (A+B)**	**1,686,440.96**
D				Contigency @ 3% of C	50,593.23
E				Tools & Plants @ 2% of C (Except HT Stay Set)	31,750.93
F				Transportation @ 7.5% of C	126,483.07
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				51,752.95
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				55,248.73
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,002,269.87**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.700	51,196.15
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.575	10,471.94
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	28	64,442.70
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	14	11,704.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	14	3,966.76
K1				**Total Civil & Services**	**141,781.54**
K2				**Applicable Taxes to make it Landed Cost @18%**	**25,520.68**
K				**Total landed Cost (K=K1+ K2)**	**167,302.22**
L				**Total (J+K)**	2,169,572.09
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**2,169,572.09**
O				CESS 1% of N	21,695.72

P	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				2,191,267.81
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		12.8		
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	256	15,572,480.00
2	33 KV V cross Arm (GI)	EA	1,701.00	256	435,456.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	256	20,736.00
4	Danger Plate	EA	180.00	256	46,080.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	560.64	43,729.92
6	GI barbed wire anticlimbing device	KG	74.00	768.00	56,832.00
7	33 kV pin insulator polymer	EA	398.00	768	305,664.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	768	92,160.00
10	Earthing of Support (Coil Type)	EA	164.00	256	41,984.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	594.94	44,025.86
12	232 sq.mm XLPE AAA covered conductor	M	342.00	39552.00	13,526,784.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	36	27,000.00
A1	**Total Cost of materials**				**30,212,931.78**
A2	**Applicable Taxes to make it Landed Cost @18%**				**5,438,327.72**
A	**Total landed Cost (A=A1 + A2)**				**35,651,259.50**
B	Stock, Storage & Insurance i.e 3% of A				1,069,537.78
C	**Sub Total (A+B)**				**36,720,797.28**
D	Contigency @ 3% of C				1,101,623.92
E	Tools & Plants @ 2% of C				734,415.95
F	Transportation @ 7.5% of C				2,754,059.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				946,339.61
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,779,400.51
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**44,036,637.06**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	140.80	936,158.08
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	28.80	191,486.88
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	256	214,016.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	256	72,535.04
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	12.8	134,016.00
K1	**Total Civil & Services**				**1,548,212.00**
K2	**Applicable Taxes to make it Landed Cost @18%**				**278,678.16**
K	**Total landed Cost (K=K1+ K2)**				**1,826,890.16**
L	**Total (J+K)**				45,863,527.22
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**45,863,527.22**
O	CESS 1% of N				458,635.27
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**46,322,162.49**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				4,256,878.13
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				2,215,748.37
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				1,872,421.98
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				2,191,267.81
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				46,322,162.49
Q	**Gross Total Material +Services**				**56,858,478.79**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				8,850.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**11,100.00**
V	GST @ 18% on Total Inspection Fees (U)				1,998.00
W	Total Inspection Fees including GST (U+V)				13,098.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**56,871,576.79**

PART B: Supply & laying of 0.65 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
b	***Length of 33kV 1C, 630sqmm cable (HDD)***	***M***	***650***		
1.1	Supply of 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	1950	1,279.00	2,494,050.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	24	7,521.00	180,504.00
	Sub Total (Supply Portion) (in Rs.)				**2,674,554.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by **open trench method**.	M	1950	96.66	188,487.00
1.2	Erection of **Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits** Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium UG cable kits	EA	24	2,129.37	51,104.90
1.3	Laying of HDPE pipe (110mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1950	2,100.00	4,095,000.00
	Sub Total (Erection Portion) (in Rs.)				**4,334,591.90**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1.1	Road Repair and restoration charges	KM	0.1	9,294,727.82	929,472.78
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	22	1,035.17	22,773.74
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.65	10,470.00	6,805.50
	Sub Total (Civil Portion) (in Rs.)				**959,052.02**

A1	**Sub Total (Supply Portion)**	**2,674,554.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**481,419.72**
A	**Total Landed Cost (A=A1 + A2)**	**3,155,973.72**
B	Stock, Storage & Insurance @ 3 % of A	94,679.21
C	**Sub Total (A+B)**	**3,250,652.93**
D	Contingency @ 3 % of C	97,519.59
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	243,798.97
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**3,591,971.49**
I1	Sub Total (Erection Portion + Civil Portion)	5,293,643.92
I2	**Applicable Taxes to make it Landed Cost @18%**	**952,855.91**

I	**Total landed Cost (I=I1+ I2)**	**6,246,499.83**
J	**Total Cost (H+I)**	**9,838,471.32**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**9,838,471.32**
M	CESS 1% of L	98,384.71
N	**Grand Total (L+M)**	**9,936,856.03**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,000.00**
T	GST @ 18% on Total Inspection Fees (S)	540.00
U	Total Inspection Fees including GST (S+T)	3,540.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**9,940,396.03**

PART C: Installation of 01 No. of 33 kV Bay(Outdoor type) at Bhatpada PSS(Refer PSLD N)					
No. of BAY requirement			1		
No. of VCB Requirement			1		
<u>No. of Bus isolator requirement</u>					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	14	18,200.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	496	38,656.80
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch - 48 V DC	EA	101,652.00	1	101,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch - 48 V DC	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type - 48 V DC	EA	263,629.00	1	263,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB - 48 V DC	EA	270,500.00	1	270,500.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	121,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00

31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,418,710.41**
A2				**Applicable Taxes to make it Landed Cost @18%**	**255,367.87**
A				**Total landed Cost (A=A1 + A2)**	**1,674,078.28**
B				Stock, Storage & Insurance i.e 3% of A	50,222.35
C				**Sub Total (A+B)**	**1,724,300.63**
D				Contigency @ 3% of C	51,729.02
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	34,043.61
F				Transportation @ 7.5% of C	129,322.55
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				138,176.57
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,093,593.11**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	14	52,986.22
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60

2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88

3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00

5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	34.5	8,004.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	2.3	3,404.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	2.3	11,569.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.6	34,500.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.2	31,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	56	15,120.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	991.4	101,122.80
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	1.2	9,540.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	530.2	55,140.80
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**773,623.63**
K2				**Applicable Taxes to make it Landed Cost @18%**	**139,252.25**
K				**Total landed Cost (K=K1+ K2)**	**912,875.88**
L				**Total Material +services (J+K)**	**3,006,468.98**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**3,006,468.98**
O				CESS 1% of (N)	30,064.69
P				**Total (N+O)**	3,036,533.67
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**3,038,303.67**

PART D: Installation of 05 Nos 33 kV line protecting guarding having span 30 Mtr. each(Refer PSLD)					
No. of 33 KV Line Protecting Guarding				5	
Length of 33 KV Line Protecting Guarding in Mtr.				30	
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	576.235	44,946.33
2	No-10 GI wire for lacing	KG	78.00	24.5625	1,915.88
3	No-8 GI wire for guard wire	KG	78.00	115.2	8,985.60
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
A1				**Total Cost of materials**	**68,847.81**
A2				**Applicable Taxes to make it Landed Cost @18%**	**12,392.60**
A				**Total landed Cost (A=A1 + A2)**	**81,240.41**
B				Stock, Storage & Insurance i.e 3% of A	2,437.21
C				**Sub Total (A+B)**	**83,677.62**
D				Contigency @ 3% of C	2,510.33
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,357.55
F				Transportation @ 7.5% of C	6,275.82
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,787.74
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**100,609.06**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
K1				**Total Civil & Services**	**37,847.30**
K2				Applicable Taxes to make it Landed Cost @18%	6,812.51
K				**Total landed Cost (K=K1+ K2)**	**44,659.81**
L				**Total (J+K)**	145,268.88
M	Other overheads (Including 6% supervision charges) of L				
N				**Sub Total (L+M)**	**145,268.88**
O				Total CESS @ 1% of (N)	1,452.69
P	**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**				**146,721.57**

ANNEXURE-11.22		
TPCODL		
Name of the Division :-	KED-II	
Name of the Sub-Division : -	Marsaghai	
Name of the Section : -	Marsaghai	
Name of the Work :-	Proposal for construction of 4.8 CKM 33 kV line between 33 kV Luna Fdr. & Thauri Fdr. for N-1 connectivity.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 4 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD DL & MN)	18,258,958.13
2	PART B: 1. Supply & laying of 0.8 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD LM & NO) 2. Installation of 01 No. 33 kV 4-way RMU(LLVV) (Refer O)	16,594,558.36
3	PART C: Installation of 03 Nos 33 kV line protecting guarding having span 30 Mtr. each(Refer PSLD)	88,032.94
4	**Total Gross**	**34,941,549.43**
Total estimated cost is Rs. 3.49 Cr.		

PART A: Construction of 4 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD DL & MN)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	5

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	10	339,700.00
2	GI Channel,angle, flat of different size	KG	78.00	1052.21	82,072.38
3	Danger Plate	EA	180.00	10	1,800.00
4	H.T. Stay clamp	EA	260.00	20	5,200.00
5	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
6	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
7	7/8 SWG Stay Wire	KG	75.00	300	22,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
9	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
10	33 kV pin insulator polymer	EA	398.00	15	5,970.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	15	1,800.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	30	27,000.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 90 KN polymer	EA	289.00	30	8,670.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	63.14	4,672.36
A1				**Total Cost of materials**	**621,764.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**111,917.65**
A				**Total landed Cost (A=A1 + A2)**	**733,682.39**
B				Stock, Storage & Insurance i.e 3% of A	22,010.47
C				**Sub Total (A+B)**	**755,692.86**
D				Contigency @ 3% of C	22,670.79
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	13,342.78
F				Transportation @ 7.5% of C	56,676.96
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	20,643.57
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	25,426.74
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**894,453.71**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.5	36,568.68
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.125	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**134,939.83**
K2				**Applicable Taxes to make it Landed Cost @18%**	**24,289.17**
K				**Total landed Cost (K=K1+ K2)**	**159,229.00**
L				**Total (J+K)**	1,053,682.71
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,053,682.71**
O				CESS 1% of N	10,536.83
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**1,064,219.53**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	3

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	203,820.00
2	GI Channel,angle & flat of different size	KG	78.00	1659.579	129,447.16
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
8	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	187,068.00
13	33KV pin insulator polymer	EA	398.00	9	3,582.00

14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	9	1,080.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
16	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
17	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	66.684	4,934.62
A1				**Total Cost of materials**	**685,172.78**
A2				**Applicable Taxes to make it Landed Cost @18%**	**123,331.10**
A				**Total landed Cost (A=A1 + A2)**	**808,503.88**
B				Stock, Storage & Insurance i.e 3% of A	24,255.12
C				**Sub Total (A+B)**	**832,758.99**
D				Contigency @ 3% of C	24,982.77
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	15,592.53
F				Transportation @ 7.5% of C	62,456.92
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	53,190.37
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,001,367.74**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	1,096,905.14
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,096,905.14**
O				CESS 1% of N	10,969.05
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**1,107,874.19**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	4

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	4	243,320.00
2	GI Channel,angle & flat of different size	KG	78.00	181.488	14,156.06
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	33KV pin insulator polymer	EA	398.00	12	4,776.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	12	1,440.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
12	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
13	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
14	Earthing of Support (Coil Type)	EA	164.00	4	656.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**369,422.88**
A2				**Applicable Taxes to make it Landed Cost @18%**	**66,496.12**
A				**Total landed Cost (A=A1 + A2)**	**435,919.00**
B				Stock, Storage & Insurance i.e 3% of A	13,077.57
C				**Sub Total (A+B)**	**448,996.57**
D				Contigency @ 3% of C	13,469.90
E				Tools & Plants @ 2% of C	8,688.92
F				Transportation @ 7.5% of C	33,674.74
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,786.56
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,871.47
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**533,488.15**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**31,302.91**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,634.52**
K				**Total landed Cost (K=K1+ K2)**	**36,937.44**
L				**Total (J+K)**	570,425.58
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**570,425.58**
O				CESS 1% of N	5,704.26
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**576,129.84**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	4

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	4	243,320.00
2	GI Channel,angle & flat of different size	KG	78.00	356.808	27,831.02
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00
5	33KV pin insulator polymer	EA	398.00	16	6,368.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	16	1,920.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	24	21,600.00
8	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
9	Disc insulator (B&S)90 KN polymer	EA	289.00	24	6,936.00
10	Earthing of Support (Coil Type)	EA	164.00	4	656.00
11	H.T. Stay clamp	EA	260.00	8	2,080.00
12	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
13	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
14	7/8 SWG Stay Wire	KG	75.00	120	9,000.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1				**Total Cost of materials**	**396,445.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**71,360.25**
A				**Total landed Cost (A=A1 + A2)**	**467,806.09**
B				Stock, Storage & Insurance i.e 3% of A	14,034.18
C				**Sub Total (A+B)**	**481,840.27**
D				Contigency @ 3% of C	14,455.21
E				Tools & Plants @ 2% of C (Except HT Stay Set)	9,071.69
F				Transportation @ 7.5% of C	36,138.02
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,786.56
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,785.35
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**572,077.10**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.200	14,627.47
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.450	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**40,509.01**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,291.62**
K				**Total landed Cost (K=K1+ K2)**	**47,800.63**
L				**Total (J+K)**	619,877.74
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**619,877.74**
O				CESS 1% of N	6,198.78

P	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				626,076.52
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		4		
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	84	5,109,720.00
2	33 KV V cross Arm (GI)	EA	1,701.00	84	142,884.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	84	6,804.00
4	Danger Plate	EA	180.00	84	15,120.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	183.96	14,348.88
6	GI barbed wire anticlimbing device	KG	74.00	252.00	18,648.00
7	33 kV pin insulator polymer	EA	398.00	252	100,296.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	252	30,240.00
9	Earthing of Support (Coil Type)	EA	164.00	84	13,776.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	195.22	14,445.98
11	232 sq.mm XLPE AAA covered conductor	M	342.00	12360.00	4,227,120.00
12	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	12	9,000.00
A1	**Total Cost of materials**				**9,702,402.86**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,746,432.52**
A	**Total landed Cost (A=A1 + A2)**				**11,448,835.38**
B	Stock, Storage & Insurance i.e 3% of A				343,465.06
C	**Sub Total (A+B)**				**11,792,300.44**
D	Contigency @ 3% of C				353,769.01
E	Tools & Plants @ 2% of C				235,846.01
F	Transportation @ 7.5% of C				884,422.53
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				310,517.68
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				558,194.68
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**14,135,050.36**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	46.20	307,176.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.45	62,831.63
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	84	70,224.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	84	23,800.56
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4	41,880.00
K1	**Total Civil & Services**				**505,913.06**
K2	**Applicable Taxes to make it Landed Cost @18%**				**91,064.35**
K	**Total landed Cost (K=K1+ K2)**				**596,977.41**
L	**Total (J+K)**				14,732,027.77
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**14,732,027.77**
O	CESS 1% of N				147,320.28
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**14,879,348.05**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				1,064,219.53
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				1,107,874.19
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				576,129.84
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				626,076.52
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				14,879,348.05
Q	**Gross Total Material +Services**				**18,253,648.13**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				2,250.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**4,500.00**
V	GST @ 18% on Total Inspection Fees (U)				810.00
W	Total Inspection Fees including GST (U+V)				5,310.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**18,258,958.13**

PART B:
1. Supply & laying of 0.8 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD LM & NO)
2. Installation of 01 No. 33 kV 4-way RMU(LLVV) (Refer O)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
b	***Length of 33kV 1C, 630sqmm cable (HDD)***	***M***	***800***		
1.1	Supply of 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	2400	1,279.00	3,069,600.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium U/G Cable kits for 1Core	EA	6	14,230.00	85,380.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	9	7,521.00	67,689.00
1.4	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits (Touch Proof)	EA	3	29,925.00	89,775.00
1.5	Supply of Indoor termination kits Heat Shrinkable type suitable for 33kV, 3Core, 400sqmm, HT U/G Cable kits (Touch Proof)	EA	2	71,915.00	143,830.00
2	**Supply of 33kV RMU**				
a	***No. of 33kV 4Way RMU LLVV(2ISO+2BKR)+ AUX.PT***	***EA***	***1***		
2.5	Supply of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	3,018,066.00	3,018,066.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
4	**FRTU for RMU SCADA Automation**				
a	***No. of FRTU***	***EA***	***1***		
4.1	Pre-Wired FRTU Panel with FRTU	EA	1	156,247.00	156,247.00
4.2	Managed Layer2 Ethernet Switch (FRTU Panel)	EA	1	95,000.00	95,000.00
4.3	Networking Accessories	SET	1	72.00	72.00
4.4	CMR with Mounting Base for Digital Inputs	EA	32	275.00	8,800.00
4.5	Interposing Relay for Digital Output	EA	16	275.00	4,400.00
4.6	Battery Charger	EA	1	17,500.00	17,500.00
4.7	Battery	EA	1	12,500.00	12,500.00
4.8	4G Modem cum Router	EA	1	24,400.00	24,400.00
4.9	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	M	40	309.00	12,360.00
4.10	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	M	40	299.00	11,960.00
4.11	Twisted Pair Shielded & Over all shielded Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	M	40	382.00	15,280.00
4.12	4 C X 4 mm2 Copper cable for extension of CT & PT	M	20	185.59	3,711.80
4.13	2 C X 4 mm2 Cable for DC Power Supply	M	10	210.00	2,100.00
4.14	4P X 0.36 mm2, Armored Communication Cable for MFM	M	20.0	229.00	4,580.00
4.15	Armored CAT6 SFTP Cable	M	20	107.00	2,140.00
4.16	Un-Armored CAT6 SFTP Cable	M	20	55.00	1,100.00
4.17	Multi Function Meter	EA	2	14,000.00	28,000.00
	Sub Total (Supply Portion) (in Rs.)				**6,878,120.40**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 630sqmm, XLPE UG cable**				

1.1	Laying, Commissioning & Testing of 33kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by **open trench method**.	M	2400	96.66	231,984.00
1.2	Erection of **Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits** Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium UG cable kits	EA	20	2,129.37	42,587.42
1.3	Laying of HDPE pipe (110mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	2400	2,100.00	5,040,000.00
2	**Erection, Commissioning, Wiring and Testing of 33kV RMU**				
2.1	Erection of RMU 33KV 4W 630A LLVV(2ISO+2BKR)+ AUX.PT	EA	1	14,000.00	14,000.00
3	**FRTU and OFC for RMU SCADA Automation**				
3.1	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	6,755.00	6,755.00
	Sub Total (Erection Portion) (in Rs.)				**5,335,326.42**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1.1	Road Repair and restoration charges	KM	0.05	9,294,727.82	464,736.39
2	**Civil works for U/G Cable laying in Trench**				
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	171,056.00	171,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	27	1,035.17	27,949.59
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.8	10,470.00	8,376.00
	Sub Total (Civil Portion) (in Rs.)				**755,703.74**
A1	**Sub Total (Supply Portion)**				**6,878,120.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,238,061.67**
A	**Total Landed Cost (A=A1 + A2)**				**8,116,182.07**
B	Stock, Storage & Insurance @ 3 % of A				243,485.46
C	**Sub Total (A+B)**				**8,359,667.53**
D	Contingency @ 3 % of C				250,790.03
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				626,975.07
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**9,237,582.79**
I1	Sub Total (Erection Portion + Civil Portion)				6,091,030.16
I2	**Applicable Taxes to make it Landed Cost @18%**				**1,096,385.43**
I	**Total landed Cost (I=I1+ I2)**				**7,187,415.59**
J	**Total Cost (H+I)**				**16,424,998.38**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**16,424,998.38**
M	CESS 1% of L				164,249.98
N	**Grand Total (L+M)**				**16,589,248.36**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.				3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**4,500.00**
T	GST @ 18% on Total Inspection Fees (S)				810.00
U	Total Inspection Fees including GST (S+T)				5,310.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**16,594,558.36**

PART C: Installation of 03 Nos 33 kV line protecting guarding having span 30 Mtr. each(Refer PSLD)					
No. of 33 KV Line Protecting Guarding				3	
Length of 33 KV Line Protecting Guarding in Mtr.				30	
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	345.741	26,967.80
2	No-10 GI wire for lacing	KG	78.00	14.7375	1,149.53
3	No-8 GI wire for guard wire	KG	78.00	69.12	5,391.36
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
A1				**Total Cost of materials**	**41,308.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,435.56**
A				**Total landed Cost (A=A1 + A2)**	**48,744.25**
B				Stock, Storage & Insurance i.e 3% of A	1,462.33
C				**Sub Total (A+B)**	**50,206.57**
D				Contigency @ 3% of C	1,506.20
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	814.53
F				Transportation @ 7.5% of C	3,765.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,072.65
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**60,365.44**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
K1				**Total Civil & Services**	**22,708.38**
K2				Applicable Taxes to make it Landed Cost @18%	4,087.51
K				**Total landed Cost (K=K1+ K2)**	**26,795.89**
L				**Total (J+K)**	87,161.33
M	Other overheads (Including 6% supervision charges) of L				
N				**Sub Total (L+M)**	**87,161.33**
O				Total CESS @ 1% of (N)	871.61
P	**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**				**88,032.94**

ANNEXURE-11.23		
TPCODL		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Pattamundai	
Name of the Section : -	Choudakulat	
Name of the Work :-	Proposal for augmentation/refurbishment of 6 CKM line of 33 kV Gogua Fdr. and augmentation from 80/100 Sq.mm. AAAC to 232 Sq.mm. AAAC	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)	21,549,273.26
2	PART B: Installation of 01 No. of 4-Pole with 2 Nos Isolator (Refer PSLD)	651,248.86
3	PART C: Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line (Refer PSLD)	945,503.79
4	PART D: Installation of 04 Nos guarding having span 30 Mtr.	117,377.25
5	PART E : Dismantling portion	342,578.62
6	**Total Gross**	**23,605,981.79**
Total estimated cost is Rs. 2.36 Cr.		

PART A: Construction of 6 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	8

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	16	543,520.00
2	GI Channel,angle, flat of different size	KG	78.00	1683.536	131,315.81
3	Danger Plate	EA	180.00	16	2,880.00
4	H.T. Stay clamp	EA	260.00	32	8,320.00
5	H.T. Stay set (Complete)	SET	1,434.00	32	45,888.00
6	H.T. Stay Insulator Type-C	EA	87.00	64	5,568.00
7	7/8 SWG Stay Wire	KG	75.00	480	36,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	16	20,800.00
9	GI barbed wire anticlimbing device	KG	74.00	48	3,552.00
10	33 kV pin insulator polymer	EA	398.00	24	9,552.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	48	30,288.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	48	13,872.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	48	15,984.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	101.024	7,475.78
15	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
A1				**Total Cost of materials**	**876,527.58**
A2				**Applicable Taxes to make it Landed Cost @18%**	**157,774.97**
A				**Total landed Cost (A=A1 + A2)**	**1,034,302.55**
B				Stock, Storage & Insurance i.e 3% of A	31,029.08
C				**Sub Total (A+B)**	**1,065,331.63**
D				Contigency @ 3% of C	31,959.95
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	18,472.90
F				Transportation @ 7.5% of C	79,899.87
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	33,029.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	26,305.09
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,254,999.15**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	32	73,648.80
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.8	58,509.88
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	16	60,555.68
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	16	4,533.44
K1				**Total Civil & Services**	**215,903.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**38,862.67**
K				**Total landed Cost (K=K1+ K2)**	**254,766.40**
L				**Total (J+K)**	1,509,765.56
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,509,765.56**
O				CESS 1% of N	15,097.66
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**1,524,863.21**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	1

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle & flat of different size	KG	78.00	553.193	43,149.05
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	1	62,356.00
13	33KV pin insulator polymer	EA	398.00	3	1,194.00

14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	6	3,786.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	6	1,998.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.228	1,644.87
18	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
A1				**Total Cost of materials**	**213,603.93**
A2				**Applicable Taxes to make it Landed Cost @18%**	**38,448.71**
A				**Total landed Cost (A=A1 + A2)**	**252,052.63**
B				Stock, Storage & Insurance i.e 3% of A	7,561.58
C				**Sub Total (A+B)**	**259,614.21**
D				Contigency @ 3% of C	7,788.43
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,838.07
F				Transportation @ 7.5% of C	19,471.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,932.91
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**311,773.40**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	343,619.20
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**343,619.20**
O				CESS 1% of N	3,436.19
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**347,055.39**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	6

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	6	364,980.00
2	GI Channel,angle & flat of different size	KG	78.00	270.624	21,108.67
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
9	33KV pin insulator polymer	EA	398.00	18	7,164.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	36	22,716.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	36	10,404.00
12	Earthing of Support (Coil Type)	EA	164.00	6	984.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	36	11,988.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	32.184	2,381.62
15	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00
A1				**Total Cost of materials**	**481,188.29**
A2				**Applicable Taxes to make it Landed Cost @18%**	**86,613.89**
A				**Total landed Cost (A=A1 + A2)**	**567,802.18**
B				Stock, Storage & Insurance i.e 3% of A	17,034.07
C				**Sub Total (A+B)**	**584,836.25**
D				Contigency @ 3% of C	17,545.09
E				Tools & Plants @ 2% of C	10,823.68
F				Transportation @ 7.5% of C	43,862.72
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	22,179.83
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	9,758.72
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**689,006.29**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**60,763.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,937.43**
K				**Total landed Cost (K=K1+ K2)**	**71,700.95**
L				**Total (J+K)**	760,707.24
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**760,707.24**
O				CESS 1% of N	7,607.07
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**768,314.31**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	6

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	6	364,980.00
2	GI Channel,angle & flat of different size	KG	78.00	515.052	40,174.06
3	Danger Plate	EA	180.00	6	1,080.00
4	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
5	33KV pin insulator polymer	EA	398.00	24	9,552.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	36	22,716.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	36	10,404.00
8	Earthing of Support (Coil Type)	EA	164.00	6	984.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	36	11,988.00
10	H.T. Stay clamp	EA	260.00	12	3,120.00
11	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
12	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
13	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	64.92	4,804.08
15	POLYCARBONATE BIRD GUARD	EA	21.00	60	1,260.00
A1				**Total Cost of materials**	**504,146.14**
A2				**Applicable Taxes to make it Landed Cost @18%**	**90,746.30**
A				**Total landed Cost (A=A1 + A2)**	**594,892.44**
B				Stock, Storage & Insurance i.e 3% of A	17,846.77
C				**Sub Total (A+B)**	**612,739.21**
D				Contigency @ 3% of C	18,382.18
E				Tools & Plants @ 2% of C (Except HT Stay Set)	11,407.12
F				Transportation @ 7.5% of C	45,955.44
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				22,179.83
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				12,675.91
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**723,339.69**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.300	21,941.21
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**60,763.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,937.43**
K				**Total landed Cost (K=K1+ K2)**	**71,700.95**
L				**Total (J+K)**	795,040.64
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**795,040.64**
O				CESS 1% of N	7,950.41

P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**				**802,991.05**
	33 Kv Line Length In KM with 40 Mtr. Span		6		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)				
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	129	7,847,070.00
2	33 KV V cross Arm (GI)	EA	1,701.00	129	219,429.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	129	10,449.00
4	Danger Plate	EA	180.00	129	23,220.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	282.51	22,035.78
6	GI barbed wire anticlimbing device	KG	74.00	387.00	28,638.00
7	33 kV pin insulator polymer	EA	398.00	387	154,026.00
8	Earthing of Support (Coil Type)	EA	164.00	129	21,156.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	302.12	22,356.73
10	232 sq.mm AAA conductor	M	181.65	18540.00	3,367,791.00
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	18	17,273.91
12	POLYCARBONATE BIRD GUARD	EA	21.00	387	8,127.00
A1				**Total Cost of materials**	**11,741,572.42**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,113,483.04**
A				**Total landed Cost (A=A1 + A2)**	**13,855,055.46**
B				Stock, Storage & Insurance i.e 3% of A	415,651.66
C				**Sub Total (A+B)**	**14,270,707.12**
D				Contigency @ 3% of C	428,121.21
E				Tools & Plants @ 2% of C	285,414.14
F				Transportation @ 7.5% of C	1,070,303.03
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				476,866.44
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				473,337.82
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**17,004,749.78**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	70.95	471,735.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	14.51	96,491.44
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	129	107,844.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	129	36,550.86
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	6	62,820.00
K1				**Total Civil & Services**	**775,442.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**139,579.60**
K				**Total landed Cost (K=K1+ K2)**	**915,021.80**
L				**Total (J+K)**	17,919,771.58
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**17,919,771.58**
O				CESS 1% of N	179,197.72
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**18,098,969.29**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				1,524,863.21
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				347,055.39
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				768,314.31
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				802,991.05
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				18,098,969.29
Q				**Gross Total Material +Services**	**21,542,193.26**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				3,750.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**6,000.00**
V	GST @ 18% on Total Inspection Fees (U)				1,080.00
W	Total Inspection Fees including GST (U+V)				7,080.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**21,549,273.26**

PART B: Installation of 01 No. of 4-Pole with 2 Nos Isolator (Refer PSLD)					
No. of 33 KV 4-Pole with Isolator (Ref. Drawing No.-PD-1346-TPCODL-33 KV-OH-8012)				1	
MATERIALS FOR 33 KV 4-P With Isolator					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 - 13 Mtr. long for 4-Pole	EA	33,970.00	4	135,880.00
2	GI Channel,angle & flat of different size	KG	78.00	986.773	76,968.29
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	Danger Plate	EA	180.00	4	720.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	3	3,900.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	3	13,329.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	124,712.00
13	33KV pin insulator polymer	EA	398.00	6	2,388.00
14	H W fitting(B&S)90KN,4 Bolt	EA	631.00	21	13,251.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	21	6,069.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	21	6,993.00
17	232 sq.mm AAA conductor	M	181.65	39	7,084.35
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	36.936	2,733.26
19	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**408,362.91**
A2				**Applicable Taxes to make it Landed Cost @18%**	**73,505.32**
A				**Total landed Cost (A=A1 + A2)**	**481,868.23**
B				Stock, Storage & Insurance i.e 3% of A	14,456.05
C				**Sub Total (A+B)**	**496,324.28**
D				Contigency @ 3% of C	14,889.73
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/stay set)	9,540.67
F				Transportation @ 7.5% of C	37,224.32
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,257.43
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing/stay set) (With Applicable Taxes @ 18% to make it Landed Cost)	31,188.49
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**597,424.91**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.2	14,627.47
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	3	11,354.19
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**40,149.10**
K2				Applicable Taxes to make it Landed Cost @18%	7,226.84
K				**Total landed Cost (K=K1+ K2)**	**47,375.94**
L				**Total (J+K)**	644,800.85
M				Other overheads (Including 6% supervision charges) of L (for 33 KV 4-P With Isolator)	
N				**Sub Total (L+M)**	**644,800.85**
O				CESS 1% of N	6,448.01
P				**Gross Total Material +Services (N+O)**	**651,248.86**

PART C: Installation of 15 Nos of 11 Mtr. WPB Pole (interposing) in existing line (Refer PSLD)

No. of 33 KV Cut Point with 180 Degree Angle	2

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel,angle & flat of different size	KG	78.00	90.744	7,078.03
3	Danger Plate, 1 no's.	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	33KV pin insulator polymer	EA	398.00	6	2,388.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	12	7,572.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	12	3,096.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
15	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**90,247.44**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,244.54**
A				**Total landed Cost (A=A1 + A2)**	**106,491.98**
B				Stock, Storage & Insurance i.e 3% of A	3,194.76
C				**Sub Total (A+B)**	**109,686.74**
D				Contigency @ 3% of C	3,290.60
E				Tools & Plants @ 2% of C	2,048.23
F				Transportation @ 7.5% of C	8,226.51
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,231.92
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**129,988.60**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	146,888.19
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)	
N				**Sub-Total Material +Services (L+M)**	**146,888.19**
O				CESS 1% of N	1,468.88
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**148,357.07**

No. of 33 KV Cut Point with 90 Degree Angle	2

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel,angle & flat of different size	KG	78.00	178.404	13,915.51
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	33KV pin insulator polymer	EA	398.00	8	3,184.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	12	7,572.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	12	3,468.00
8	Earthing of Support (Coil Type)	EA	164.00	2	328.00
9	Wedge connector for 148 sq.mm AAA conductor	EA	258.00	12	3,096.00
10	H.T. Stay clamp	EA	260.00	4	1,040.00
11	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00

12	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
13	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
15	POLYCARBONATE BIRD GUARD	EA	21.00	20	420.00
A1				**Total Cost of materials**	**103,560.92**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,640.97**
A				**Total landed Cost (A=A1 + A2)**	**122,201.89**
B				Stock, Storage & Insurance i.e 3% of A	3,666.06
C				**Sub Total (A+B)**	**125,867.94**
D				Contigency @ 3% of C	3,776.04
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,234.80
F				Transportation @ 7.5% of C	9,440.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,164.80
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**148,988.29**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.900	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	171,319.47
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**171,319.47**
O				CESS 1% of N	1,713.19
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**173,032.67**

33 Kv Line Length In KM with 40 Mtr. Span	1

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	11	317,185.00
2	33 KV V cross Arm (GI)	EA	1,701.00	21	35,721.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	21	1,701.00
4	Danger Plate	EA	180.00	11	1,980.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	16.94	1,321.32
6	GI barbed wire anticlimbing device	KG	74.00	33.00	2,442.00
7	33 kV pin insulator polymer	EA	398.00	33	13,134.00
8	Earthing of Support (Coil Type)	EA	164.00	11	1,804.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	18.12	1,340.66
10	POLYCARBONATE BIRD GUARD	EA	21.00	33	693.00
A1				**Total Cost of materials**	**377,321.98**
A2				**Applicable Taxes to make it Landed Cost @18%**	**67,917.96**
A				**Total landed Cost (A=A1 + A2)**	**445,239.93**
B				Stock, Storage & Insurance i.e 3% of A	13,357.20
C				**Sub Total (A+B)**	**458,597.13**
D				Contigency @ 3% of C	13,757.91
E				Tools & Plants @ 2% of C	9,171.94
F				Transportation @ 7.5% of C	34,394.78
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				19,275.33
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,309.05
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**542,506.15**

Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.95	32,911.81
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.24	8,227.95
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	11	9,196.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	11	3,116.74
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**63,922.50**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,506.05**
K				**Total landed Cost (K=K1+ K2)**	**75,428.55**
L				**Total (J+K)**	617,934.70
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**617,934.70**
O				CESS 1% of N	6,179.35
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**624,114.05**
Gross Total Summary					
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				148,357.07
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				173,032.67
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				624,114.05
Q				**Gross Total Material +Services**	**945,503.79**

PART D: Installation of 04 Nos guarding having span 30 Mtr.

No. of 33 KV Line Protecting Guarding	4
Length of 33 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	460.988	35,957.06
2	No-10 GI wire for lacing	KG	78.00	19.65	1,532.70
3	No-8 GI wire for guard wire	KG	78.00	92.16	7,188.48
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
A1				**Total Cost of materials**	**55,078.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,914.08**
A				**Total landed Cost (A=A1 + A2)**	**64,992.33**
B				Stock, Storage & Insurance i.e 3% of A	1,949.77
C				**Sub Total (A+B)**	**66,942.10**
D				Contigency @ 3% of C	2,008.26
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,086.04
F				Transportation @ 7.5% of C	5,020.66
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,430.19
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**80,487.25**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
K1				**Total Civil & Services**	**30,277.84**
K2				Applicable Taxes to make it Landed Cost @18%	5,450.01
K				**Total landed Cost (K=K1+ K2)**	**35,727.85**
L				**Total (J+K)**	116,215.10
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**116,215.10**
O				Total CESS @ 1% of (N)	1,162.15
P				**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**	**117,377.25**

PART E : Dismantling portion					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	40	1,380.92	55,236.60
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	70	950.00	66,500.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	18000	9.21	165,709.80
A1	**Sub Total (Civil Portion) (in Rs.)**				**287,446.40**
A2	**Applicable Taxes to make it Landed Cost @18%**				**51,740.35**
A	**Total landed Cost (A=A1+ A2)**				**339,186.75**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				339,186.75
D	**CESS @ 1% of C**				3,391.87
E	**Grand Total (C+D)**				342,578.62

ANNEXURE-11.24		
TPCODL		
Name of the Division :-	PDP	
Name of the Sub-Division : -	Paradeep	
Name of the Section : -	Kujanga	
Name of the Work :-	Proposal for refurbishment of 8.3 CKM line of 33 kV Tirtol Fdr. using to 232 Sq.mm. AAAC for N-1 reliability between 33 kV Tirtol & Gorada Fdr.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 8.2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD)	32,754,263.51
2	PART B: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD)	1,500,330.15
3	PART C: Installation of 20 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing	3,022,140.90
4	PART D: Installation of 8 Nos guarding having span 30 Mtr.	234,754.51
5	PART E : Dismantling portion	546,654.66
6	**Total Gross**	**38,058,143.72**
Total estimated cost is Rs. 3.81 Cr.		

PART A: Construction of 8.2 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	5

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	10	339,700.00
2	GI Channel,angle, flat of different size	KG	78.00	1052.21	82,072.38
3	Danger Plate	EA	180.00	10	1,800.00
4	H.T. Stay clamp	EA	260.00	20	5,200.00
5	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
6	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
7	7/8 SWG Stay Wire	KG	75.00	300	22,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
9	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
10	33 kV pin insulator polymer	EA	398.00	15	5,970.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	15	1,800.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	30	27,000.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 90 KN polymer	EA	289.00	30	8,670.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	63.14	4,672.36
A1				**Total Cost of materials**	**621,764.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**111,917.65**
A				**Total landed Cost (A=A1 + A2)**	**733,682.39**
B				Stock, Storage & Insurance i.e 3% of A	22,010.47
C				**Sub Total (A+B)**	**755,692.86**
D				Contigency @ 3% of C	22,670.79
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	13,342.78
F				Transportation @ 7.5% of C	56,676.96
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	20,643.57
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	25,426.74
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**894,453.71**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.5	36,568.68
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.125	7,479.96
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
K1				**Total Civil & Services**	**134,939.83**
K2				**Applicable Taxes to make it Landed Cost @18%**	**24,289.17**
K				**Total landed Cost (K=K1+ K2)**	**159,229.00**
L				**Total (J+K)**	1,053,682.71
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,053,682.71**
O				CESS 1% of N	10,536.83
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**1,064,219.53**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	3

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	6	203,820.00
2	GI Channel,angle & flat of different size	KG	78.00	1659.579	129,447.16
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
8	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	9	39,987.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	3	187,068.00
13	33KV pin insulator polymer	EA	398.00	9	3,582.00

14	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	9	1,080.00
15	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	18	16,200.00
17	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
18	Disc insulator (B&S) 90 KN polymer	EA	289.00	18	5,202.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	66.684	4,934.62
A1				**Total Cost of materials**	**685,172.78**
A2				**Applicable Taxes to make it Landed Cost @18%**	**123,331.10**
A				**Total landed Cost (A=A1 + A2)**	**808,503.88**
B				Stock, Storage & Insurance i.e 3% of A	24,255.12
C				**Sub Total (A+B)**	**832,758.99**
D				Contigency @ 3% of C	24,982.77
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	15,592.53
F				Transportation @ 7.5% of C	62,456.92
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	12,386.14
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	53,190.37
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,001,367.74**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**80,963.90**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,573.50**
K				**Total landed Cost (K=K1+ K2)**	**95,537.40**
L				**Total (J+K)**	1,096,905.14
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,096,905.14**
O				CESS 1% of N	10,969.05
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**1,107,874.19**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	6

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	6	364,980.00
2	GI Channel,angle & flat of different size	KG	78.00	272.232	21,234.10
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
7	7/8 SWG Stay Wire	KG	75.00	90	6,750.00
8	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
9	33KV pin insulator polymer	EA	398.00	18	7,164.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	18	2,160.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	36	32,400.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	36	90,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	36	10,404.00
15	Earthing of Support (Coil Type)	EA	164.00	6	984.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.976	4,438.22
A1				**Total Cost of materials**	**554,134.32**
A2				**Applicable Taxes to make it Landed Cost @18%**	**99,744.18**
A				**Total landed Cost (A=A1 + A2)**	**653,878.50**
B				Stock, Storage & Insurance i.e 3% of A	19,616.35
C				**Sub Total (A+B)**	**673,494.85**
D				Contigency @ 3% of C	20,204.85
E				Tools & Plants @ 2% of C	13,033.37
F				Transportation @ 7.5% of C	50,512.11
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	22,179.83
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	20,807.20
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**800,232.22**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**46,954.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,451.79**
K				**Total landed Cost (K=K1+ K2)**	**55,406.16**
L				**Total (J+K)**	855,638.38
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**855,638.38**
O				CESS 1% of N	8,556.38
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**864,194.76**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	6

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	6	364,980.00
2	GI Channel,angle & flat of different size	KG	78.00	535.212	41,746.54
3	Danger Plate	EA	180.00	6	1,080.00
4	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
5	33KV pin insulator polymer	EA	398.00	24	9,552.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	24	2,880.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	36	32,400.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	36	90,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	36	10,404.00
11	Earthing of Support (Coil Type)	EA	164.00	6	984.00
12	H.T. Stay clamp	EA	260.00	12	3,120.00
13	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
14	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
15	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	59.976	4,438.22
A1				**Total Cost of materials**	**594,668.76**
A2				**Applicable Taxes to make it Landed Cost @18%**	**107,040.38**
A				**Total landed Cost (A=A1 + A2)**	**701,709.14**
B				Stock, Storage & Insurance i.e 3% of A	21,051.27
C				**Sub Total (A+B)**	**722,760.41**
D				Contigency @ 3% of C	21,682.81
E				Tools & Plants @ 2% of C (Except HT Stay Set)	13,607.54
F				Transportation @ 7.5% of C	54,207.03
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				22,179.83
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				23,678.03
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**858,115.66**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.300	21,941.21
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**60,763.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,937.43**
K				**Total landed Cost (K=K1+ K2)**	**71,700.95**
L				**Total (J+K)**	929,816.61
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**929,816.61**
O				CESS 1% of N	9,298.17

P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**				**939,114.78**
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		8.2		
	MATERIALS FOR 33 KV Pin Points				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	155	9,428,650.00
2	33 KV V cross Arm (GI)	EA	1,701.00	155	263,655.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	155	12,555.00
4	Danger Plate	EA	180.00	155	27,900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	339.45	26,477.10
6	GI barbed wire anticlimbing device	KG	74.00	465.00	34,410.00
7	33 kV pin insulator polymer	EA	398.00	465	185,070.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	465	55,800.00
10	Earthing of Support (Coil Type)	EA	164.00	155	25,420.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	360.22	26,656.28
12	232 sq.mm XLPE AAA covered conductor	M	342.00	25338.00	8,665,596.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	24	18,000.00
A1				**Total Cost of materials**	**18,770,189.38**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,378,634.09**
A				**Total landed Cost (A=A1 + A2)**	**22,148,823.47**
B				Stock, Storage & Insurance i.e 3% of A	664,464.70
C				**Sub Total (A+B)**	**22,813,288.17**
D				Contigency @ 3% of C	684,398.65
E				Tools & Plants @ 2% of C	456,265.76
F				Transportation @ 7.5% of C	1,710,996.61
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	572,979.06
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,135,370.70
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**27,373,298.95**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	85.25	566,814.46
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	17.44	115,939.32
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	155	129,580.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	155	43,917.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	8.2	85,854.00
K1				**Total Civil & Services**	**942,105.48**
K2				**Applicable Taxes to make it Landed Cost @18%**	**169,578.99**
K				**Total landed Cost (K=K1+ K2)**	**1,111,684.47**
L				**Total (J+K)**	28,484,983.42
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N				**Sub-Total Material +Services (L+M)**	**28,484,983.42**
O				CESS 1% of N	284,849.83
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**28,769,833.26**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				1,064,219.53
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				1,107,874.19
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				864,194.76
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				939,114.78
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				28,769,833.26
Q	**Gross Total Material +Services**				**32,745,236.51**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				5,400.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**7,650.00**
V	GST @ 18% on Total Inspection Fees (U)				1,377.00
W	Total Inspection Fees including GST (U+V)				9,027.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**32,754,263.51**

PART B: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in HDD method (Refer PSLD)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
b	***Length of 33kV 1C, 630sqmm cable (HDD)***	***M***	***100***		
1.1	Supply of 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300	1,279.00	383,700.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	6	7,521.00	45,126.00
	Sub Total (Supply Portion) (in Rs.)				**428,826.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by **open trench method**.	M	300	96.66	28,998.00
1.2	Erection of **Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits** Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium UG cable kits	EA	6	2,129.37	12,776.23
1.3	Laying of HDPE pipe (110mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	300	2,100.00	630,000.00
	Sub Total (Erection Portion) (in Rs.)				**671,774.23**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1.1	Road Repair and restoration charges	KM	0.01	9,294,727.82	92,947.28
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.1	10,470.00	1,047.00
	Sub Total (Civil Portion) (in Rs.)				**96,064.62**

A1	**Sub Total (Supply Portion)**	**428,826.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**77,188.68**
A	**Total Landed Cost (A=A1 + A2)**	**506,014.68**
B	Stock, Storage & Insurance @ 3 % of A	15,180.44
C	**Sub Total (A+B)**	**521,195.12**
D	Contingency @ 3 % of C	15,635.85
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	39,089.63
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**575,920.61**
I1	Sub Total (Erection Portion + Civil Portion)	767,838.84
I2	**Applicable Taxes to make it Landed Cost @18%**	**138,210.99**

I	**Total landed Cost (I=I1+ I2)**	**906,049.84**
J	**Total Cost (H+I)**	**1,481,970.44**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,481,970.44**
M	CESS 1% of L	14,819.70
N	**Grand Total (L+M)**	**1,496,790.15**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,000.00**
T	GST @ 18% on Total Inspection Fees (S)	540.00
U	Total Inspection Fees including GST (S+T)	3,540.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,500,330.15**

PART C: Installation of 20 Nos of 14 Mtr. H-Pole for 11 kV & 33 kV line crossing

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	20

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	20	1,311,400.00
2	GI Channel,angle & flat of different size	KG	78.00	907.44	70,780.32
3	Danger Plate	EA	180.00	20	3,600.00
4	H.T. Stay clamp	EA	260.00	20	5,200.00
5	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
6	H.T. Stay Insulator Type-C	EA	87.00	40	3,480.00
7	7/8 SWG Stay Wire	KG	75.00	300	22,500.00
8	GI barbed wire anticlimbing device	KG	74.00	60	4,440.00
9	33KV pin insulator polymer	EA	398.00	60	23,880.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	60	7,200.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	120	108,000.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	120	300,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	120	34,680.00
15	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	199.92	14,794.08
A1				**Total Cost of materials**	**1,941,914.40**
A2				**Applicable Taxes to make it Landed Cost @18%**	**349,544.59**
A				**Total landed Cost (A=A1 + A2)**	**2,291,458.99**
B				Stock, Storage & Insurance i.e 3% of A	68,743.77
C				**Sub Total (A+B)**	**2,360,202.76**
D				Contigency @ 3% of C	70,806.08
E				Tools & Plants @ 2% of C	45,748.98
F				Transportation @ 7.5% of C	177,015.21
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	79,693.78
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	69,357.34
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,802,824.14**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.6	77,126.66
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
K1				**Total Civil & Services**	**160,503.87**
K2				**Applicable Taxes to make it Landed Cost @18%**	**28,890.70**
K				**Total landed Cost (K=K1+ K2)**	**189,394.57**
L				**Total (J+K)**	2,992,218.71
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)	
N				**Sub-Total Material +Services (L+M)**	**2,992,218.71**
O				CESS 1% of N	29,922.19
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**3,022,140.90**

PART D: Installation of 8 Nos guarding having span 30 Mtr.

No. of 33 KV Line Protecting Guarding	8
Length of 33 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	921.976	71,914.13
2	No-10 GI wire for lacing	KG	78.00	39.3	3,065.40
3	No-8 GI wire for guard wire	KG	78.00	184.32	14,376.96
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	16	20,800.00
A1				**Total Cost of materials**	**110,156.49**
A2				**Applicable Taxes to make it Landed Cost @18%**	**19,828.17**
A				**Total landed Cost (A=A1 + A2)**	**129,984.66**
B				Stock, Storage & Insurance i.e 3% of A	3,899.54
C				**Sub Total (A+B)**	**133,884.20**
D				Contigency @ 3% of C	4,016.53
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	2,172.08
F				Transportation @ 7.5% of C	10,041.31
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				10,860.39
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**160,974.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	16	60,555.68
K1				**Total Civil & Services**	**60,555.68**
K2				Applicable Taxes to make it Landed Cost @18%	10,900.02
K				**Total landed Cost (K=K1+ K2)**	**71,455.70**
L				**Total (J+K)**	232,430.20
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**232,430.20**
O				Total CESS @ 1% of (N)	2,324.30
P				**Gross Total Material +Services (N+O) for 33 KV DP With Road crossing Guarding**	**234,754.51**

PART E : Dismantling portion					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	100	1,380.92	138,091.50
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	70	950.00	66,500.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	15000	9.21	138,091.50
4	Dismantling of ACSR/AAAC 148/232mm2 from overhead line	M	10500	11.05	115,996.86
A1				**Sub Total (Civil Portion) (in Rs.)**	**458,679.86**
A2				**Applicable Taxes to make it Landed Cost @18%**	**82,562.37**
A				**Total landed Cost (A=A1+ A2)**	**541,242.23**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	541,242.23
D				**CESS @ 1% of C**	5,412.42
E				**Grand Total (C+D)**	546,654.66

ANNEXURE-11.25

TPCODL

Name of the Division :-	JED
Name of the Sub-Division : -	Balikuda
Name of the Section : -	Naugaon
Name of the Work :-	Proposal for construction of 2 CKM 33 kV O/H line using 232 Sq.mm. AAAC and augmentation of 11.5 CKM line of 33 kV Naugaon Fdr. from 100 Sq.mm. AAAC to 232 Sq.mm. AAAC along with strengthening of 7 CKM 33 kV line & installation of 01 No. of 33 kV O/D bay at Bhatpada PSS.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 13 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)	44,924,434.70
2	PART B: Construction of 0.5 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)	2,210,901.67
3	PART C: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in Open Trench method (Refer PSLD)	1,161,243.52
4	PART D: 1. Strengthening of 7 CKM 33 kV O/H line using 13 Mtr. H-Pole where existing 100 Sq.mm. AAAC will be reused (Refer SLD G-H-I) 2. Installation of 01 No. of Isolator in existing 4-Pole at Tambeswar (Refer PSLD D) 3. Installation of 01 No. of Isolator in existing DP at Alipingal Bridge (Refer PSLD)	17,294,589.57
5	PART E: Installation of 01 No. of 33 kV Bay(Outdoor type) at Bhatpada PSS(Refer SLD - E)	3,038,303.67
6	PART F: Installation of 10 Nos guarding having span 30 Mtr.	293,443.13
7	PART G : Dismantling portion	1,084,346.36
8	**Total Gross**	**70,007,262.63**

Total estimated cost is Rs. 7.00 Cr.

PART A: Construction of 13 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. AAAC (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	15

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	30	1,019,100.00
2	GI Channel,angle, flat of different size	KG	78.00	3156.63	246,217.14
3	Danger Plate	EA	180.00	30	5,400.00
4	H.T. Stay clamp	EA	260.00	60	15,600.00
5	H.T. Stay set (Complete)	SET	1,434.00	60	86,040.00
6	H.T. Stay Insulator Type-C	EA	87.00	120	10,440.00
7	7/8 SWG Stay Wire	KG	75.00	900	67,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	30	39,000.00
9	GI barbed wire anticlimbing device	KG	74.00	90	6,660.00
10	33 kV pin insulator polymer	EA	398.00	45	17,910.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	90	56,790.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	90	26,010.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	90	29,970.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	189.42	14,017.08
15	POLYCARBONATE BIRD GUARD	EA	21.00	135	2,835.00
A1				**Total Cost of materials**	**1,643,489.22**
A2				**Applicable Taxes to make it Landed Cost @18%**	**295,828.06**
A				**Total landed Cost (A=A1 + A2)**	**1,939,317.28**
B				Stock, Storage & Insurance i.e 3% of A	58,179.52
C				**Sub Total (A+B)**	**1,997,496.80**
D				Contigency @ 3% of C	59,924.90
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	34,636.69
F				Transportation @ 7.5% of C	149,812.26
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	61,930.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	49,322.05
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,353,123.41**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	60	138,091.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	16.5	109,706.03
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.375	22,439.87
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	30	113,541.90
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	15	12,540.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	30	8,500.20
K1				**Total Civil & Services**	**404,819.49**
K2				**Applicable Taxes to make it Landed Cost @18%**	**72,867.51**
K				**Total landed Cost (K=K1+ K2)**	**477,687.00**
L				**Total (J+K)**	2,830,810.42
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**2,830,810.42**
O				CESS 1% of N	28,308.10
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**2,859,118.52**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	4

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	8	271,760.00
2	GI Channel,angle & flat of different size	KG	78.00	2212.772	172,596.22
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	32	2,784.00
8	7/8 SWG Stay Wire	KG	75.00	240	18,000.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	12	53,316.00
12	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	4	249,424.00
13	33KV pin insulator polymer	EA	398.00	12	4,776.00

14	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	24	15,144.00
15	Disc insulator (B&S) 90 KN polymer	EA	289.00	24	6,936.00
16	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	24	7,992.00
17	GI Nut , Bolt & Washer of different sizes	KG	74.00	88.912	6,579.49
18	POLYCARBONATE BIRD GUARD	EA	21.00	36	756.00
A1				**Total Cost of materials**	**854,415.70**
A2				**Applicable Taxes to make it Landed Cost @18%**	**153,794.83**
A				**Total landed Cost (A=A1 + A2)**	**1,008,210.53**
B				Stock, Storage & Insurance i.e 3% of A	30,246.32
C				**Sub Total (A+B)**	**1,038,456.85**
D				Contigency @ 3% of C	31,153.71
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	19,352.27
F				Transportation @ 7.5% of C	77,884.26
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	16,514.86
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	63,731.65
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,247,093.59**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.4	29,254.94
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8	2,266.72
K1				**Total Civil & Services**	**107,951.87**
K2				**Applicable Taxes to make it Landed Cost @18%**	**19,431.34**
K				**Total landed Cost (K=K1+ K2)**	**127,383.20**
L				**Total (J+K)**	1,374,476.79
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,374,476.79**
O				CESS 1% of N	13,744.77
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**1,388,221.56**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	13

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	13	790,790.00
2	GI Channel,angle & flat of different size	KG	78.00	586.352	45,735.46
3	Danger Plate	EA	180.00	13	2,340.00
4	H.T. Stay clamp	EA	260.00	26	6,760.00
5	H.T. Stay set (Complete)	SET	1,434.00	26	37,284.00
6	H.T. Stay Insulator Type-C	EA	87.00	52	4,524.00
7	7/8 SWG Stay Wire	KG	75.00	390	29,250.00
8	GI barbed wire anticlimbing device	KG	74.00	39	2,886.00
9	33KV pin insulator polymer	EA	398.00	39	15,522.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	78	49,218.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	78	22,542.00
12	Earthing of Support (Coil Type)	EA	164.00	13	2,132.00
13	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	78	25,974.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	69.732	5,160.17
15	POLYCARBONATE BIRD GUARD	EA	21.00	117	2,457.00
A1				**Total Cost of materials**	**1,042,574.62**
A2				**Applicable Taxes to make it Landed Cost @18%**	**187,663.43**
A				**Total landed Cost (A=A1 + A2)**	**1,230,238.06**
B				Stock, Storage & Insurance i.e 3% of A	36,907.14
C				**Sub Total (A+B)**	**1,267,145.20**
D				Contigency @ 3% of C	38,014.36
E				Tools & Plants @ 2% of C	23,451.30
F				Transportation @ 7.5% of C	95,035.89
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	48,056.31
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	21,143.90
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**1,492,846.96**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.15	47,539.28
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4625	9,723.94
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	26	59,839.65
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	13	10,868.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	13	3,683.42
K1				**Total Civil & Services**	**131,654.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,697.77**
K				**Total landed Cost (K=K1+ K2)**	**155,352.06**
L				**Total (J+K)**	1,648,199.02
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**1,648,199.02**
O				CESS 1% of N	16,481.99
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**1,664,681.01**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	13

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	13	790,790.00
2	GI Channel,angle & flat of different size	KG	78.00	1115.946	87,043.79
3	Danger Plate	EA	180.00	13	2,340.00
4	GI barbed wire anticlimbing device	KG	74.00	39	2,886.00
5	33KV pin insulator polymer	EA	398.00	52	20,696.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	78	49,218.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	78	22,542.00
8	Earthing of Support (Coil Type)	EA	164.00	13	2,132.00
9	Wedge connector for 232 sq.mm AAA conductor	EA	333.00	78	25,974.00
10	H.T. Stay clamp	EA	260.00	26	6,760.00
11	H.T. Stay set (Complete)	SET	1,434.00	26	37,284.00
12	H.T. Stay Insulator Type-C	EA	87.00	26	2,262.00
13	7/8 SWG Stay Wire	KG	75.00	390	29,250.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	140.66	10,408.84
15	POLYCARBONATE BIRD GUARD	EA	21.00	130	2,730.00
A1				**Total Cost of materials**	**1,092,316.63**
A2				**Applicable Taxes to make it Landed Cost @18%**	**196,616.99**
A				**Total landed Cost (A=A1 + A2)**	**1,288,933.62**
B				Stock, Storage & Insurance i.e 3% of A	38,668.01
C				**Sub Total (A+B)**	**1,327,601.63**
D				Contigency @ 3% of C	39,828.05
E				Tools & Plants @ 2% of C (Except HT Stay Set)	24,715.42
F				Transportation @ 7.5% of C	99,570.12
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				48,056.31
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				27,464.47
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,567,236.00**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.150	47,539.28
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.463	9,723.94
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	26	59,839.65
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	13	10,868.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	13	3,683.42
K1				**Total Civil & Services**	**131,654.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,697.77**
K				**Total landed Cost (K=K1+ K2)**	**155,352.06**
L				**Total (J+K)**	1,722,588.06
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**1,722,588.06**
O				CESS 1% of N	17,225.88

P	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				1,739,813.94
	33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)		13		

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	260	15,815,800.00
2	33 KV V cross Arm (GI)	EA	1,701.00	260	442,260.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	260	21,060.00
4	Danger Plate	EA	180.00	260	46,800.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	569.40	44,413.20
6	GI barbed wire anticlimbing device	KG	74.00	780.00	57,720.00
7	33 kV pin insulator polymer	EA	398.00	780	310,440.00
8	Earthing of Support (Coil Type)	EA	164.00	260	42,640.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	608.92	45,060.08
10	232 sq.mm AAA conductor	M	181.65	40170.00	7,296,880.50
11	Crimping type Midspan Compression Joint for 232 sq.mm AAA conductor	EA	959.66	39	37,426.80
12	POLYCARBONATE BIRD GUARD	EA	21.00	780	16,380.00
A1				**Total Cost of materials**	**24,176,880.58**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,351,838.50**
A				**Total landed Cost (A=A1 + A2)**	**28,528,719.09**
B				Stock, Storage & Insurance i.e 3% of A	855,861.57
C				**Sub Total (A+B)**	**29,384,580.66**
D				Contigency @ 3% of C	881,537.42
E				Tools & Plants @ 2% of C	587,691.61
F				Transportation @ 7.5% of C	2,203,843.55
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				961,126.17
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,016,205.73
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**35,034,985.14**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	143.00	950,785.55
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	29.25	194,478.86
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	260	217,360.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	260	73,668.40
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	13	136,110.00
K1				**Total Civil & Services**	**1,572,402.81**
K2				**Applicable Taxes to make it Landed Cost @18%**	**283,032.51**
K				**Total landed Cost (K=K1+ K2)**	**1,855,435.32**
L				**Total (J+K)**	36,890,420.46
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N				**Sub-Total Material +Services (L+M)**	**36,890,420.46**
O				CESS 1% of N	368,904.20
P				**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**37,259,324.67**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator	2,859,118.52
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator	1,388,221.56
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	1,664,681.01
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	1,739,813.94
5	Gross Total Material +Services (N+O) for 33 KV Pin Points	37,259,324.67
Q	**Gross Total Material +Services**	**44,911,159.70**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	9,000.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**11,250.00**
V	GST @ 18% on Total Inspection Fees (U)	2,025.00
W	Total Inspection Fees including GST (U+V)	13,275.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**44,924,434.70**

PART B: Construction of 0.5 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	1

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	45.372	3,539.02
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/8 SWG Stay Wire	KG	75.00	15	1,125.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	33KV pin insulator polymer	EA	398.00	3	1,194.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
12	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
13	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
14	Earthing of Support (Coil Type)	EA	164.00	1	164.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**92,355.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,624.03**
A				**Total landed Cost (A=A1 + A2)**	**108,979.75**
B				Stock, Storage & Insurance i.e 3% of A	3,269.39
C				**Sub Total (A+B)**	**112,249.14**
D				Contigency @ 3% of C	3,367.47
E				Tools & Plants @ 2% of C	2,172.23
F				Transportation @ 7.5% of C	8,418.69
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,696.64
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,467.87
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**133,372.04**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1125	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**7,825.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,408.63**
K				**Total landed Cost (K=K1+ K2)**	**9,234.36**
L				**Total (J+K)**	142,606.40
M				Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)	
N				**Sub-Total Material +Services (L+M)**	**142,606.40**
O				CESS 1% of N	1,426.06
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**144,032.46**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	1

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	89.202	6,957.76
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	33KV pin insulator polymer	EA	398.00	4	1,592.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	4	480.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
8	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00

9	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**99,111.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**17,840.06**
A				**Total landed Cost (A=A1 + A2)**	**116,951.52**
B				Stock, Storage & Insurance i.e 3% of A	3,508.55
C				**Sub Total (A+B)**	**120,460.07**
D				Contigency @ 3% of C	3,613.80
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,267.92
F				Transportation @ 7.5% of C	9,034.51
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,696.64
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,946.34
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**143,019.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.550	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.113	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**10,127.25**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,822.91**
K				**Total landed Cost (K=K1+ K2)**	**11,950.16**
L				**Total (J+K)**	154,969.43
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**154,969.43**
O				CESS 1% of N	1,549.69
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**156,519.13**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	0.5

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	11	669,130.00
2	33 KV V cross Arm (GI)	EA	1,701.00	11	18,711.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	11	891.00
4	Danger Plate	EA	180.00	11	1,980.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	24.09	1,879.02
6	GI barbed wire anticlimbing device	KG	74.00	33.00	2,442.00
7	33 kV pin insulator polymer	EA	398.00	33	13,134.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	33	3,960.00
9	Earthing of Support (Coil Type)	EA	164.00	11	1,804.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	25.56	1,891.74
11	232 sq.mm XLPE AAA covered conductor	M	342.00	1545.00	528,390.00
12	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	0	-
A1				**Total Cost of materials**	**1,244,212.76**
A2				**Applicable Taxes to make it Landed Cost @18%**	**223,958.30**
A				**Total landed Cost (A=A1 + A2)**	**1,468,171.05**
B				Stock, Storage & Insurance i.e 3% of A	44,045.13
C				**Sub Total (A+B)**	**1,512,216.18**
D				Contigency @ 3% of C	45,366.49
E				Tools & Plants @ 2% of C	30,244.32
F				Transportation @ 7.5% of C	113,416.21

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	40,663.03
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	69,895.56
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,811,801.79**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.05	40,225.54
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.24	8,227.95
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	11	9,196.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	11	3,116.74
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.5	5,235.00

K1	**Total Civil & Services**	**66,001.23**
K2	**Applicable Taxes to make it Landed Cost @18%**	**11,880.22**
K	**Total landed Cost (K=K1+ K2)**	**77,881.46**
L	**Total (J+K)**	1,889,683.25
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)	
N	**Sub-Total Material +Services (L+M)**	**1,889,683.25**
O	CESS 1% of N	18,896.83
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**	**1,908,580.08**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle	144,032.46
2	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle	156,519.13
3	Gross Total Material +Services (N+O) for 33 KV Pin Points	1,908,580.08
Q	**Gross Total Material +Services**	**2,209,131.67**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.	1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**1,500.00**
V	GST @ 18% on Total Inspection Fees (U)	270.00
W	Total Inspection Fees including GST (U+V)	1,770.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,210,901.67**

PART C: Supply & laying of 0.1 kM 33 kV 1CX630 Sq.mm. XLPE U/G cable (3 run) in Open Trench method (Refer PSLD)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable with accessories**				
a	***Length of 33kV 1C, 630sqmm cable (open trench)***	***M***	***100***		
1.1	Supply of 33kV, 1Core, 630sqmm Aluminium, XLPE insulation U/G Cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	300	1,279.00	383,700.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, HT U/G Cable kits for 1Core	EA	6	7,521.00	45,126.00
1.6	Supply of materials for High Density Polyethelene (HDPE) pipe 110mm diameter, PE 80- PN8 for laying of 33kV U/G cable	M	300.00	261.00	78,300.00
	Sub Total (Supply Portion) (in Rs.)				**507,126.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 33kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 33kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable in trefoil formation by **open trench method**.	M	300	96.66	28,998.00
1.2	Erection of **Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits** Heat Shrinkable type suitable for 33kV, 1Core, 630sqmm, aluminium UG cable kits	EA	6	2,129.37	12,776.23
1.3	Laying of **110mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	300.00	195.00	58,500.00
	Sub Total (Erection Portion) (in Rs.)				**100,274.23**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	70		
1.1.a	Earth work excavation of **soil**	M3	58.8	716.03	42,102.56
1.1.b	Earth work excavation of **hard rock**	M3	25.2	1,759.39	44,336.63
1.2	Back filling with excavated soil outside and above the trench	M3	84	220.00	18,480.00
1.1	Road Repair and restoration charges	KM	0.02	9,294,727.82	185,894.56
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.1	10,470.00	1,047.00
	Sub Total (Civil Portion) (in Rs.)				**293,931.09**

A1	**Sub Total (Supply Portion)**	**507,126.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**91,282.68**
A	**Total Landed Cost (A=A1 + A2)**	**598,408.68**
B	Stock, Storage & Insurance @ 3 % of A	17,952.26
C	**Sub Total (A+B)**	**616,360.94**
D	Contingency @ 3 % of C	18,490.83
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-

F	Transportation @ 7.5% of C	46,227.07
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**681,078.84**
I1	Sub Total (Erection Portion + Civil Portion)	394,205.31
I2	**Applicable Taxes to make it Landed Cost @18%**	**70,956.96**
I	**Total landed Cost (I=I1+ I2)**	**465,162.27**
J	**Total Cost (H+I)**	**1,146,241.11**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,146,241.11**
M	CESS 1% of L	11,462.41
N	**Grand Total (L+M)**	**1,157,703.52**
O	Inspection Fee of UG Line (HT) - Rs. 3000/ km.	3,000.00
P	Inspection Fee of UG Line (HT) - Rs. 1500/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**3,000.00**
T	GST @ 18% on Total Inspection Fees (S)	540.00
U	Total Inspection Fees including GST (S+T)	3,540.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,161,243.52**

PART D:

1. Strengthening of 7 CKM 33 kV O/H line using 13 Mtr. H-Pole where existing 100 Sq.mm. AAAC will be reused (Refer SLD G-H-I)

2. Installation of 01 No. of Isolator in existing 4-Pole at Tambeswar (Refer PSLD D)

3. Installation of 01 No. of Isolator in existing DP at Alipingal Bridge (Refer PSLD)

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	8

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	16	543,520.00
2	GI Channel,angle, flat of different size	KG	78.00	1683.536	131,315.81
3	Danger Plate	EA	180.00	16	2,880.00
4	H.T. Stay clamp	EA	260.00	32	8,320.00
5	H.T. Stay set (Complete)	SET	1,434.00	32	45,888.00
6	H.T. Stay Insulator Type-C	EA	87.00	64	5,568.00
7	7/8 SWG Stay Wire	KG	75.00	480	36,000.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	16	20,800.00
9	GI barbed wire anticlimbing device	KG	74.00	48	3,552.00
10	33 kV pin insulator polymer	EA	398.00	24	9,552.00
11	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	48	30,288.00
12	Disc insulator (B&S) 90 KN polymer	EA	289.00	48	13,872.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	48	6,624.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	101.024	7,475.78
15	POLYCARBONATE BIRD GUARD	EA	21.00	72	1,512.00
A1				**Total Cost of materials**	**867,167.58**
A2				**Applicable Taxes to make it Landed Cost @18%**	**156,090.17**
A				**Total landed Cost (A=A1 + A2)**	**1,023,257.75**
B				Stock, Storage & Insurance i.e 3% of A	30,697.73
C				**Sub Total (A+B)**	**1,053,955.48**
D				Contigency @ 3% of C	31,618.66
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	18,245.38
F				Transportation @ 7.5% of C	79,046.66
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	33,029.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	25,167.48
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,241,063.38**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	32	73,648.80
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.8	58,509.88
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	16	60,555.68
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	8	6,688.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	16	4,533.44
K1				**Total Civil & Services**	**215,903.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**38,862.67**
K				**Total landed Cost (K=K1+ K2)**	**254,766.40**
L				**Total (J+K)**	1,495,829.78
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**1,495,829.78**
O				CESS 1% of N	14,958.30
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**1,510,788.08**

No. of 33 KV DP required With Isolator (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8050)	2

MATERIALS FOR 33 KV DP With Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel,angle & flat of different size	KG	78.00	1106.386	86,298.11
2	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
3	Danger Plate	EA	180.00	4	720.00
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
5	GI barbed wire anticlimbing device	KG	74.00	12	888.00
6	Lightning Arrester(30KV,10KA) (Station Class,class-2)	EA	4,443.00	6	26,658.00
7	33 KV 1250 AMP Double break isolator without earth switch	EA	62,356.00	2	124,712.00

8	33KV pin insulator polymer	EA	398.00	6	2,388.00
9	H W fitting(B&S) 90KN,4 Bolt	EA	631.00	12	7,572.00
10	Disc insulator (B&S) 90 KN polymer	EA	289.00	12	3,468.00
11	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
12	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.456	3,289.74
13	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
A1				**Total Cost of materials**	**262,443.85**
A2				**Applicable Taxes to make it Landed Cost @18%**	**47,239.89**
A				**Total landed Cost (A=A1 + A2)**	**309,683.75**
B				Stock, Storage & Insurance i.e 3% of A	9,290.51
C				**Sub Total (A+B)**	**318,974.26**
D				Contigency @ 3% of C	9,569.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,316.28
F				Transportation @ 7.5% of C	23,923.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,581.42
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**390,364.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1				**Total Civil & Services**	**7,569.46**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,362.50**
K				**Total landed Cost (K=K1+ K2)**	**8,931.96**
L				**Total (J+K)**	399,296.22
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP With Isolator)	
N				**Sub-Total Material +Services (L+M)**	**399,296.22**
O				CESS 1% of N	3,992.96
P				**Gross Total Material +Services (N+O) for 33 KV DP With Isolator**	**403,289.19**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	6

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	6	364,980.00
2	GI Channel,angle & flat of different size	KG	78.00	270.624	21,108.67
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	24	2,088.00
7	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
8	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
9	33KV pin insulator polymer	EA	398.00	18	7,164.00
10	H W fitting(B&S)90KN,4 Bolt	EA	631.00	36	22,716.00
11	Disc insulator (B&S)90 KN polymer	EA	289.00	36	10,404.00
12	Earthing of Support (Coil Type)	EA	164.00	6	984.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	36	4,968.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	32.184	2,381.62
15	POLYCARBONATE BIRD GUARD	EA	21.00	54	1,134.00
A1				**Total Cost of materials**	**474,168.29**
A2				**Applicable Taxes to make it Landed Cost @18%**	**85,350.29**
A				**Total landed Cost (A=A1 + A2)**	**559,518.58**
B				Stock, Storage & Insurance i.e 3% of A	16,785.56
C				**Sub Total (A+B)**	**576,304.14**
D				Contigency @ 3% of C	17,289.12
E				Tools & Plants @ 2% of C	10,653.04
F				Transportation @ 7.5% of C	43,222.81
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	22,179.83
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,905.51
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**678,554.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.3	21,941.21
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**60,763.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,937.43**
K				**Total landed Cost (K=K1+ K2)**	**71,700.95**
L				**Total (J+K)**	750,255.41
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**750,255.41**
O				CESS 1% of N	7,502.55
P				**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**	**757,757.96**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	6

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	6	364,980.00
2	GI Channel,angle & flat of different size	KG	78.00	515.052	40,174.06
3	Danger Plate	EA	180.00	6	1,080.00
4	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
5	33KV pin insulator polymer	EA	398.00	24	9,552.00
6	H W fitting(B&S)90KN,4 Bolt	EA	631.00	36	22,716.00
7	Disc insulator (B&S)90 KN polymer	EA	289.00	36	10,404.00
8	Earthing of Support (Coil Type)	EA	164.00	6	984.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	36	4,968.00
10	H.T. Stay clamp	EA	260.00	12	3,120.00
11	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
12	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
13	7/8 SWG Stay Wire	KG	75.00	180	13,500.00
14	GI Nut , Bolt & Washer of different sizes	KG	74.00	64.92	4,804.08
15	POLYCARBONATE BIRD GUARD	EA	21.00	60	1,260.00
A1				**Total Cost of materials**	**497,126.14**
A2				**Applicable Taxes to make it Landed Cost @18%**	**89,482.70**
A				**Total landed Cost (A=A1 + A2)**	**586,608.84**
B				Stock, Storage & Insurance i.e 3% of A	17,598.27
C				**Sub Total (A+B)**	**604,207.11**
D				Contigency @ 3% of C	18,126.21
E				Tools & Plants @ 2% of C (Except HT Stay Set)	11,236.47
F				Transportation @ 7.5% of C	45,315.53
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				22,179.83
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,822.70
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**712,887.86**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.300	21,941.21
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.675	4,487.97
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	6	5,016.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**60,763.52**
K2				**Applicable Taxes to make it Landed Cost @18%**	**10,937.43**
K				**Total landed Cost (K=K1+ K2)**	**71,700.95**
L				**Total (J+K)**	784,588.81
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**784,588.81**

O	CESS 1% of N	7,845.89
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**	**792,434.70**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)			7		
MATERIALS FOR 33 KV Pin Points					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	137	8,333,710.00
2	33 KV V cross Arm (GI)	EA	1,701.00	137	233,037.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	137	11,097.00
4	Danger Plate	EA	180.00	137	24,660.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	300.03	23,402.34
6	GI barbed wire anticlimbing device	KG	74.00	411.00	30,414.00
7	33 kV pin insulator polymer	EA	398.00	411	163,578.00
8	Earthing of Support (Coil Type)	EA	164.00	137	22,468.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	320.85	23,743.20
12	POLYCARBONATE BIRD GUARD	EA	21.00	411	8,631.00
A1	**Total Cost of materials**				**8,874,740.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,597,453.30**
A	**Total landed Cost (A=A1 + A2)**				**10,472,193.83**
B	Stock, Storage & Insurance i.e 3% of A				314,165.81
C	**Sub Total (A+B)**				**10,786,359.65**
D	Contigency @ 3% of C				323,590.79
E	Tools & Plants @ 2% of C				215,727.19
F	Transportation @ 7.5% of C				808,976.97
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				506,439.56
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				65,756.85
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**12,706,851.01**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	75.35	500,990.85
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	15.41	102,475.40
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	137	114,532.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	137	38,817.58
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7	73,290.00
K1	**Total Civil & Services**				**830,105.83**
K2	**Applicable Taxes to make it Landed Cost @18%**				**149,419.05**
K	**Total landed Cost (K=K1+ K2)**				**979,524.88**
L	**Total (J+K)**				13,686,375.89
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**13,686,375.89**
O	CESS 1% of N				136,863.76
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**13,823,239.65**
Gross Total Summary					
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				1,510,788.08
2	Gross Total Material +Services (N+O) for 33 KV DP With Isolator				403,289.19
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				757,757.96
4	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				792,434.70
5	Gross Total Material +Services (N+O) for 33 KV Pin Points				13,823,239.65
Q	**Gross Total Material +Services**				**17,287,509.57**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				4,500.00
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**6,000.00**
V	GST @ 18% on Total Inspection Fees (U)				1,080.00
W	Total Inspection Fees including GST (U+V)				7,080.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**17,294,589.57**

PART E: Installation of 01 No. of 33 kV Bay(Outdoor type) at Bhatpada PSS(Refer SLD - E)					
No. of BAY requirement			1		
No. of VCB Requirement			1		
No. of Bus isolator requirement					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	T-1 GI Column(7.25 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI)) for 33kV incoming line, Nominal Unit Wt - 0.35 MT/column	KG	78.00	350	27,300.00
2	T-2 GI Column (7.25mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI)) for 33kV incoming line -1 no, Nominal Unit Wt - 0.42 MT/column	KG	78.00	420	32,760.00
3	T-1A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos of 150X76X6.5 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.31 MT/column (0.31x2=0.62MT)	KG	78.00	620	48,360.00
4	T-2A GI Column (for 33 kv Bus) (6 mtr long, consisting of 2 Nos 175X75X6 mm Channel(GI) jointed by plates) Nominal Unit Wt - 0.37 MT/column (0.37x2=0.74MT)	KG	78.00	740	57,720.00
5	G-3 GI Beam(5.05mtr long, consisting of 2 Nos 150X75 X5.7mm) for 33kV incoming line - (2 nos. Beam- one for Surge Arrester and other for Isolator, Nominal Unit Wt - 0.2 MT/Beam	KG	78.00	200	15,600.00
6	G-2 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
7	G-1 GI Beam (6.1 mtr long, consisting of 2 Nos 125X65 X5.3 mm Channel(GI) jointed by plates) for 33kV Bus Stringing , Nominal Unit Wt - 0.175 MT)/Beam (0.175x2 = 0.35 MT)	KG	78.00	350	27,300.00
8	Equipment Structures (GI) For 33 KV Isolator (Unit Wt of Equipment Structures per set - 0.33 MT)	KG	78.00	660	51,480.00
9	GI Spikes with cone and GI (2 nos) base plate 10mm (50x3000 mm GI pipe) (Unit Wt=0.035 MT) (0.035x6 = 0.21 MT)	KG	78.00	210	16,380.00
10	GI Pipe Earthing 40mm. 3 Mtr. Long	No.	1,300.00	14	18,200.00
11	50x6mm Flat(GI) for earthing, 2.36kg/mtr.	KG	78.00	496	38,656.80
12	232 sq.mm AAAC for 33kV side jumpering and Bus Formation etc.	M	181.65	50	9,082.50
13	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator with earth switch - 48 V DC	EA	101,652.00	1	101,652.00
14	33 kV 1250 AMP Double break (Turn & twist center rotating) Motorized isolator without earth switch - 48 V DC	EA	86,858.00	1	86,858.00
15	33KV Outdoor VCB-1250 A, 25 KV/3 sec Gang operated type - 48 V DC	EA	263,629.00	1	263,629.00
16	Indoor CR PANEL FOR Feeder(IC/OG) PROTECTION 33KV Outdoor VCB - 48 V DC	EA	270,500.00	1	270,500.00
18	33KV, Single Phase, Outdoor, OILCOOLED CT , 25KA/3sec CTR-200-400-800/1-1-1 A(Accuracy Class-PS/0.2S/5P20,Burden -/30VA/30VA	EA	40,551.00	3	121,653.00
19	33KV, Single Phase, Outdoor, OILCOOLED PT 33000/√3/110/√3 Volt (Accuracy class 3P/3P/0.2, Burden-100/100/100 VA	EA	24,028.00	3	72,084.00
21	Lightening arrester 33 kV, 10 kV, CL III. (with surge counter)	EA	11,900.00	3	35,700.00
22	Control Cable 12Core x 2.5 mm^2	Mtr	329.00	50	16,450.00
23	Control Cable 16Core x 2.5 mm^2	Mtr	426.00	50	21,300.00
24	Control Cable 4Core x 2.5 mm^2	Mtr	124.00	50	6,200.00
25	Control Cable 7Core x 2.5 mm^2	Mtr	196.00	50	9,800.00
29	Disc insulator (B&S) 90 KN polymer	No.	289.00	18	5,202.00
30	H W fitting(B&S) 90KN,4 Bolt	No.	631.00	18	11,358.00

31	Wedge connector for 232 sq.mm AAA conductor	NO.	333.00	12	3,996.00
32	GI Nut , Bolt & Washer of different sizes	K.g.	74.00	200	14,800.00
33	SMART ENERGY METER, 3P4W, 33 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**1,418,710.41**
A2				**Applicable Taxes to make it Landed Cost @18%**	**255,367.87**
A				**Total landed Cost (A=A1 + A2)**	**1,674,078.28**
B				Stock, Storage & Insurance i.e 3% of A	50,222.35
C				**Sub Total (A+B)**	**1,724,300.63**
D				Contigency @ 3% of C	51,729.02
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	34,043.61
F				Transportation @ 7.5% of C	129,322.55
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				16,020.73
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				138,176.57
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,093,593.11**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction Earthing chamber including installation of earthing pipe.Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including Installation of 3Mtr GI Pipe 40mm/50mm including welding of Flat(GI) around pipe .	No.	3,784.73	14	52,986.22
2	**VCB Foundation**				
2.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.28	3,589.33
2.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00
2.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.34125	349.06
2.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.455	2,387.60

2.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.825	18,783.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	13.25	4,079.54
2.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	140	15,610.00
3	**CT & PT Foundation**				
3.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	7.96875	3,928.91
3.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4.5	990.00
3.iii	Supplying and spreading, filling other works with fine sand under floors,ground etc as per EIC instruction. Scope of work also includes watering, ramming, consolidating and dressing complete and other works if required at site .	Cum	1,022.90	0.363	371.31
3.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.363	1,904.83
3.v	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	2.3625	15,707.91
3.vi	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	14.94	4,599.88

3.vii	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	122.43	13,650.95
4	**Column as per Drawing Schedule-**				
4.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	51.30975	25,297.76
4.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	24	5,280.00
4.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	2.1	11,019.70
4.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	14.175	94,247.45
4.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	89.64	27,599.26
4.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	734.58	81,905.67
5	**Isolator**				
5.i	BA will excavate & remove the debris. BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	493.04	9.45	4,659.23
5.ii	BA will Back fill the excvated site with same earth.BA will provide necessary Tools,Machinery & Manpower for the activity.	Cum	220.00	4	880.00

5.iii	Providing and laying Plain Cement Concrete (PCC) of proportion (1:3:6(M-10 Grade)) in foundations, Trench and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	5,247.48	0.567	2,975.32
5.iv	Providing and laying Plain Cement Concrete (PCC) of proportion (1:1.5:3(M-20 Grade)) in foudations and plinths using approved quality of cement, 20mm size hard crusher broken granite stone metal and screened, washed sharp sand for mortar of approved quality and from approved quarry, including hoisting, lowering, laying concrete, ramming, watering and curing etc. complete to required levels in layers not exceeding 15cm thick in each layer including cost, conveyance, loading, unloading, royalties and taxes, cess, of all materials & cost of all labours, sundries, T&P and all other machinaries required for the work etc., as directed by Engineer-in-Charge.	Cum	6,648.85	5.7	37,898.45
5.v	Centring and shuttering including struttting , propping etc.and removal of form for Foundations, footings, bases of columns etc. for mass concrete	Sqm	307.89	29.88	9,199.75
5.vi	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all copmplete, cold twisted bars/TMT as per TPCODL specification (Scope also include supply of material)	Kg	111.50	244.86	27,301.89
6	**RCC Cable Trench :**				
6.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	34.5	8,004.00
6.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	2.3	3,404.00
6.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	2.3	11,569.00
6.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.6	34,500.00

6.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	4.2	31,500.00
6.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	56	15,120.00
6.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	991.4	101,122.80
6.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	1.2	9,540.00
6.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	530.2	55,140.80
7	**Land Leveling & Compaction/ Gravels sprading :**				
7.i	BA will supply all materials required for backfilling and has to carry out the job of backfilling with earth, as per TPCODL standards	Cum	650.00	21.6	14,040.00
7.ii	Supplying, Laying, spreading and compacting with hand roller stone aggregate of specified sizes: 63 mm to 45 mm size stone aggregate to WBM specifications in uniform thickness, hand picking to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density . .Scope of work also includes of jungle such as grass,small tree,plant etc.	Cum	3,000.00	7.2	21,600.00
K1				**Total Civil & Services**	**773,623.63**
K2				**Applicable Taxes to make it Landed Cost @18%**	**139,252.25**
K				**Total landed Cost (K=K1+ K2)**	**912,875.88**
L				**Total Material +services (J+K)**	**3,006,468.98**
M				Other overheads (Including 6% supervision charges)	
N				**Sub-Total (L+M)**	**3,006,468.98**
O				CESS 1% of (N)	30,064.69
P				**Total (N+O)**	3,036,533.67
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**3,038,303.67**

PART F: Installation of 10 Nos guarding having span 30 Mtr.

No. of 33 KV Line Protecting Guarding	10
Length of 33 KV Line Protecting Guarding in Mtr.	30

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8026)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	1152.47	89,892.66
2	No-10 GI wire for lacing	KG	78.00	49.125	3,831.75
3	No-8 GI wire for guard wire	KG	78.00	230.4	17,971.20
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	20	26,000.00
A1	**Total Cost of materials**				**137,695.61**
A2	**Applicable Taxes to make it Landed Cost @18%**				**24,785.21**
A	**Total landed Cost (A=A1 + A2)**				**162,480.82**
B	Stock, Storage & Insurance i.e 3% of A				4,874.42
C	**Sub Total (A+B)**				**167,355.24**
D	Contigency @ 3% of C				5,020.66
E	Tools & Plants @ 2% of C (Except GI Pipe earthing)				2,715.10
F	Transportation @ 7.5% of C				12,551.64
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				13,575.48
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**201,218.13**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	20	75,694.60
K1	**Total Civil & Services**				**75,694.60**
K2	Applicable Taxes to make it Landed Cost @18%				13,625.03
K	**Total landed Cost (K=K1+ K2)**				**89,319.63**
L	**Total (J+K)**				290,537.75
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub Total (L+M)**				**290,537.75**
O	Total CESS @ 1% of (N)				2,905.38
P	**Gross Total Material +Services (N+O) for 33 KV SP With Road crossing Guarding**				**293,443.13**

PART G : Dismantling portion					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	50	1,380.92	69,045.75
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	260	950.00	247,000.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	64500	9.21	593,793.45
A1	**Sub Total (Civil Portion) (in Rs.)**				**909,839.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**163,771.06**
A	**Total landed Cost (A=A1+ A2)**				**1,073,610.26**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				1,073,610.26
D	**CESS @ 1% of C**				10,736.10
E	**Grand Total (C+D)**				1,084,346.36

ANNEXURE-11.26		
TPCODL		
Name of the Division :-	JED	
Name of the Sub-Division : -	Raghunathpur	
Name of the Section : -	Biridi	
Name of the Work :-	Proposal for construction of 0.9 CKM line of 33 kV Nabapatna Fdr. using 232 Sq.mm. XLPE AAAC for shifting of line from forest area.	
Names of Schemes: -	**CAPEX 27-28**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART B: 1. Construction of 0.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD) 2. Installation of 5 Nos of stud pole	4,429,602.08
2	PART B : Dismantling portion	55,559.69
3	**Total Gross**	**4,485,161.77**
Total estimated cost is Rs. 0.45 Cr.		

PART B:

1. Construction of 0.9 CKM 33 kV O/H line using 13 Mtr. H-Pole & 232 Sq.mm. XLPE AAAC(Refer PSLD)

2. Installation of 5 Nos of stud pole

No. of 33 KV DP required Without Isolator (Ref. Drawing No.- PD-1346-TPCODL-33 kV-OH-8003)	1

MATERIALS FOR 33 KV DP Without Isolator

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 - 13 Mtr. long for DP	EA	33,970.00	2	67,940.00
2	GI Channel,angle, flat of different size	KG	78.00	210.442	16,414.48
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
7	7/8 SWG Stay Wire	KG	75.00	60	4,500.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	33 kV pin insulator polymer	EA	398.00	3	1,194.00
11	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
12	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 90 KN polymer	EA	289.00	6	1,734.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.628	934.47
A1				**Total Cost of materials**	**124,352.95**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,383.53**
A				**Total landed Cost (A=A1 + A2)**	**146,736.48**
B				Stock, Storage & Insurance i.e 3% of A	4,402.09
C				**Sub Total (A+B)**	**151,138.57**
D				Contigency @ 3% of C	4,534.16
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,668.56
F				Transportation @ 7.5% of C	11,335.39
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	4,128.71
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,085.35
I				Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**178,890.74**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.225	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**26,987.97**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,857.83**
K				**Total landed Cost (K=K1+ K2)**	**31,845.80**
L				**Total (J+K)**	210,736.54
M				Other overheads (Including 6% supervision charges) of L (for 33 KV DP Without Isolator)	
N				**Sub-Total Material +Services (L+M)**	**210,736.54**
O				CESS 1% of N	2,107.37
P				**Gross Total Material +Services (N+O) for 33 KV DP Without Isolator**	**212,843.91**

No. of 33 KV Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8010)	1

MATERIALS FOR 33 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	45.372	3,539.02
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00

7	7/8 SWG Stay Wire	KG	75.00	15	1,125.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	33KV pin insulator polymer	EA	398.00	3	1,194.00
10	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	3	360.00
11	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
13	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**92,355.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,624.03**
A				**Total landed Cost (A=A1 + A2)**	**108,979.75**
B				Stock, Storage & Insurance i.e 3% of A	3,269.39
C				**Sub Total (A+B)**	**112,249.14**
D				Contigency @ 3% of C	3,367.47
E				Tools & Plants @ 2% of C	2,172.23
F				Transportation @ 7.5% of C	8,418.69
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,696.64
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,467.87
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**133,372.04**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.55	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1125	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1				**Total Civil & Services**	**7,825.73**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,408.63**
K				**Total landed Cost (K=K1+ K2)**	**9,234.36**
L				**Total (J+K)**	142,606.40
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total Material +Services (L+M)**	**142,606.40**
O				CESS 1% of N	1,426.06
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle**				**144,032.46**

No. of 33 KV Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8008)	1

MATERIALS FOR 33 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	1	60,830.00
2	GI Channel,angle & flat of different size	KG	78.00	89.202	6,957.76
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	33KV pin insulator polymer	EA	398.00	4	1,592.00
6	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	4	480.00
7	IPC for 232 sq.mm AAA conductor (For covered conductor)-33kV	EA	900.00	6	5,400.00
9	Dead end assembly with accessories for 232 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S)90 KN polymer	EA	289.00	6	1,734.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/8 SWG Stay Wire	KG	75.00	30	2,250.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**99,111.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**17,840.06**
A				**Total landed Cost (A=A1 + A2)**	**116,951.52**
B				Stock, Storage & Insurance i.e 3% of A	3,508.55
C				**Sub Total (A+B)**	**120,460.07**
D				Contigency @ 3% of C	3,613.80

E	Tools & Plants @ 2% of C (Except HT Stay Set)	2,267.92
F	Transportation @ 7.5% of C	9,034.51
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,696.64
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,946.34
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**143,019.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.550	3,656.87
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.113	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1	283.34
K1	**Total Civil & Services**				**10,127.25**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,822.91**
K	**Total landed Cost (K=K1+ K2)**				**11,950.16**
L	**Total (J+K)**				154,969.43
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total Material +Services (L+M)**				**154,969.43**
O	CESS 1% of N				1,549.69
P	**Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle**				**156,519.13**

33 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8002)	0.9

MATERIALS FOR 33 KV Pin Points

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	13 Mtr. Long H-Pole(GI) for SP	EA	60,830.00	25	1,520,750.00
2	33 KV V cross Arm (GI)	EA	1,701.00	18	30,618.00
3	Top bracket 100x50x6mm GI Channel(GI)	EA	81.00	18	1,458.00
4	Danger Plate	EA	180.00	18	3,240.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	39.42	3,074.76
6	GI barbed wire anticlimbing device	KG	74.00	54.00	3,996.00
7	33 kV pin insulator polymer	EA	398.00	54	21,492.00
8	NON METALLIC TIES-33KV 232SQMM CVRD AAAC	EA	120.00	54	6,480.00
10	Earthing of Support (Coil Type)	EA	164.00	18	2,952.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	41.83	3,095.57
12	232 sq.mm XLPE AAA covered conductor	M	342.00	2781.00	951,102.00
13	Crimping type Midspan Compression Joint for 232 sq.mm XLPE AAA Covered conductor-33 kV	EA	750.00	0	-
A1	**Total Cost of materials**				**2,548,258.33**
A2	**Applicable Taxes to make it Landed Cost @18%**				**458,686.50**
A	**Total landed Cost (A=A1 + A2)**				**3,006,944.83**
B	Stock, Storage & Insurance i.e 3% of A				90,208.34
C	**Sub Total (A+B)**				**3,097,153.17**
D	Contigency @ 3% of C				92,914.60
E	Tools & Plants @ 2% of C				61,943.06
F	Transportation @ 7.5% of C				232,286.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				92,415.98
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				124,883.36
I	Erection Charges @ 20% of PSC pole- Not to be used for 33kv (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**3,701,596.66**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.75	91,421.69
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.81	18,699.89
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	25	20,900.00

4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	25	7,083.50
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.9	9,423.00
K1	**Total Civil & Services**				**147,528.08**
K2	**Applicable Taxes to make it Landed Cost @18%**				**26,555.05**
K	**Total landed Cost (K=K1+ K2)**				**174,083.13**
L	**Total (J+K)**				3,875,679.79
M	Other overheads (Including 6% supervision charges) of L (for 33 KV Pin Points)				
N	**Sub-Total Material +Services (L+M)**				**3,875,679.79**
O	CESS 1% of N				38,756.80
P	**Gross Total Material +Services (N+O) for 33 KV Pin Points**				**3,914,436.59**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 33 KV DP Without Isolator				212,843.91
2	Gross Total Material +Services (N+O) for 33 KV Cut Point with 180 Degree Angle				144,032.46
3	Gross Total Material +Services (N+O) for 33 KV Cut Point with 90 Degree Angle				156,519.13
4	Gross Total Material +Services (N+O) for 33 KV Pin Points				3,914,436.59
Q	**Gross Total Material +Services**				**4,427,832.08**
R	Inspection Fee of Over Head Line (HT) - Rs.1500 up to 1 km.				1,500.00
S	Inspection Fee of Over Head Line (HT) - Rs. 750/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**1,500.00**
V	GST @ 18% on Total Inspection Fees (U)				270.00
W	Total Inspection Fees including GST (U+V)				1,770.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**4,429,602.08**

PART B : Dismantling portion					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	20	950.00	19,000.00
2	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	3000	9.21	27,618.30
A1				**Sub Total (Civil Portion) (in Rs.)**	**46,618.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,391.29**
A				**Total landed Cost (A=A1+ A2)**	**55,009.59**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	55,009.59
D				**CESS @ 1% of C**	550.10
E				**Grand Total (C+D)**	55,559.69

ANNEXURE-21

11 kV NETWORK OVERLOAD MITIGATION

Mitigation of 11 kV Feeder Overloading Issue

Summary of proposal details for mitigation of Overloading issue at 11 kV feeder:

Sl. No.	*Circle*	*Division*	*PSS Name*	*11 kV Feeder Name*	*Proposal Details*	*Costing in Cr.*	*Annexure No.*
1	BBSR-I	BED	Uttara	Kaushalya Ganga	Proposal for bifurcation of 11 kV Kaushalyaganga Feeder by laying of new UG Line from Siula PSS to Alareswara Temple road.	3.14	Annexure-21.1
2	BBSR-I	BED	Kesura	Kesura Village	Proposal for bifurcation of 11 kV Kesura Village Feeder by laying of new UG Line from Kesura PSS to Nadibandh Boys Hostel and conductor augmentation for 3CKMusing 100mm2 XLPE covered conductor.	2.84	Annexure-21.2
3	BBSR-I	BED	Laxmisagar	Laxmisagar U/G	Proposal for bifurcation of 11 kV Laxmisagar U/G Feeder by laying of new UG Line from Laxmisagar PSS to 4pole near Jagannath Avenue and conductor augmentation for 1.3CKMusing 100mm2 XLPE covered conductor.	3.89	Annexure-21.3
4	BBSR-I	BED	Pandra	Pandra Village	Proposal for bifurcation of 11 kV Pandra Village Feeder by laying of new UG Line from Pandra PSS to Jyoti Fly Ash and conductor augmentation for 4CKMusing 100mm2 XLPE covered conductor.	3.21	Annexure-21.4
5	BBSR-I	BED	Pandra	Prachi Vihar	Proposal for bifurcation of 11 kV Prachi Vihar Feeder by laying of new UG Line from Pandra PSS to near Local Dhaba and conductor augmentation for 2.2CKMusing 100mm2 XLPE covered conductor	2.59	Annexure-21.5
6	BBSR-I	BED	Laxmisagar	Laxmisagar O/H	Proposal for bifurcation of 11 kV Laxmisagar O/H Feeder by laying of new UG Line from Laxmisagar PSS to Jharpada Village and conductor augmentation for 2CKMusing 100mm2 XLPE covered conductor	3	Annexure-21.6
7	BBSR-I	BCDD-I	UNIT 8	11KV-BM RMU 15(ASHOK NAGAR)	Linking with BM RMU-19 for Feeder Bifurcation near Bhubaneswar Club. Covered conductor required of 0.7 CKM for 3 nos. Branch Line, (SECM 11 to rammandir DP, SE CM 26 to Treasury, SECM 28 to High level DP.)	1.06	Annexure-21.7
8	BBSR-I	BCDD-I	AIRPORT	11KV-JP RMU-34	Linking With RMU-1 Ganganagar near Airport PSS For load bifurcation. Covered conductor required for Branch line	1.71	Annexure-21.8

9	BBSR-I	BCDD-I	UNIT 8	TELEPHONE BHAVAN FEEDER	New UG Line from Kharvel Nagar PSSof length 1CKM.	1.34	Annexure-21.9
10	Paradeep	KED-I	Kendrapada	Town-2 & Block	Proposal for construction of 0.8 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Block & Town-2 Fdr. along with refurbishment of 1.6 CKM 11 kV O/H line of 11 kV Town-2 Fdr.	0.88	Annexure-21.10
11	BBSR-I	BCDD-II	CS PUR -1	BDA	Bifurcation from Dumduma PSS 1.5 CKM & Augmentation 1.5 CKM	2.14	Annexure-21.11
12	BBSR-I	BCDD-II	INFOCITY	INFO PATIA	Bifurcation from Bharat Pur PSS 2 CKM. Augmentation of 2 CKM	0.87	Annexure-21.12
13	BBSR-I	BCDD-II	RANASINGHPUR	SIJUA	Augmentation of 3 CKM & Linking of 1 KM.	0.96	Annexure-21.13
14	BBSR-I	NED	Nimapada	OMFED	Augmentation & Bifurcation of 11kV OMFED Feeder	1.46	Annexure-21.14
15	BBSR-I	BCDD-I	Delta	Shatabdi Nagar	Linking with 11kV unit-8 Feeder of Length CKM(OH-0.8 CKM, UG 1 CKM) for Feeder Bifurcation, Covered conductor required 4 CKM, near Tarini Temple, Soubhagya Nagar branch, Shatabdi nagar Branch	2.07	Annexure-21.15
16	BBSR-II	BAED	Kuhudi	Chandeswar	Bifurcation by construction of New 11kV Feeder from Kuhudi PSS. 2KM NEW XLPE 1 4 POLE	0.64	Annexure-21.16
17	BBSR-II	KHD	Binodpada	SANAPADAR	Proposal for line augmentation of 11.6 CKM line	1.8	Annexure-21.17

18	BBSR-II	NYED	Itamati	Itamati	Proposal for line augmentation of 3 CKM line	0.35	Annexure-21.18
19	Cuttack	CED	Niali	BILASUNI (TOLA)	Proposal for augmentation/refurbishment of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor along with construction of 0.16 CKM 11 kV line for N-1 connectivity between 11 kV Bilasuni(Tola) & Kaliaghai Fdr to mitigate overloading issue.	0.48	Annexure-21.19
20	Cuttack	AED	Narangbasta	MEGHA	Proposal for refurbishment of 3 CKM O/H line using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) along with conversion of O/H to 0.25 CKM U/G in college premises to mitigate overloading	0.61	Annexure-21.20
21	Cuttack	SED	Salipur	NAIGUAN	Proposal for augmentation of of 4 CKM O/H line of 11 kV Naiguan Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) to mitigate overloading issue	0.42	Annexure-21.21
22	Cuttack	CED	Damodarpur	SUNDERGRAM	Proposal for refurbishment of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor	0.33	Annexure-21.22
23	Cuttack	CED	Adaspur	Adaspur	Proposal for augmentation of of 2 CKM O/H line of 11 kV adaspur Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing	0.28	Annexure-21.23
24	Cuttack	SED	Mahanga	Mahanga	Proposal for augmentation of of 2 CKM O/H line of 11 kV Mahanga Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing)	0.28	Annexure-21.24
25	Dhenkanal	DED	Hindol	Hindol	Proposal for 11 kV New linking line from 25kva Mahidharpur Petrol Pump to 25kva Madhia Munda	0.33	Annexure-21.25
26	Dhenkanal	DED	Collage	Gudianali	Proposal for 11 kV New linking line from Jawahar chowk 500kAV to Suji Hotel 500kVA	0.52	Annexure-21.26

27	Dhenkanal	TED	Ghatipiri	Kamalchuin	Proposal for 11 kV New linking line from Natada Village to Kochianali Village	0.88	Annexure-21.27
28	Dhenkanal	TED	Danara	Balher	Proposal for Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading	0.51	Annexure-21.28
29	Dhenkanal	ANED	Collage	Bantala	Proposal for 11 kV New linking line from 1CKM LINKING LINE FROM 11KV KHINDA FEEDER (KALEIPADA AGRO 25 KVA DT) WITH KHALAGOAN AGRO-2 25 KVA DT	0.51	Annexure-21.29
30	Dhenkanal	ANED	Khamar	PTC	Proposal for 180 MTR LINKINKING LINE with AB Switch at 11kv PTC Feeder near RAAZ CHAKA SIMILIPADA 500 KVA DTC4212DT089) for linking from 11KV RCMS THANA feeder near NEAR JUDGE QUARTER 10 kva DTC 4212DT163	0.23	Annexure-21.30
31	Dhenkanal	ANED	Industrial	Kurudol	Proposal for New linking line 1.5 CKM LINKING LINE FROM 11KV MCLFEEDER (PETROL PUMP ALEKHAPATANA 25 KVA DT) WITH 11KV KURDUL NEAR SAKOSINGHA CANAL ROAD NEAR (SHAKTI FLY ASH BRICKS DTC 4213DT211 25 KVA)	0.67	Annexure-21.31
				Total Cost for Overload mitigation (Cr.)		**₹ 40.00**	

1. Proposal for overloading mitigation and Reliability improvement of 11 kV Kaushalyaganga Feeder:

Proposal:

Proposal for bifurcation of 11 kV Kaushalyaganga Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Siula PSS.

Existing Scenario:

- 11kV Kaushalyaganga feeder is emanating from 33/11kV Uttara PSS.Total length of this feeder is 1.85 CKM and the peak load is 2.97 MVA.
- Conductor size of 11kV Kaushalyaganga feeder is 80/55 sq.mm & the feeder is 84% loaded w.r.t the current carrying capacity of the conductor and 111% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

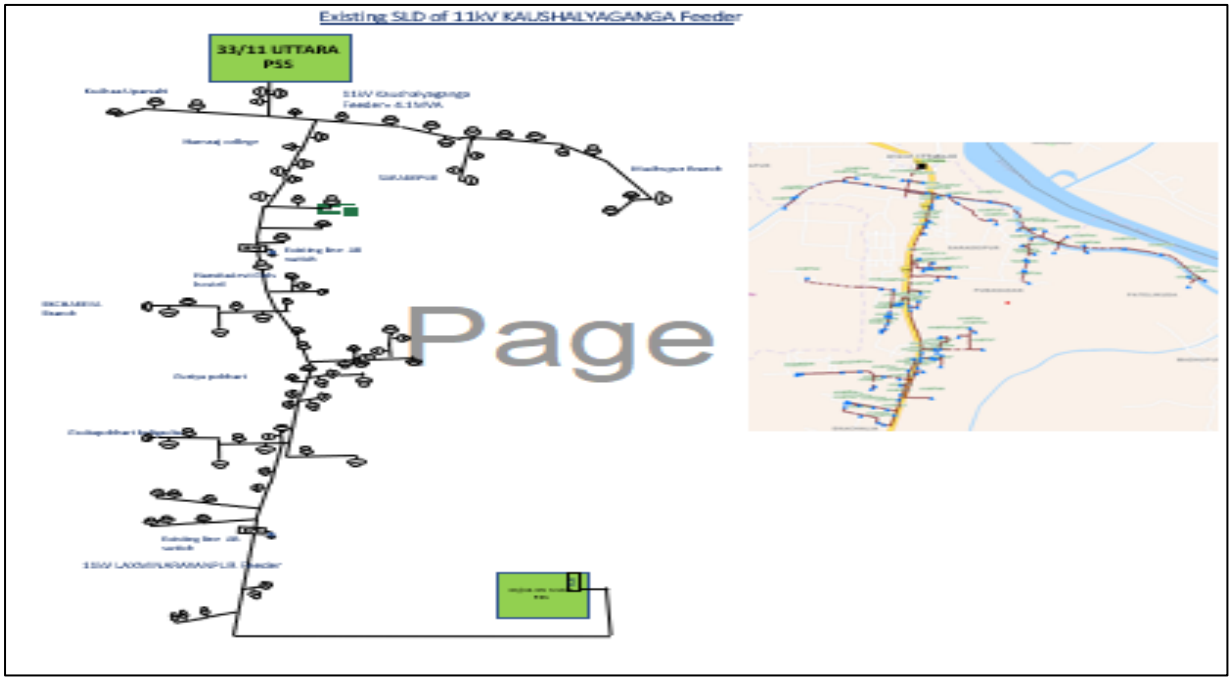
Existing Summer'26 Loading and projected load at 11 kV Kaushalyaganga Feeder:

Existing Loading									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer' 28)	Loss in kW in Summer '28
Uttara	Kaushalyaganga	3.54	2.97	84%	Under load	3.93	111%	Over load	142.13

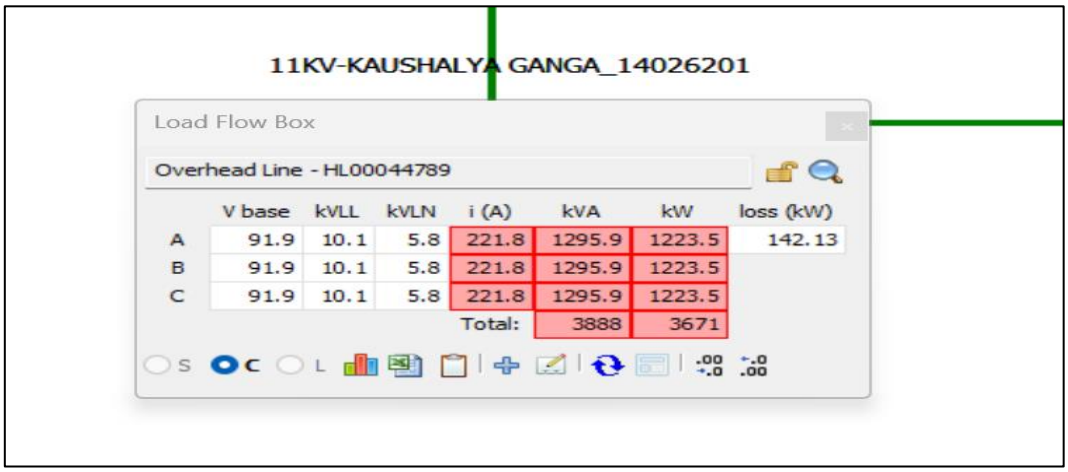
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Priority: Since the feeder loading has reached 84% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 111%. In case the issue is not addressed, there will be load shedding of 2480nos. consumers for prolonged period.

Technical Justification:

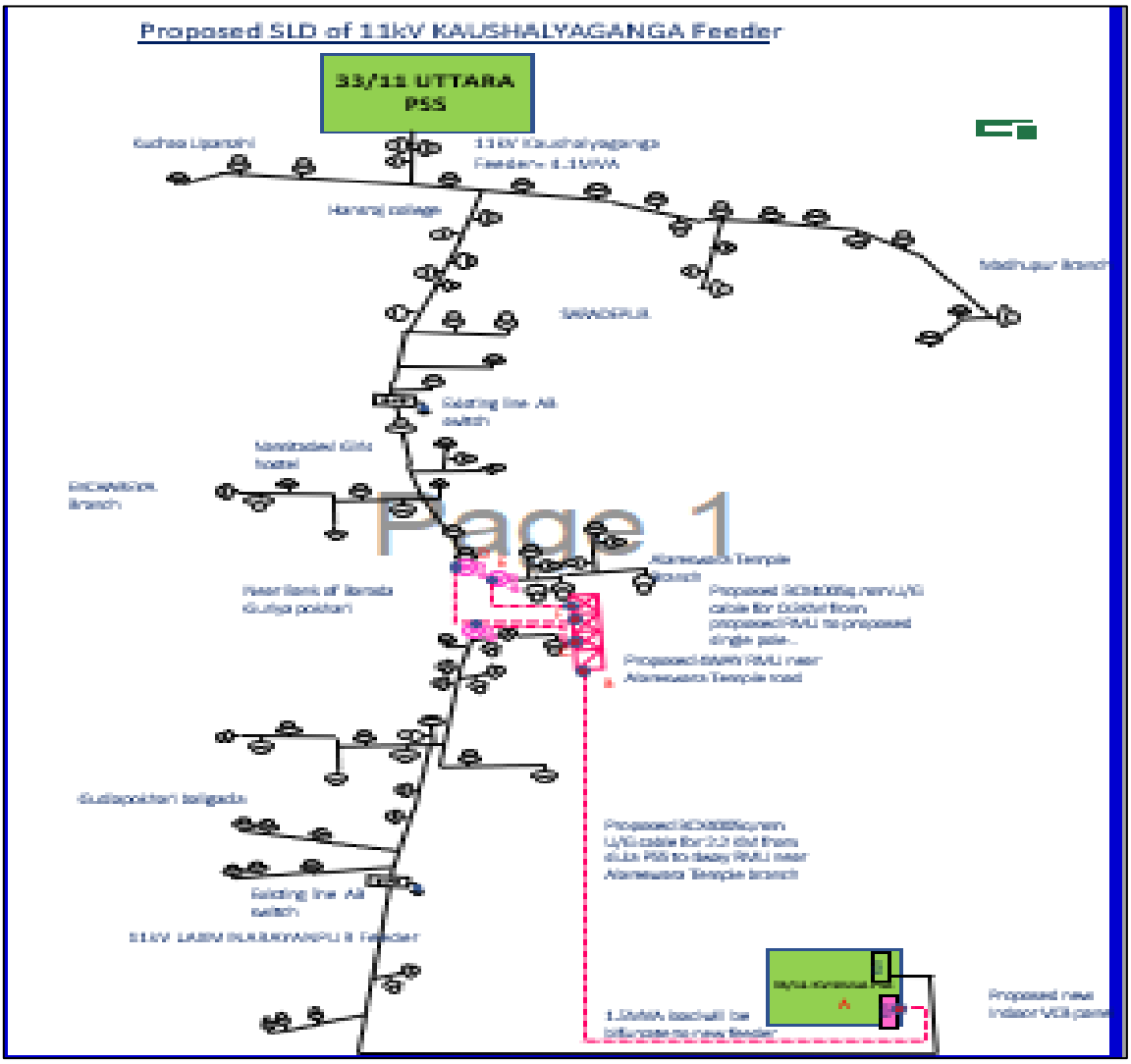
- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 89% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

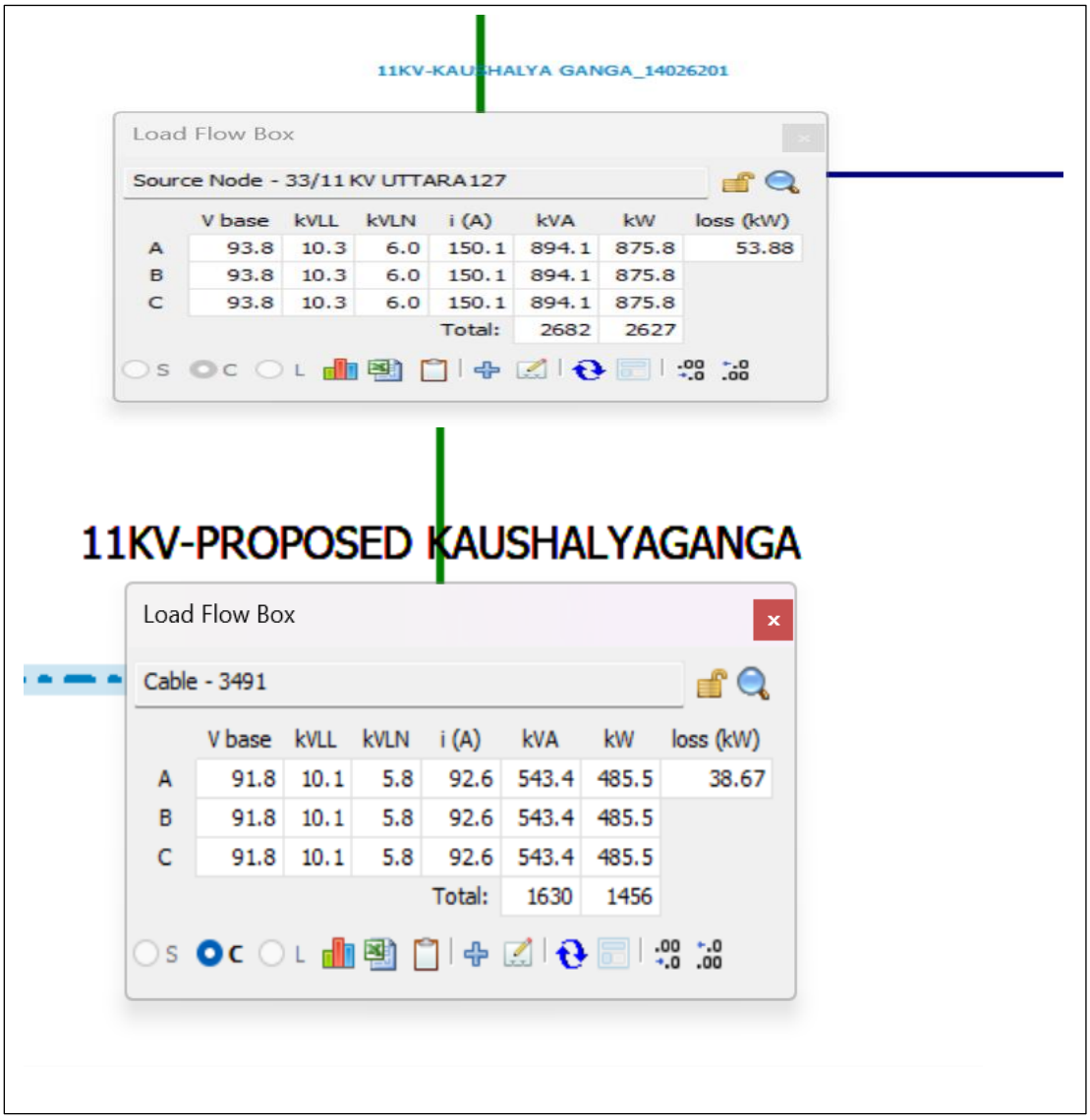
- It is proposed to construct of 3 KM new line using 11kV 3Cx400sqmm from Siula PSS to Alareswara Temple road for load Bifurcation from existing 11KV Kaushalyanga Feeder
- Installation of 1 No. of 11kV RMU at branch line for feeder bifurcation

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Uttara	Kaushalyaganga	3.54	1.30	37%	Under load	53.88
Siula	Alareswara	5.75	3.28	57%	Under load	38.67

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 3 KM new line using 11kV 3Cx400sqmm from Siula PSS to Alareswara Temple road for load Bifurcation from existing 11KV Kaushalyaganga Feeder
- Installation of 1 No. of 11kV RMU at branch line for feeder bifurcation

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.1		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		UTTARA
Name of the Feeder: -		11kV KAUSHALYAGANGA Feeder
Name of the Work :-		Proposal for Construction of 2.5KM U/G line for Bifurcation of Kaushalyaganga Feeder due to Overloading.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A :- Construction of One No. 11 kV Indoor Bay at Siula PSS.	30,11,803.97
2	PART-B:- Constrction of 3nos of 11KV pole with LA for cable raising purpose near proposed 4Way RMU .	3,29,740.61
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Siula PSS.	3,63,345.44
4	PART-D:- 1.Supply and laying 3CX400Sq.mm U/G cable for 3KM without spare run from PSS to near Alareswara Temple branch. 2. Installation of 1 nos of 4 way RMU(LVVV) near band of baroda Gudiapokhari /Near Alareswara Branch for Bifurcation of Kaushalyaganga Feeder.	2,77,13,452.93
5	**Total Gross**	**3,14,18,342.96**
Total estimated cost is Rs. 3.14 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 3.14 Crore (For detailed BoQ refer Annexure- 21.1)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Uttara	Kaushalyaganga	3671	142	**49.58**	**12.64**	**110751.80**	**3.93**
After Proposal	Uttara	Kaushalyaganga	2627	54				
After Proposal	Siula	Alareswara	1456	39				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	314.18	Rs. Lac
B	Additional load due to load growth	-	957.83	kVA
C	Total kW due to load growth	B*pf(power factor)	909.93	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	797102	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	19.05	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	3.93	Rs. Lac
J	Net Revenue Collected	H+I	22.98	Rs. Lac
K	% revenue return	(J/A)*100	7.3	%
L	Pay Back Period	100/K	13.67	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
3. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
4. The above arrangement will help to release power supply to upcoming potential consumers.

2. Proposal for overloading mitigation and Reliability improvement of 11 kV Kesura Village Feeder:

Proposal:

Proposal for bifurcation and augmentation of 11 kV Kesura Village Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Kesura PSS and strengthening the existing network by doing Conductor Augmentation.

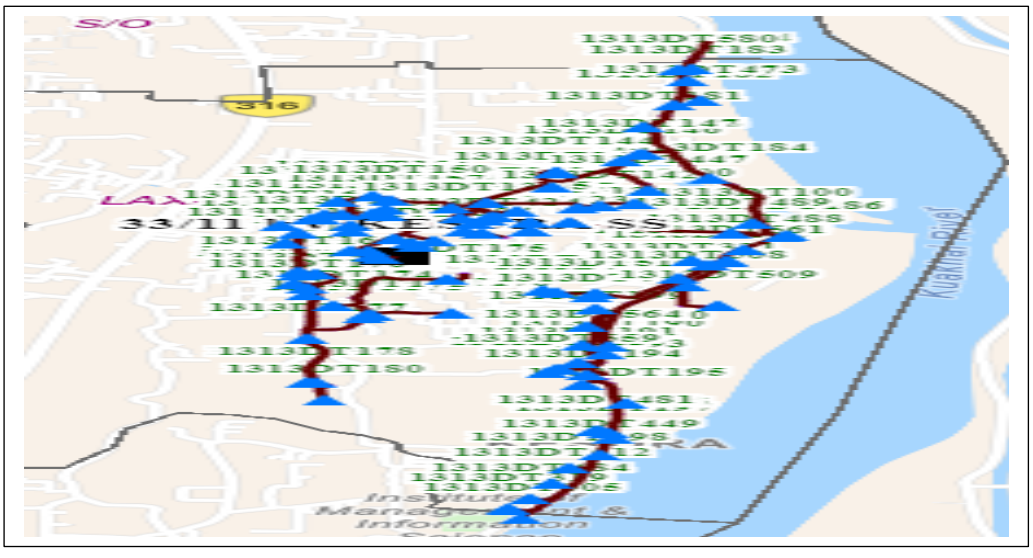
Existing Scenario:

- 11kV Kesura Village feeder is emanating from 33/11kV Kesura PSS. Total length of this feeder is 13CKM and the peak load is 3.54 MVA.
- Conductor size of 11kV Kesura Village feeder is 55/80sq.mm & the feeder is 89% loaded w.r.t the current carrying capacity of the conductor and 118% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

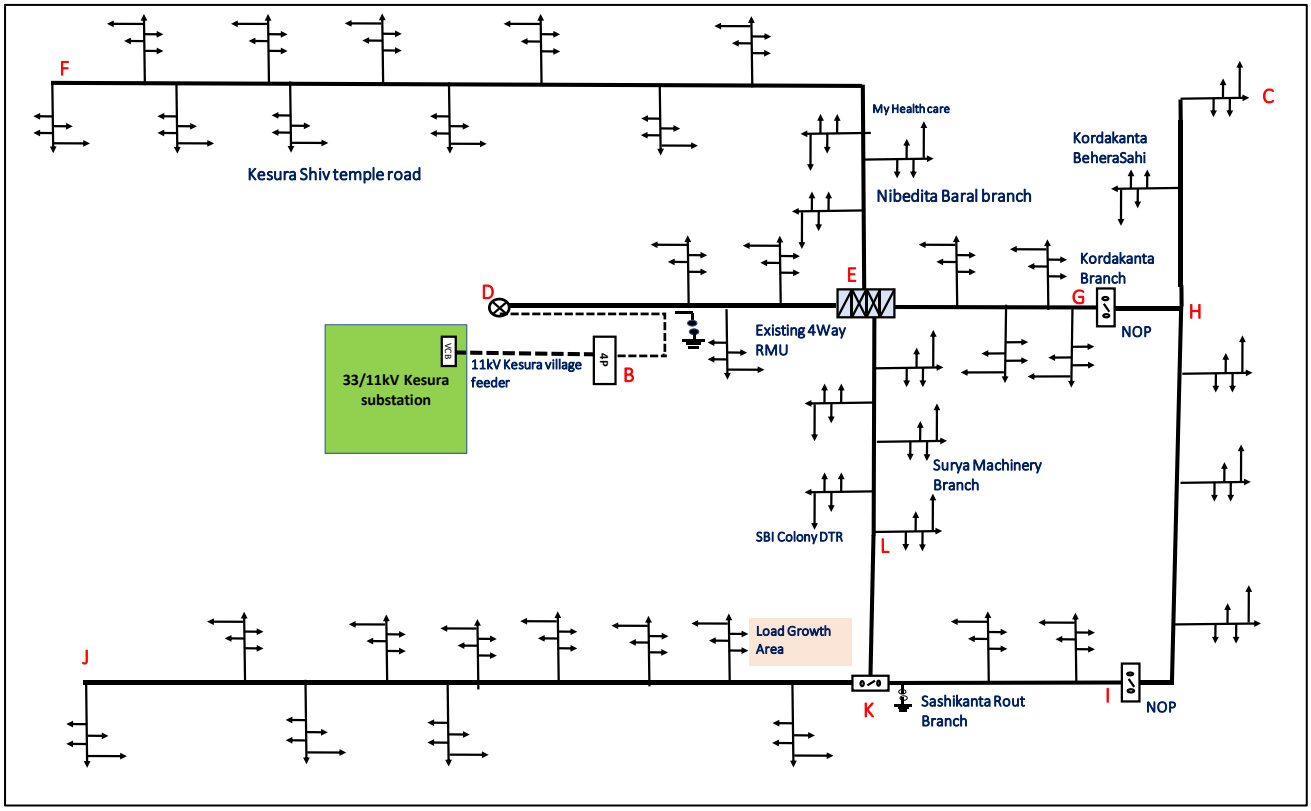
Existing Summer'26 Loading and projected load at 11 kV Kesura Village Feeder:

Existing Loading									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer '28
Kesura	Kesura Village	3.96	3.54	89%	Under load	4.68	118%	Over load	164.98

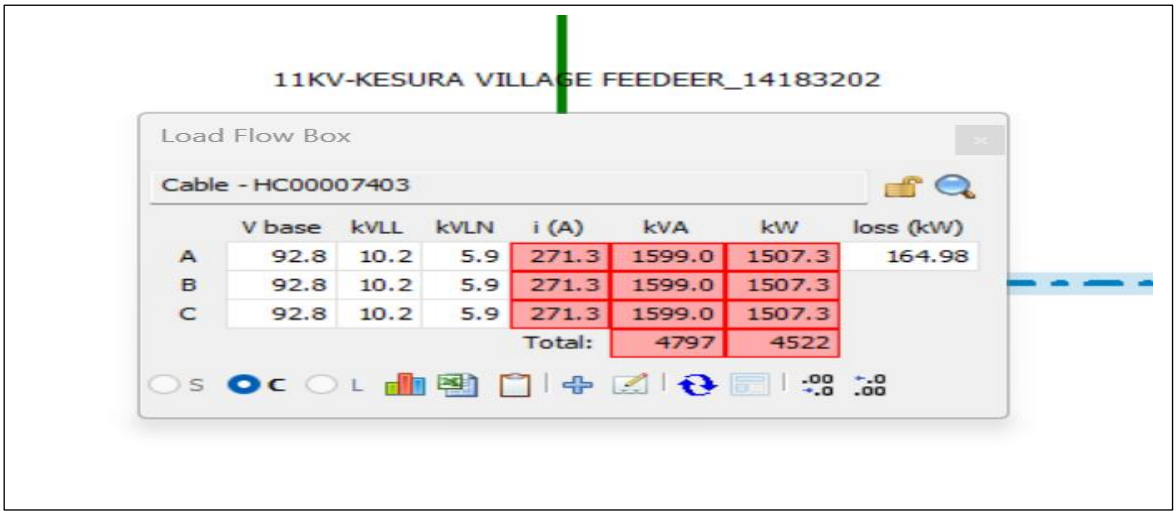
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Priority: Since the feeder loading has reached 89% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 118%. In case the issue is not addressed, there will be load shedding of 2812nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.

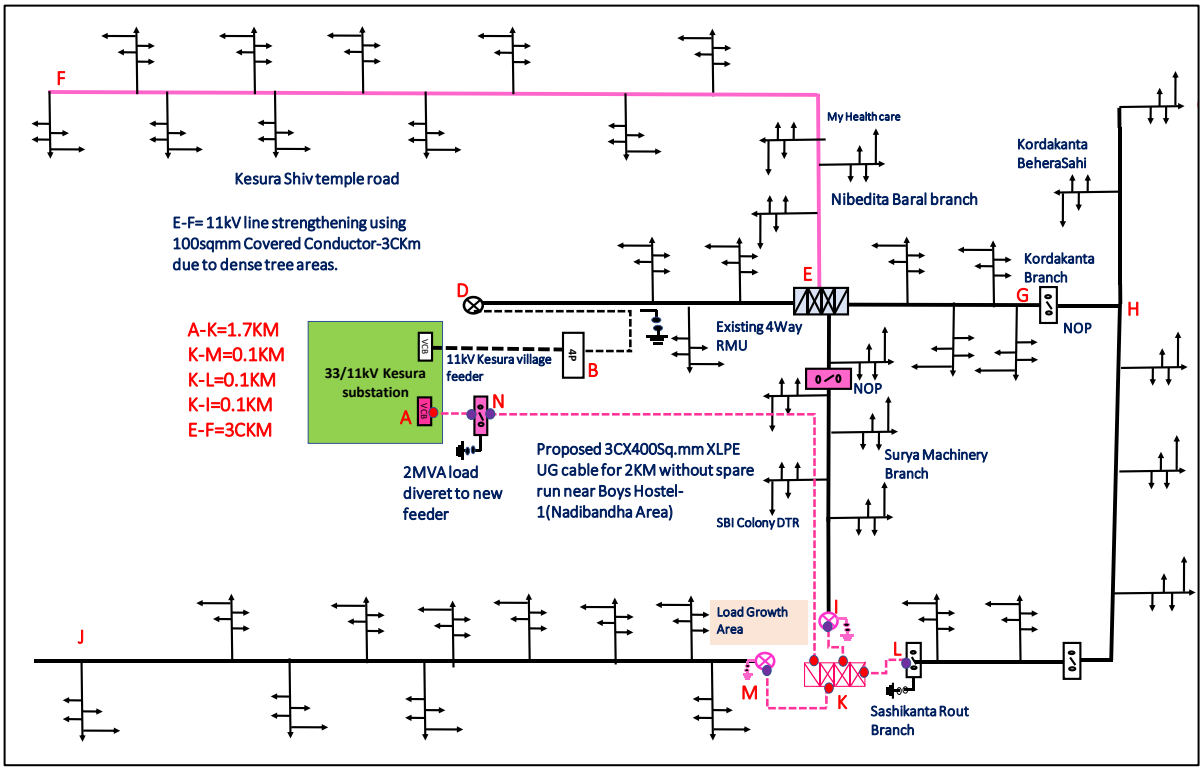
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 89% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

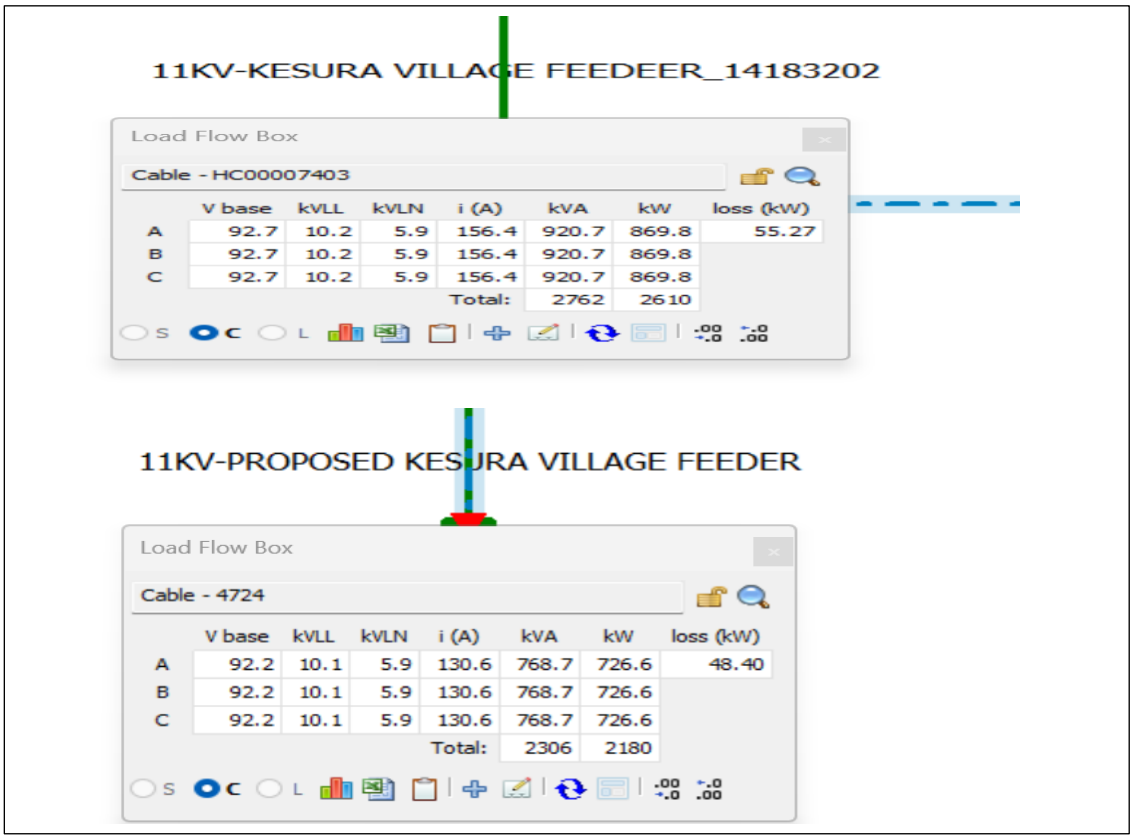
- It is proposed to construct of 2 KM new line using 11kV 3Cx400sqmm from Kesura PSS to Nadibandh Boys Hostel for load Bifurcation from existing 11KV Kesura Village Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 3 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Kesura	Kesura Village	3.96	3.80	96%	Under load	55.27
Kesura	Nadibandha	5.75	0.88	15%	Under load	48.40

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 2 KM new line using 11kV 3Cx400sqmm from Kesura PSS to Nadibandh Boys Hostel for load Bifurcation from existing 11KV Kesura Village Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 3 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.2	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	LAXMISAGAR
Name of the Feeder: -	11kV Kesura Village Feeder (Kesura PSS)
Name of the Work :-	Proposal for Construction of 2 KM new line from Kesura PSS to near Boys Hostel-1(Nadibandha Area) using 11kV 3C, 400sqmm UG Cable with 1nos of 11kV RMU(LVVV) along with 3CKM augmentation due to dense tree areas .
Names of Schemes: -	**CAPEX 27-28**
Abstract of Estimate	

Sl. No.	Description	Gross
1	PART A:- Construction of 2 KM new line from Kesura PSS to near Boys Hostel-1(Nadibandha Area) using 11kV 3C, 400sqmm UG Cable along with 1nos of 11kV RMU(LVVV).	2,45,29,914.54
2	PART-B :- 1. Installation of 1 nos of DP with Isolator with earth switch arrangment .	3,14,531.15
3	PART-C:- 1. Augmentation of 55Sq.mm conductor to 100Sq.mm AAAC XLPE covered conductor for 3CKM due to damaged condition. 2. Installation of 1 nos of DP with AB switch arrangment & installation of 2 nos of pole with LA.	34,78,147.90
4	PART-D:- Dismantling of Materials	90,576.80
5	**Total Gross**	**2,84,13,170.38**
Total estimated cost is Rs. 2.84 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 2.84 Crore (For detailed BoQ refer Annexure- 21.2)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Kesura	Kesura Village	4522	165	**61.31**	**15.63**	**136954.28**	**4.86**
After Proposal	Kesura	Kesura Village	2610	55				
After Proposal	Kesura	Nadibandha	2180	48				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	284.13	Rs. Lac
B	Additional load due to load growth	-	1141.65	kVA
C	Total kW due to load growth	B*pf(power factor)	1084.57	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	950081	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	22.71	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	4.86	Rs. Lac
J	Net Revenue Collected	H+I	27.57	Rs. Lac
K	% revenue return	(J/A)*100	9.7	%
L	Pay Back Period	100/K	10.31	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Improved capability of Network by use of covered conductor ,resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
5. The above arrangement will help to release power supply to upcoming potential consumers

3. Proposal for overloading mitigation and Reliability improvement of 11 kV Laxmisagar U/G Feeder:

Proposal:

Proposal for bifurcation and augmentation of 11 kV Laxmisagar U/G Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Laxmisagar PSS and strengthening the existing network by doing Conductor Augmentation.

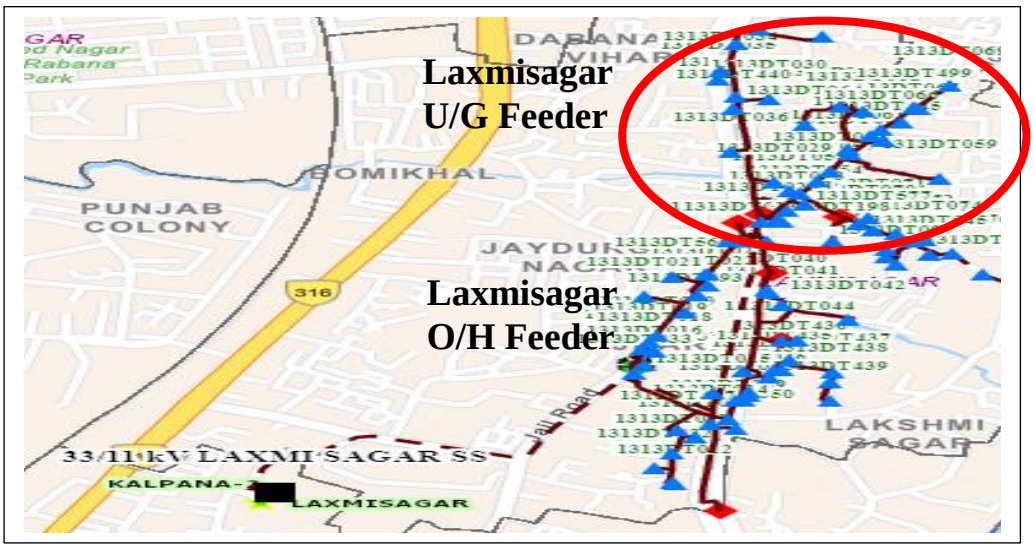
Existing Scenario:

- 11kV Laxmisagar U/G feeder is emanating from 33/11kV Laxmisagar PSS.Total length of this feeder is 4.5CKM and the peak load is 5.10 MVA.
- Conductor size of 11kV Laxmisagar U/G feeder is 3CX300 sq.mm & the feeder is 101% loaded w.r.t the current carrying capacity of the conductor and 134% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

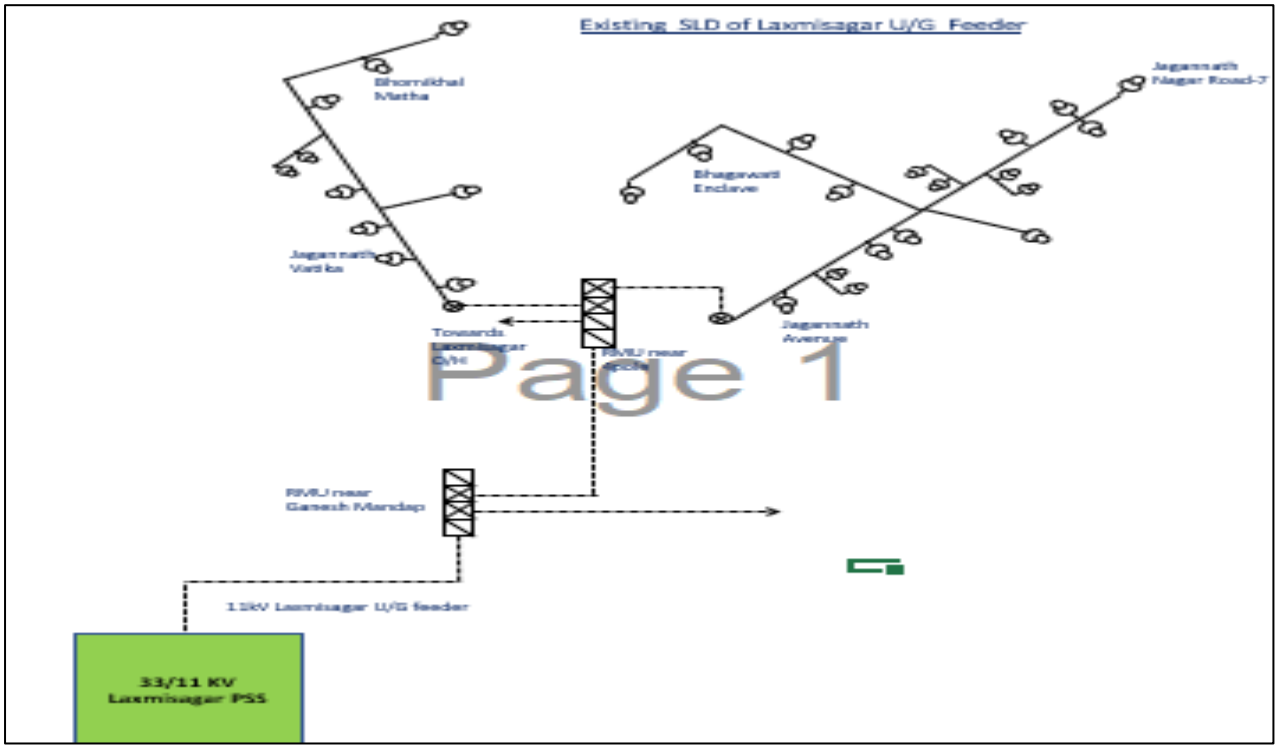
Existing Summer'26 Loading and projected load at 11 kV Laxmisagar U/G Feeder

Existing Loading									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer '28
Laxmisagar	Laxmisagar U/G	5.05	5.10	101%	Over load	6.74	134%	Over load	373.33

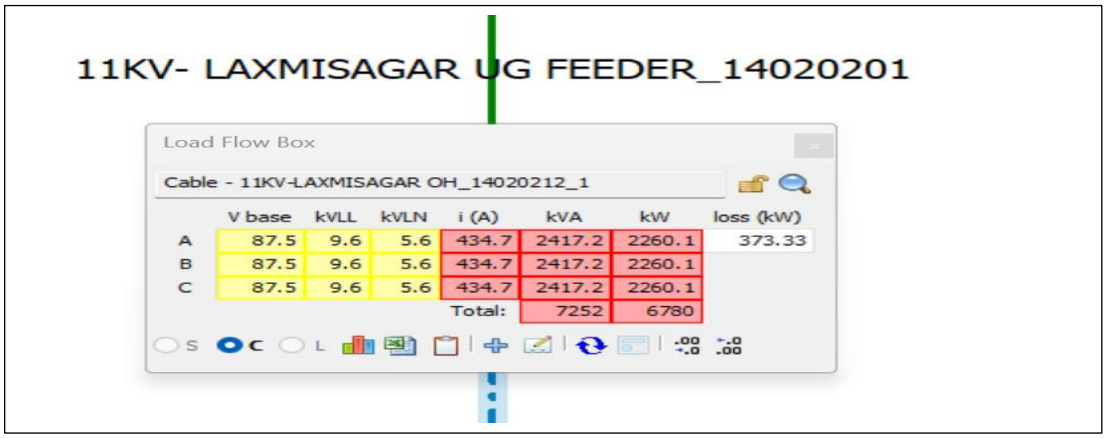
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Priority: Since the feeder loading has reached 101% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 134%. In case the issue is not addressed, there will be load shedding of 4068nos. consumers for prolonged period.

Technical Justification

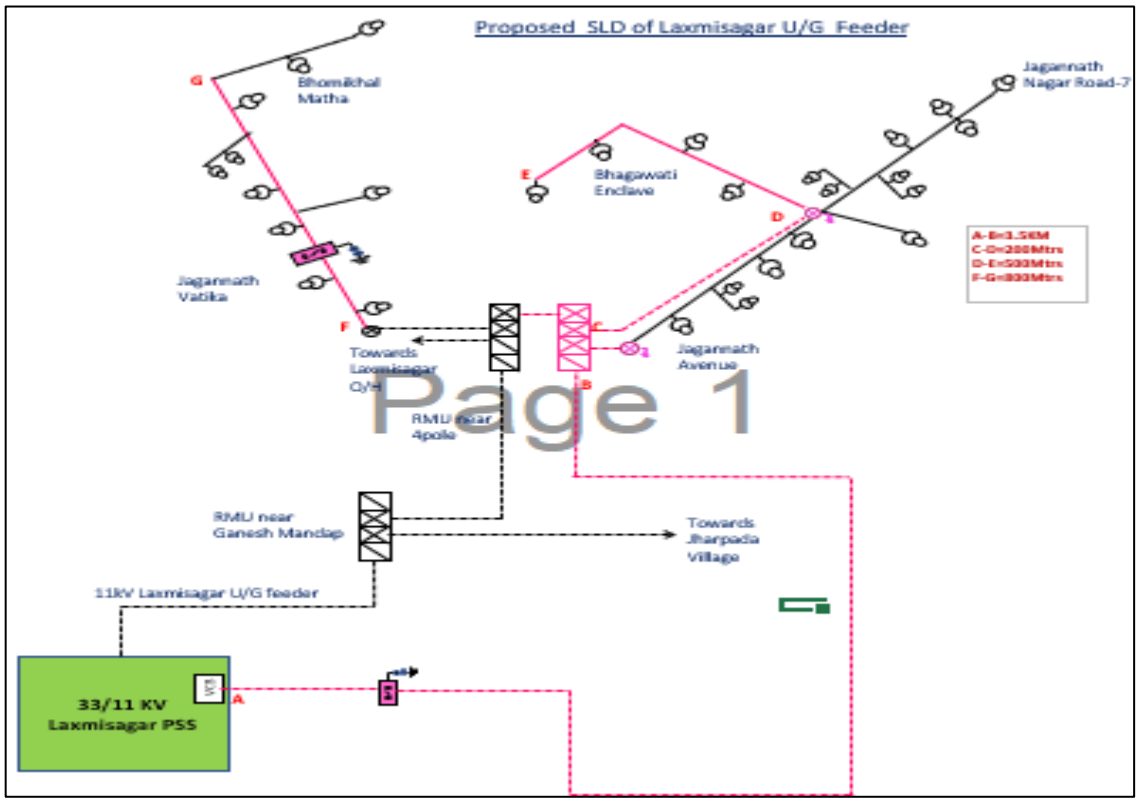
- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 106% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

- It is proposed to construct of 3.5 KM new line using 11kV 3Cx400sqmm from Laxmisagar PSS to 4pole near Jagannath Avenue for load Bifurcation from existing 11KV Laxmisagar U/G Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 1.3CKM using 100mm2 XLPE Covered Conductor for feeder strengthening

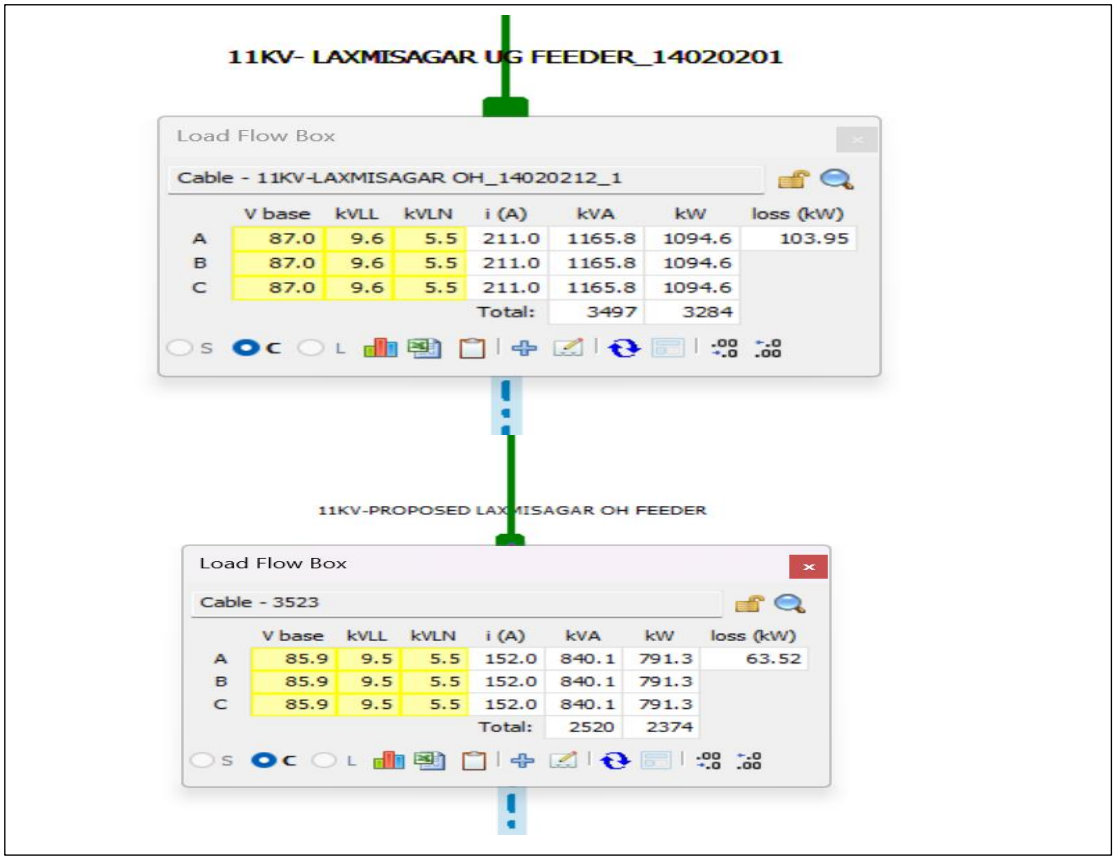
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Laxmisagar	Laxmisagar U/G	5.05	3.80	75%	Under load	103.95
Laxmisagar	Road-7 Feeder	5.75	2.94	51%	Under load	63.52

Proposed SLD:



Page 1

Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 3.5 KM new line using 11kV 3Cx400sqmm from Laxmisagar PSS to 4pole near Jagannath Avenue for load Bifurcation from existing 11KV Laxmisagar U/G Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 1.3CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.3	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	Laxmisagar
Name of the Feeder: -	11kV Laxmisagar U/G Feeder
Name of the Work :-	Proposal for Construction of 3.5KM of 3CX400SQMM UG Cable New line from Laxmisagar PSS to near 4 Pole and augmentation of 1.3km O/H line
Names of Schemes: -	**CAPEX 27-28**
Abstract of Estimate	

Sl. No.	Description	Gross
1	PART-A: - Construction of 3.5KM new line from Laxmisagar PSS to 4pole near Jagannath Avenue using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	3,66,67,918.63
2	PART-B:- 1. Installation of 1no. of Line DP with AB Switch 2. Augmentation of 1.3Kms O/H line due to dense vegetation area and damagaed conductor	17,86,530.11
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Laxmisagar PSS.	3,63,345.44
4	PART-D:- Dismantling	40,282.84
5	**Total Gross**	**3,88,58,077.03**
Total estimated cost is Rs. 3.89Cr.(On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 3.89 Crore (For detailed BoQ refer Annexure- 21.3)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Laxmisagar	Laxmisagar U/G	6780	373	**205.86**	**52.49**	**459850.07**	**16.32**
After Proposal	Laxmisagar	Laxmisagar U/G	3284	104				
After Proposal	Laxmisagar	Road-7 Feeder	2374	64				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	388.58	Rs. Lac
B	Additional load due to load growth	-	1644.75	kVA
C	Total kW due to load growth	B*pf(power factor)	1562.51	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	1368761	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	32.71	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	16.32	Rs. Lac
J	Net Revenue Collected	H+I	49.04	Rs. Lac
K	% revenue return	(J/A)*100	12.6	%
L	Pay Back Period	100/K	7.92	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Improved capability of Network by use of covered conductor ,resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
5. The above arrangement will help to release power supply to upcoming potential consumers

4. Proposal for overloading mitigation and Reliability improvement of 11 kV Pandra Village Feeder:

Proposal:

Proposal for bifurcation and augmentation of 11 kV Pandra Village Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Pandra PSS and strengthening the existing network by doing Conductor Augmentation.

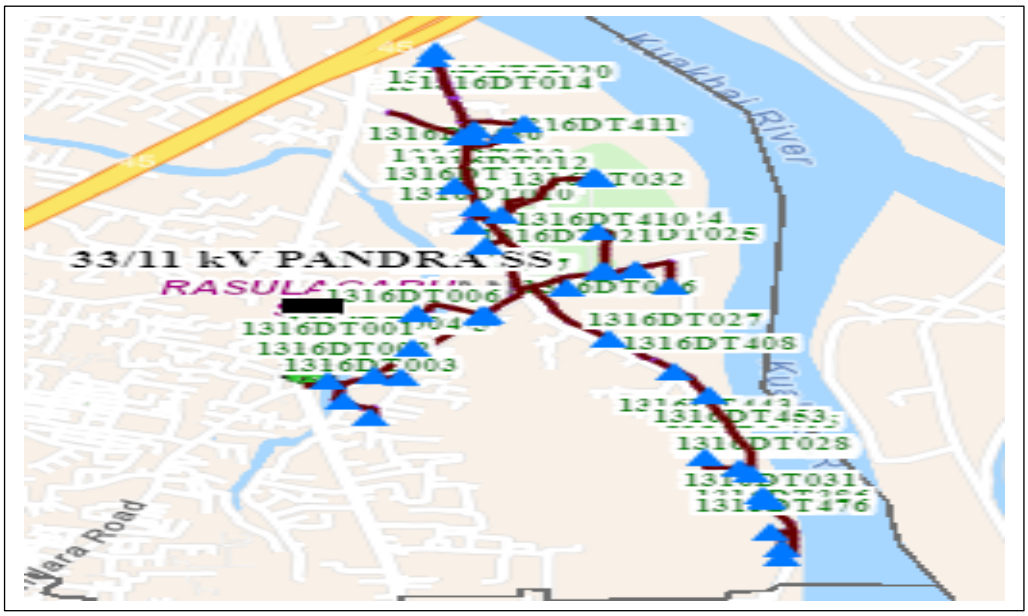
Existing Scenario:

- 11kV Pandra Village feeder is emanating from 33/11kV Pandra PSS.Total length of this feeder is 7.06 CKM and the peak load is 4.11 MVA.
- Conductor size of 11kV Pandra Village feeder is 100 sq.mm & the feeder is 79% loaded w.r.t the current carrying capacity of the conductor and 105% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

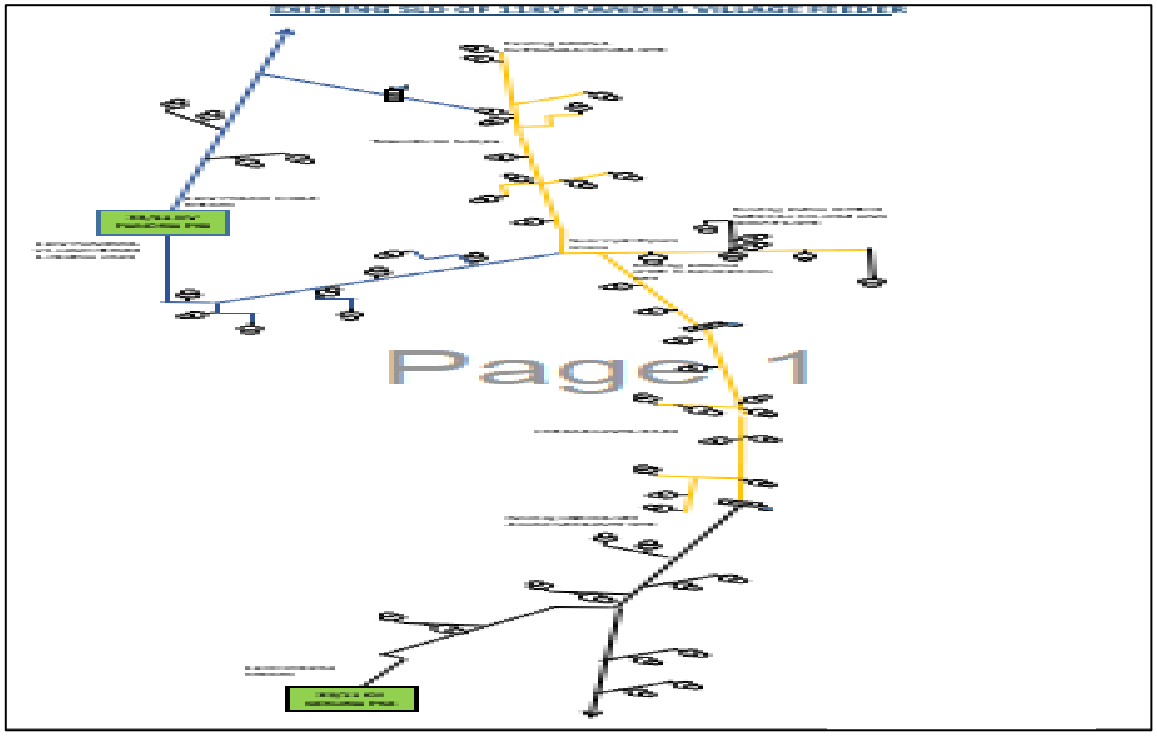
Existing Summer'26 Loading and projected load at 11 kV Pandra Village Feeder

Existing Loading									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer' 28
Pandra	Pandra Village	5.18	4.11	79%	Under load	5.44	105%	Over load	244.67

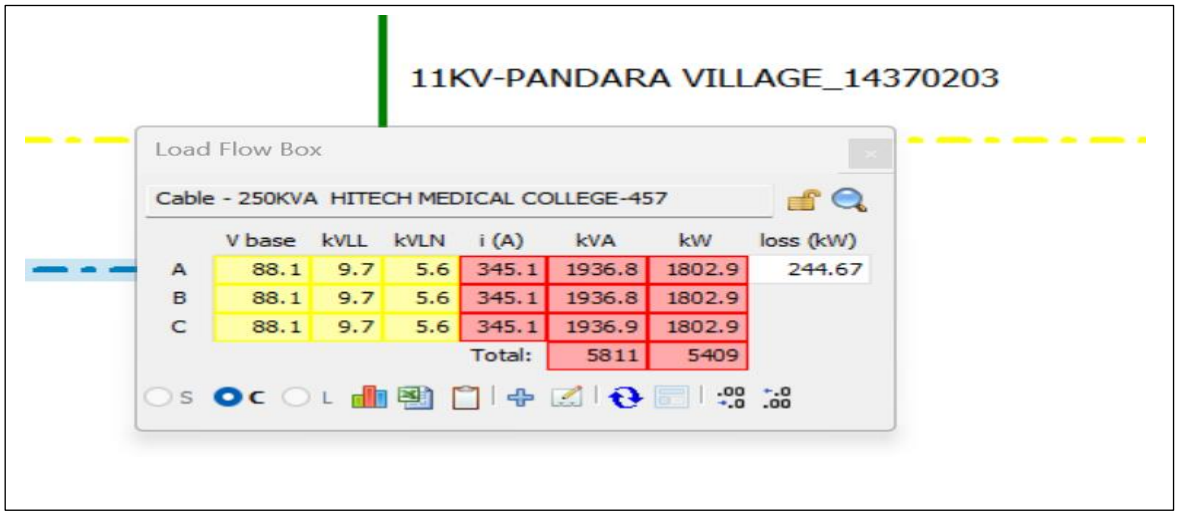
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Priority: Since the feeder loading has reached 79% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 105%. In case the issue is not addressed, there will be load shedding of 1166nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.

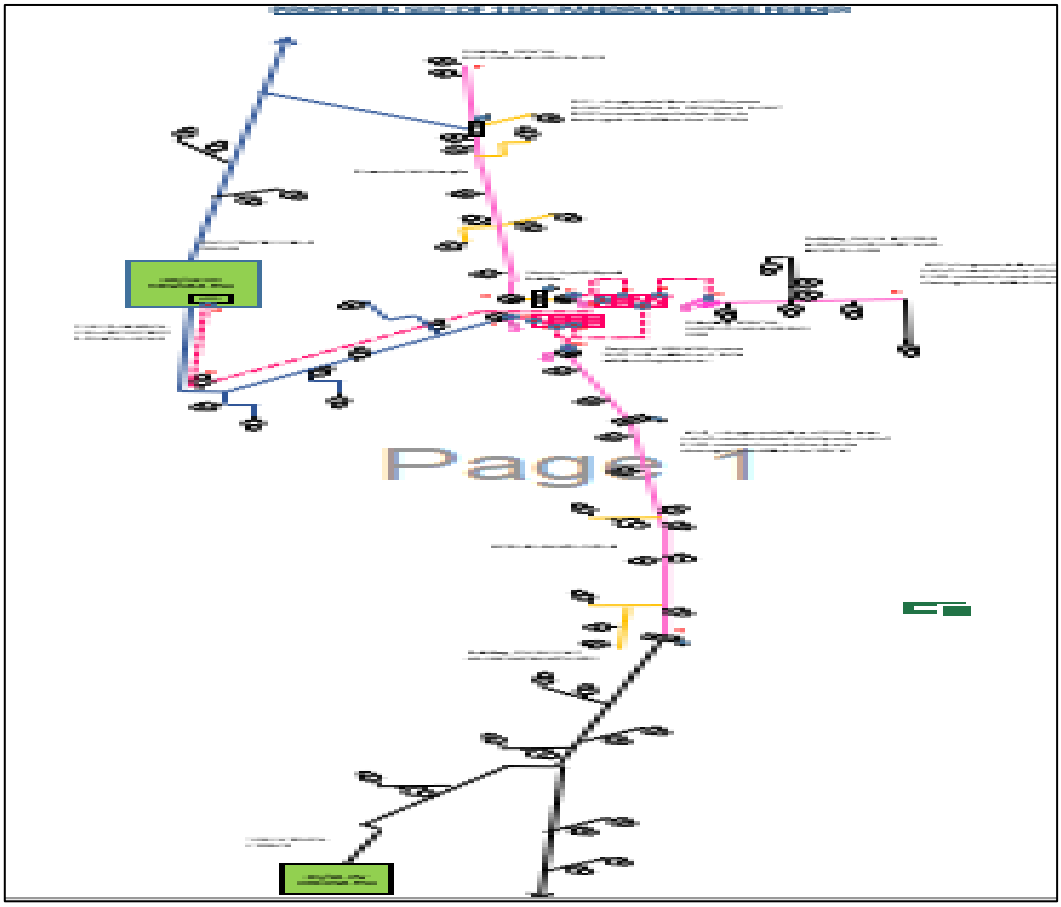
- In AS IS scenario, the feeder is 79% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

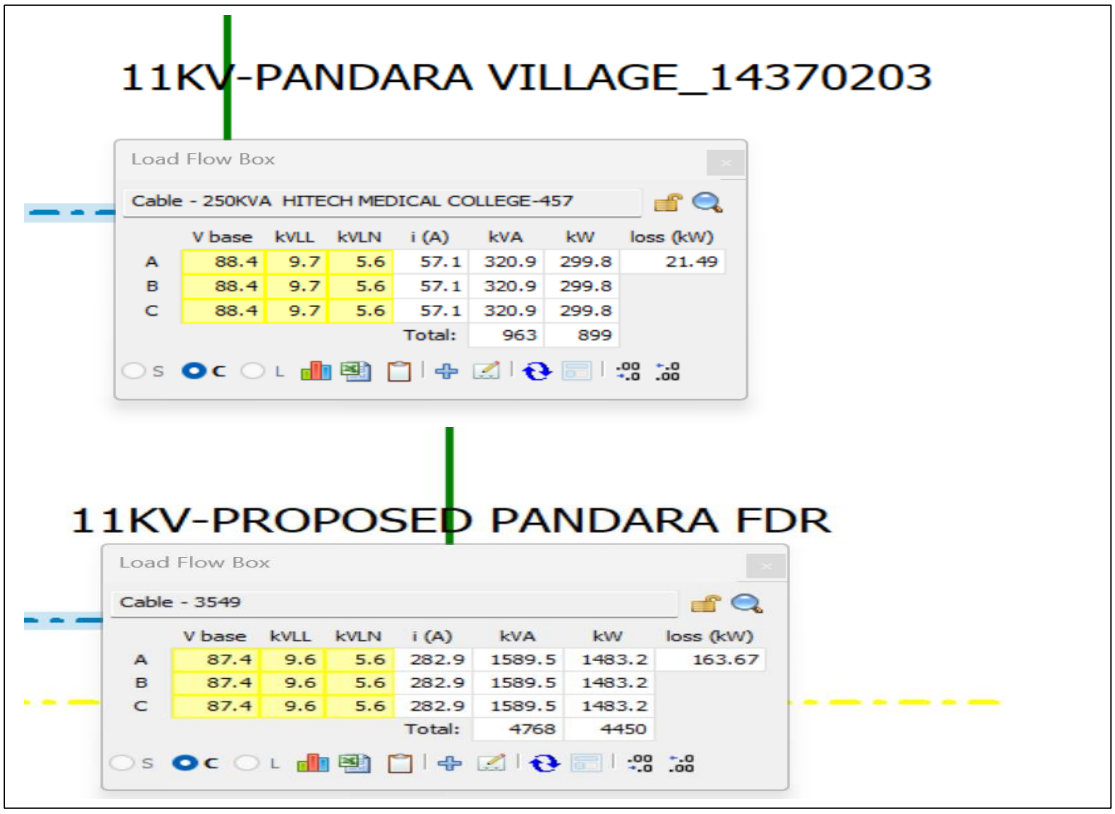
- It is proposed to construct of 1.8 KM new line using 11kV 3Cx400sqmm from Pandra PSS to Jyoti Fly Ash for load Bifurcation from existing 11KV Pandra Village Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 4 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Pandra	Pandra Village	5.18	3.80	73%	Under load	21.49
Pandra	Pandra Village U/G	5.75	1.64	28%	Under load	163.67

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 1.8 KM new line using 11kV 3Cx400sqmm from Pandra PSS to Jyoti Fly Ash for load Bifurcation from existing 11KV Pandra Village Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 4 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.4	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	RASULGARH S/O
Name of the Feeder: -	11kV PANDRA VILLAGE Feeder
Name of the Work :-	Proposal for Construction of 1.8 KM new line from Pandra Viillage PSS to Near Jyoti flyash bricks using 11kV 3C, 400sqmm UG Cable along with 2nos of 11kV RMU(LVVV) along with 4CKM augmentation due to damaged condutor.
Names of Schemes: -	**CAPEX 27-28**
Abstract of Estimate	

Sl. No.	Description	Gross
1	PART A:- Construction of 1.8 KM new line from Pandra Village PSS to Near Jyoti flyash bricks using 11kV 3C, 400sqmm UG Cable along with 2nos of 11kV RMU(LVVV).	2,51,71,923.97
2	PART-B:- 1. Augmentation of 55Sq.mm conductor to 100Sq.mm AAAC XLPE covered conductor for 4CKM due to damaged condition. 2. Installation of 1 nos of pole with LA arrangement & installation of 3 nos of LA on extisting pole.	42,14,382.42
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Pandra PSS.	3,63,345.44
4	PART-D:- Dismantling of Materials	1,03,090.70
5	**Total Gross**	**3,20,68,233.86**
Total estimated cost is Rs. 3.21 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 3.21 Crore (For detailed BoQ refer Annexure- 21.4)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Pandra	Pandra Village	5409	245	**59.51**	**15.18**	**132933.44**	**4.72**
After Proposal	Pandra	Pandra Village	899	21				
After Proposal	Pandra	Pandra Village U/G	4450	164				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	320.68	Rs. Lac
B	Additional load due to load growth	-	1325.48	kVA
C	Total kW due to load growth	B*pf(power factor)	1259.20	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	1103060	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	26.36	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	4.72	Rs. Lac
J	Net Revenue Collected	H+I	31.08	Rs. Lac
K	% revenue return	(J/A)*100	9.7	%
L	Pay Back Period	100/K	10.32	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Improved capability of Network by use of covered conductor ,resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

5. Proposal for overloading mitigation and Reliability improvement of 11 kV Prachi Vihar Feeder:

Proposal:

Proposal for bifurcation and augmentation of 11 kV Prachi Vihar Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Pandra PSS and strengthening the existing network by doing Conductor Augmentation.

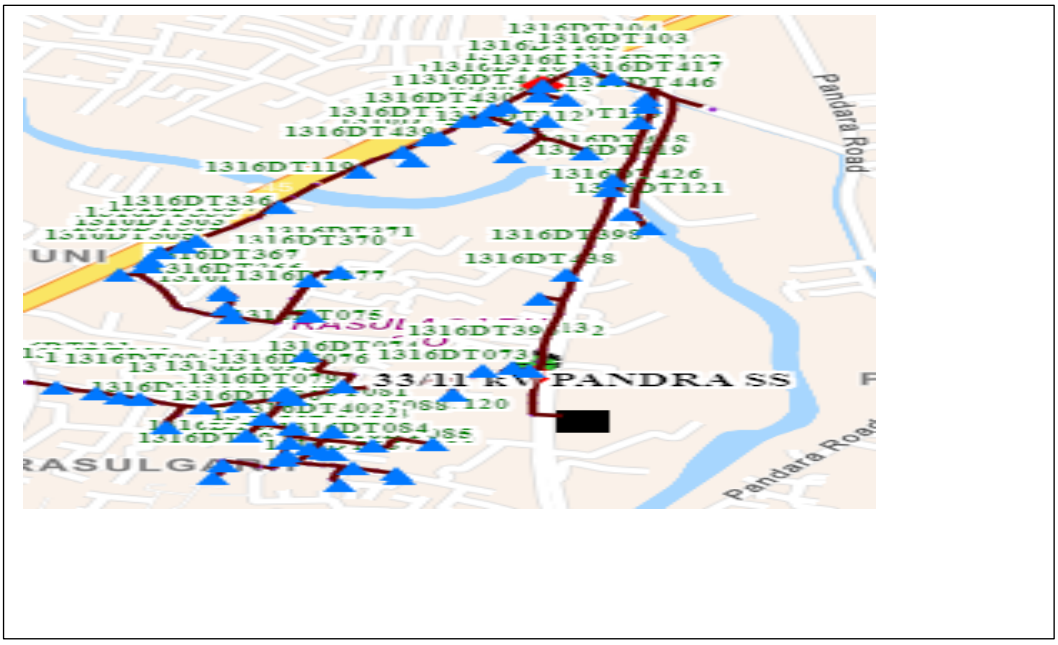
Existing Scenario:

- 11kV Prachi Vihar feeder is emanating from 33/11kV Pandra PSS.Total length of this feeder is 6.07 CKM and the peak load is 3.9 MVA.
- Conductor size of 11kV Pandra feeder is 80 sq.mm & the feeder is 75% loaded w.r.t the current carrying capacity of the conductor and 100% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

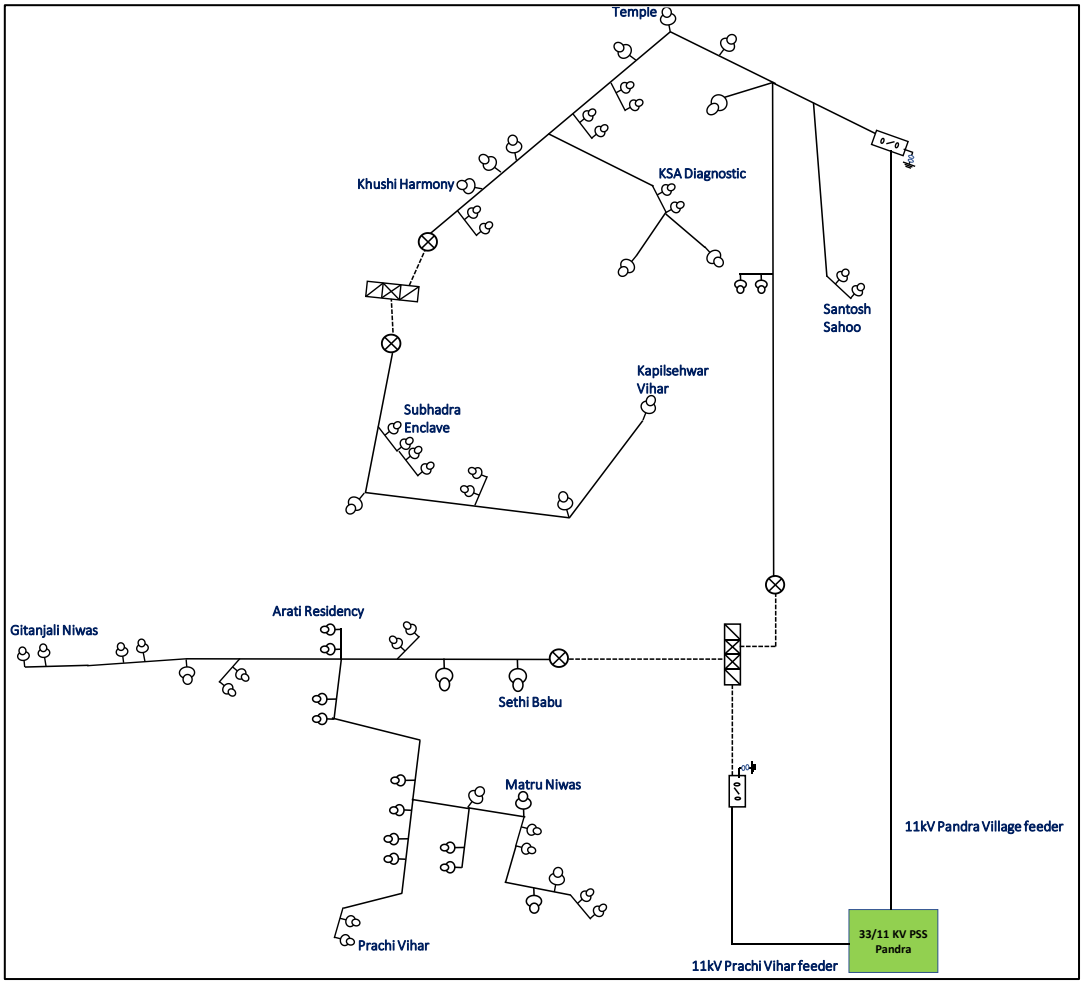
Existing Summer'26 Loading and projected load at 11 kV Prachi Vihar Feeder

Existing Loading									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer' 28
Pandra	Prachi Vihar	4.54	3.54	78%	Under load	4.68	103%	Over load	133.4

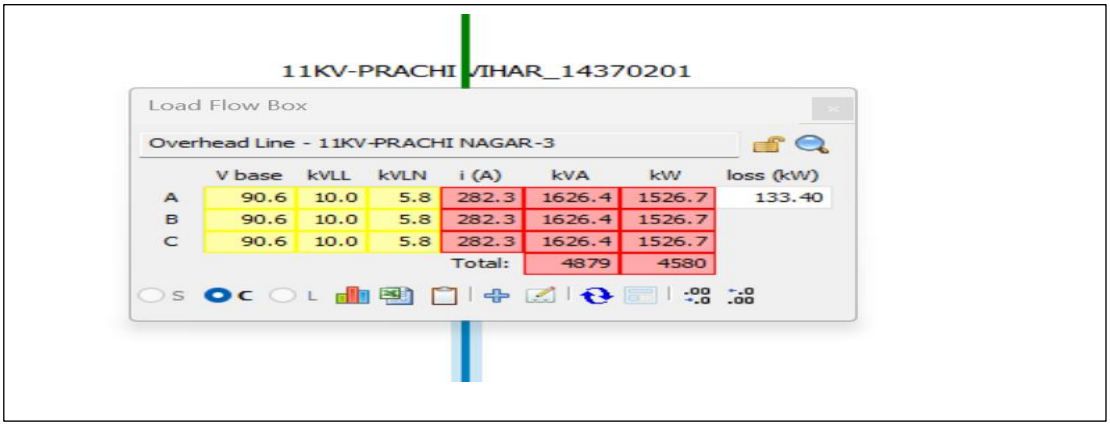
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Priority: Since the feeder loading has reached 75% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 100%. In case the issue is not addressed, there will be load shedding of 1834nos. consumers for prolonged period.

Technical Justification

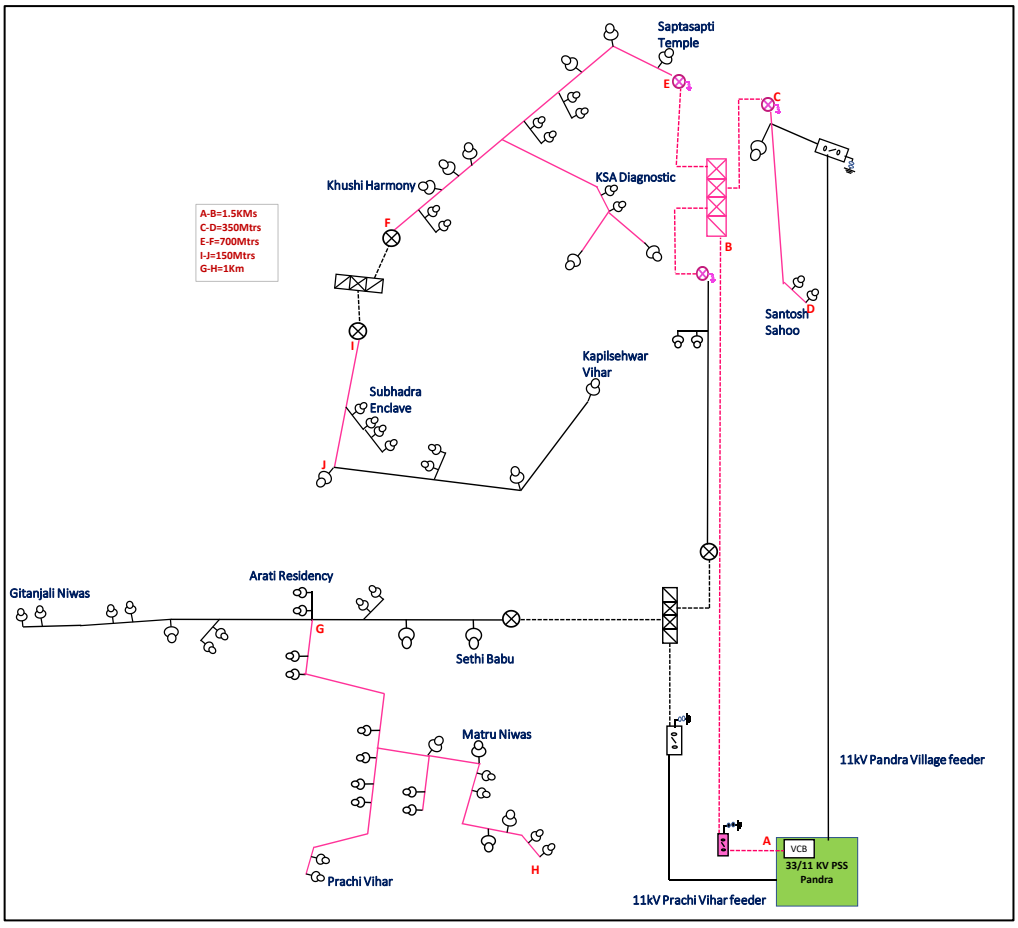
- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 75% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

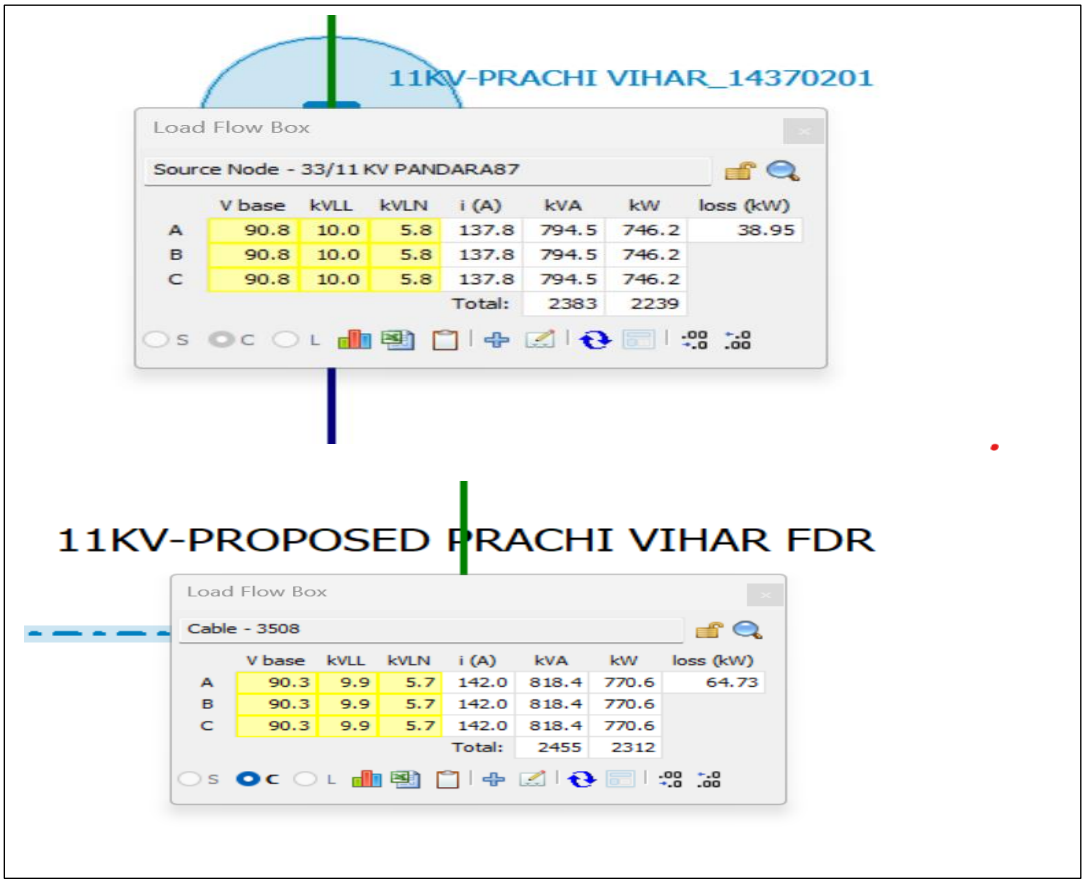
- It is proposed to construct of 1.8 KM new line using 11kV 3Cx400sqmm from Pandra PSS to Local Dhaba for load Bifurcation from existing 11KV Prachi Vihar Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 2.2 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Pandra	Prachi Vihar	4.54	3.80	84%	Under load	38.95
Pandra	Saptasati	5.75	0.88	15%	Under load	64.73

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 1.8 KM new line using 11kV 3Cx400sqmm from Pandra PSS to Local Dhaba for load Bifurcation from existing 11KV Prachi Vihar Feeder
- Installation of 1 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 2.2 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.5	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	RASULHARH
Name of the Feeder: -	11kV Prachi Vihar Feeder
Name of the Work :-	Proposal for Construction of 1.8KM of 3CX400SQMM UG Cable New line from Pandra PSS to near Local Dhaba and augmentation of 2.4km O/H line
Names of Schemes: -	**CAPEX 27-28**
Abstract of Estimate	

Sl. No.	Description	Gross
1	PART-A: - Construction of 1.8KM new line from Pandra PSS to near Local Dhaba using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	2,73,87,415.30
2	PART-B:- 1. Installation of 2 nos. of Line DP with AB Switch 2. Augmentation of 2.4Kms O/H line due to dense vegetation area and damagaed conductor	41,53,244.32
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Pandra PSS.	3,63,345.44
4	PART-D:- Dismantling	87,012.30
5	**Total Gross**	**2,58,69,073.65**
Total estimated cost is Rs. 2.59 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 2.59 Crore (For detailed BoQ refer Annexure- 21.5)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Pandra	Prachi Vihar	4580	133	**29.72**	**7.58**	**66388.54**	**2.36**
After Proposal	Pandra	Prachi Vihar	2239	39				
After Proposal	Pandra	Saptasati	2312	65				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	258.69	Rs. Lac
B	Additional load due to load growth	-	1141.65	kVA
C	Total kW due to load growth	B*pf(power factor)	1084.57	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	950081	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	22.71	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	2.36	Rs. Lac
J	Net Revenue Collected	H+I	25.06	Rs. Lac
K	% revenue return	(J/A)*100	9.7	%
L	Pay Back Period	100/K	10.32	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Improved capability of Network by use of covered conductor ,resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
5. The above arrangement will help to release power supply to upcoming potential consumers.

6. Proposal for overloading mitigation and Reliability improvement of 11 kV Laxmisagar O/H Feeder:

Proposal:

Proposal for bifurcation and augmentation of 11 kV Laxmisagar O/H Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Laxmisagar PSS and strengthening the existing network by doing Conductor Augmentation.

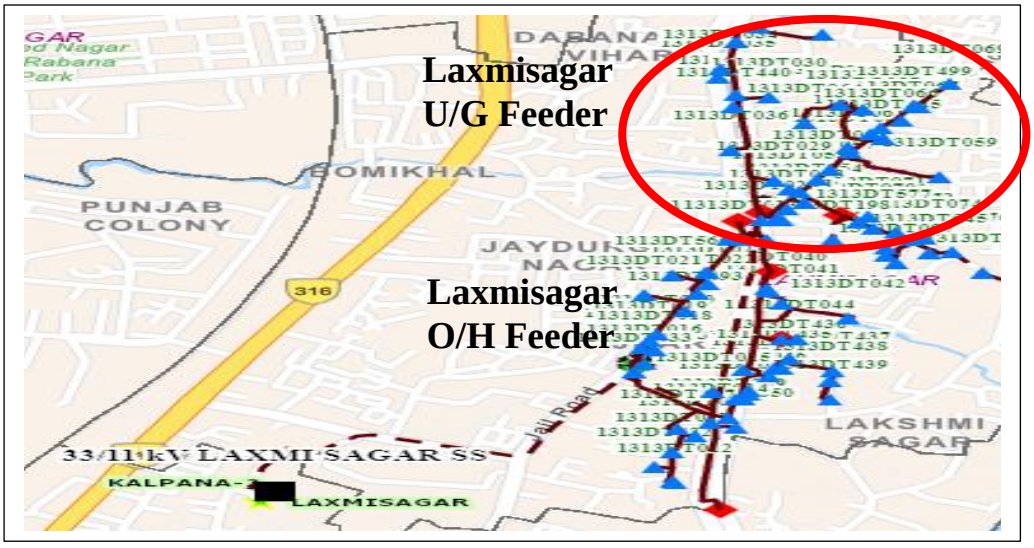
Existing Scenario:

- 11kV Laxmisagar O/H Village feeder is emanating from 33/11kV Laxmisagar PSS.Total length of this feeder is 4.3CKM and the peak load is 4.42 MVA.
- Conductor size of 11kV Laxmisagar O/H feeder is 100 sq.mm & the feeder is 85% loaded w.r.t the current carrying capacity of the conductor and 113% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

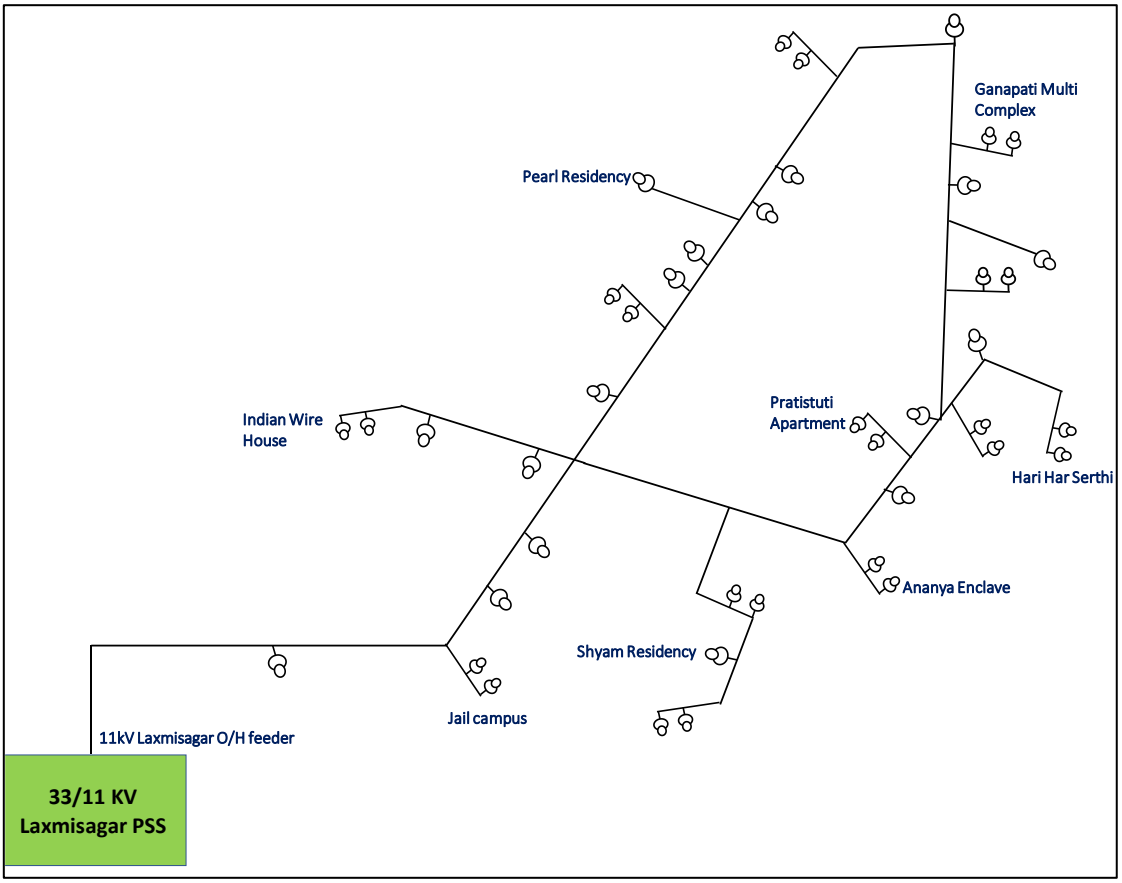
Existing Summer'26 Loading and projected load at 11 kV Laxmisagar O/H Feeder

Existing Loading									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer '28
Laxmisagar	Laxmisagar O/H	5.18	4.42	85%	Under load	5.85	113%	Over load	229.74

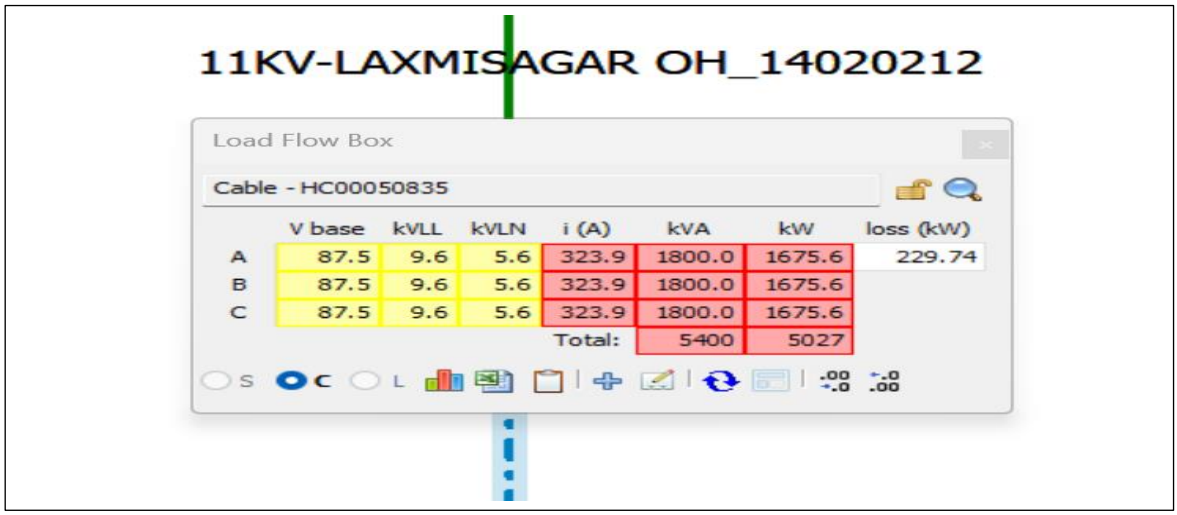
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Priority: Since the feeder loading has reached 85% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 113%. In case the issue is not addressed, there will be load shedding of 991nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.

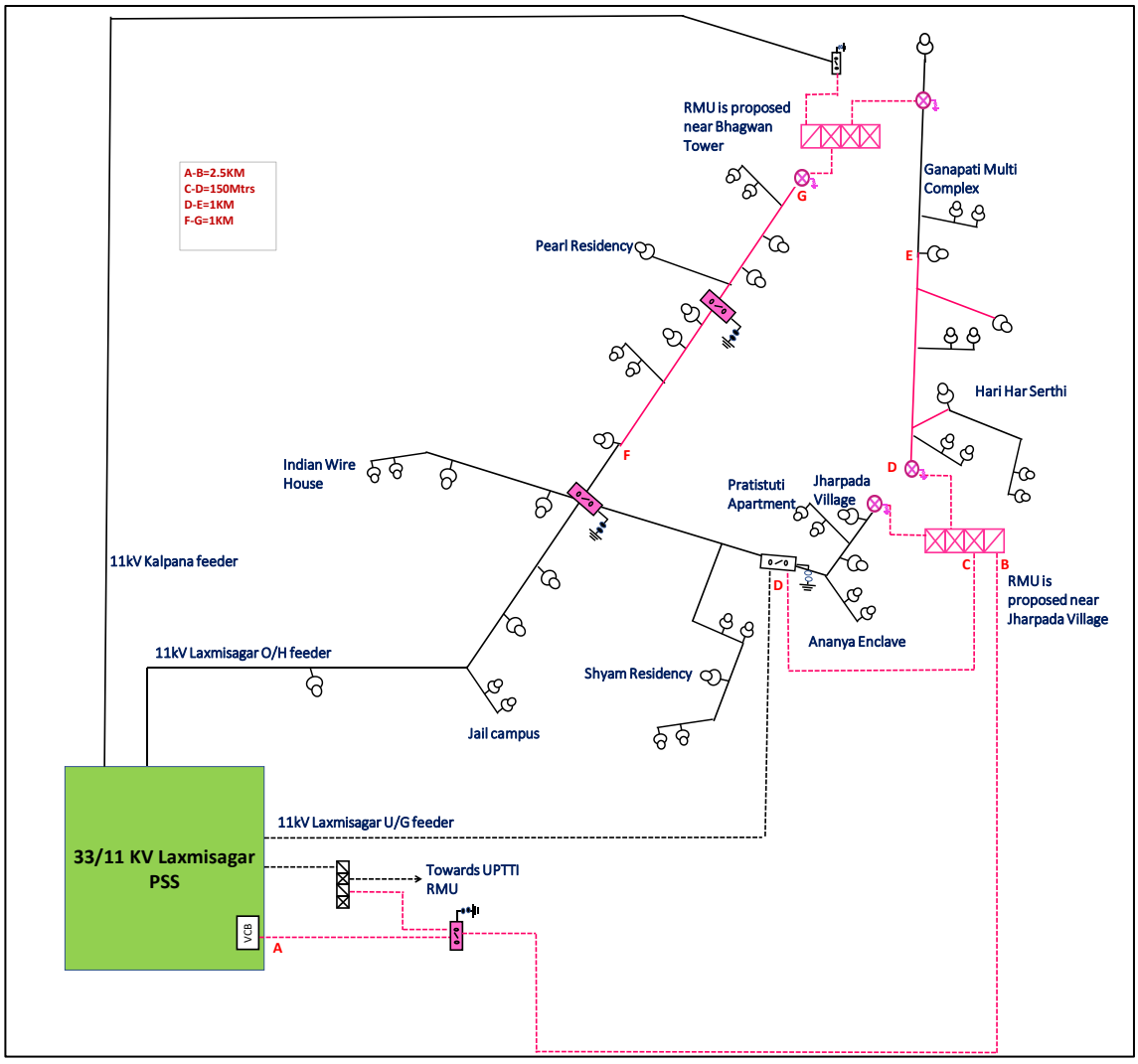
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 85% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

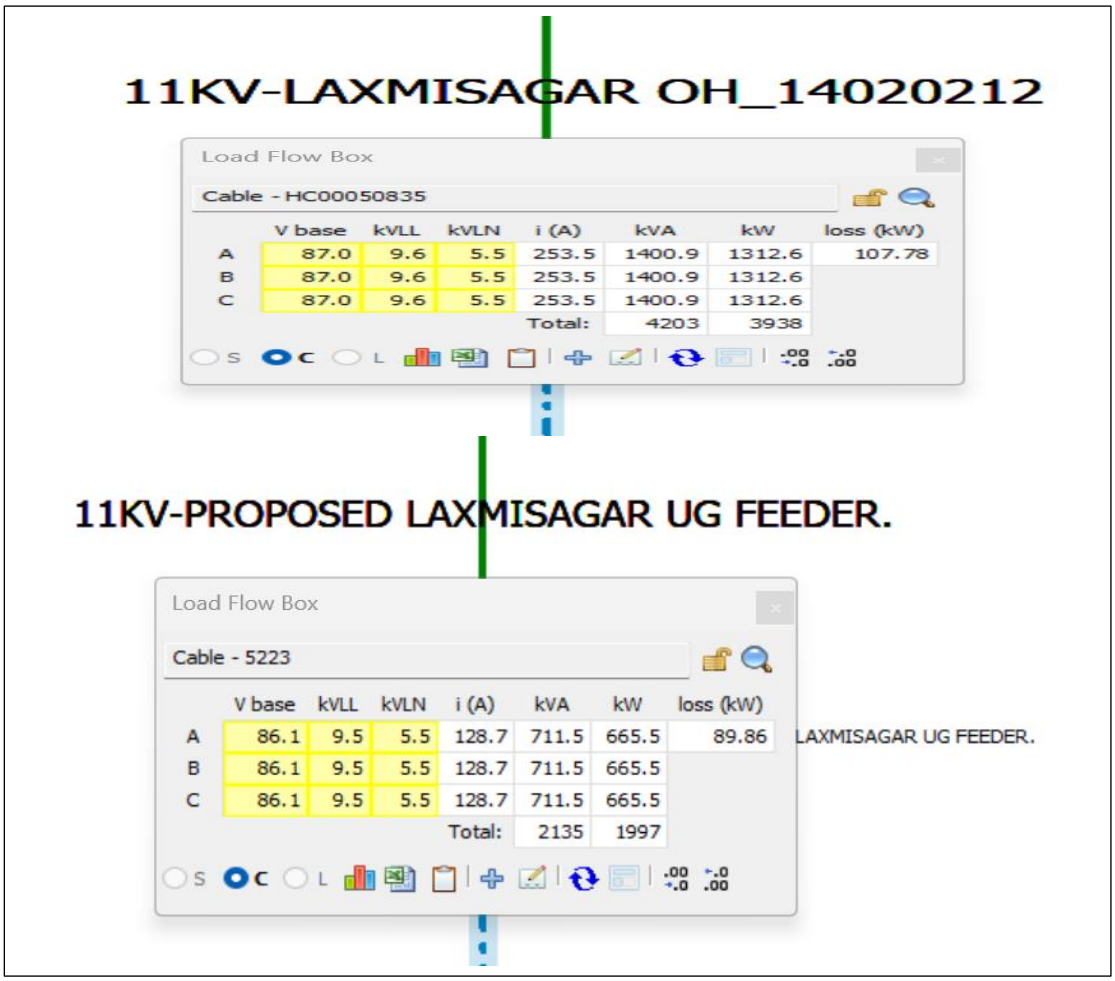
- It is proposed to construct of 2.5 KM new line using 11kV 3Cx400sqmm from Laxmisagar PSS to Jharpada Village for load bifurcation from existing 11kV Laxmisagar O/H Feeder.
- Installation of 2 No. of 11kV RMU for feeder bifurcation and reliability
- Conductor augmentation of 2 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Laxmisagar	Laxmisagar O/H	5.18	3.80	73%	Under load	107.78
Laxmisagar	Bajrang Nagar	5.75	2.05	36%	Under load	89.86

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 2.5 KM new line using 11kV 3Cx400sqmm from Laxmisagar PSS to Jharpada Village for load bifurcation from existing 11kV Laxmisagar O/H Feeder.
- Installation of 2 No. of 11kV RMU for feeder bifurcation and reliability
- Conductor augmentation of 2 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.6	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	Laxmisagar
Name of the Feeder: -	11kV Laxmisagar O/H Feeder
Name of the Work :-	Proposal for Construction of 2.5KM of 3CX400SQMM UG Cable New line from Laxmisagar PSS to near Jharpada Village and augmentation of 2km O/H line
Names of Schemes: -	**CAPEX 27-28**
Abstract of Estimate	

Sl. No.	Description	Gross
1	PART-A: - Construction of 2.5KM new line from Laxmisagar PSS to near Jharpada Village using 11kV 3C, 400sqmm UG Cable along 2nos of RMU 11kV RMU	2,70,59,271.78
2	PART-B:- 1. Installation of 1no. of Line DP with AB Switch 2. Augmentation of 2Kms O/H line due to dense vegetation area and damagaed conductor	26,23,644.98
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Laxmisagar PSS.	3,63,345.44
4	PART-D:- Dismantling	37,422.52
5	**Total Gross**	**3,00,83,684.73**
Total estimated cost is Rs. 3.01 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 3.01 Crore (For detailed BoQ refer Annexure- 21.6)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF – 0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Laxmisagar	Laxmisagar O/H	5027	230	**32.10**	**8.19**	**71704.98**	**2.55**
After Proposal	Laxmisagar	Laxmisagar O/H	3938	108				
After Proposal	Laxmisagar	Bajrang Nagar	1997	90				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	300.84	Rs. Lac
B	Additional load due to load growth	-	1425.45	kVA
C	Total kW due to load growth	B*pf(power factor)	1354.18	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	1186259	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	28.35	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	2.55	Rs. Lac
J	Net Revenue Collected	H+I	30.90	Rs. Lac
K	% revenue return	(J/A)*100	10.3	%
L	Pay Back Period	100/K	9.74	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Improved capability of Network by use of covered conductor ,resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
5. The above arrangement will help to release power supply to upcoming potential consumers.

7. Proposal for overloading mitigation and Reliability improvement of 11kV BM RMU-15 Feeder:

Proposal:

Proposal load diversion of 11kV BMRMU-15 through Linking line for mitigation of overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by load diversion of 11kV BMRMU-15 through Linking line for mitigation of overloading and strengthening the existing network by doing Conductor Augmentation.

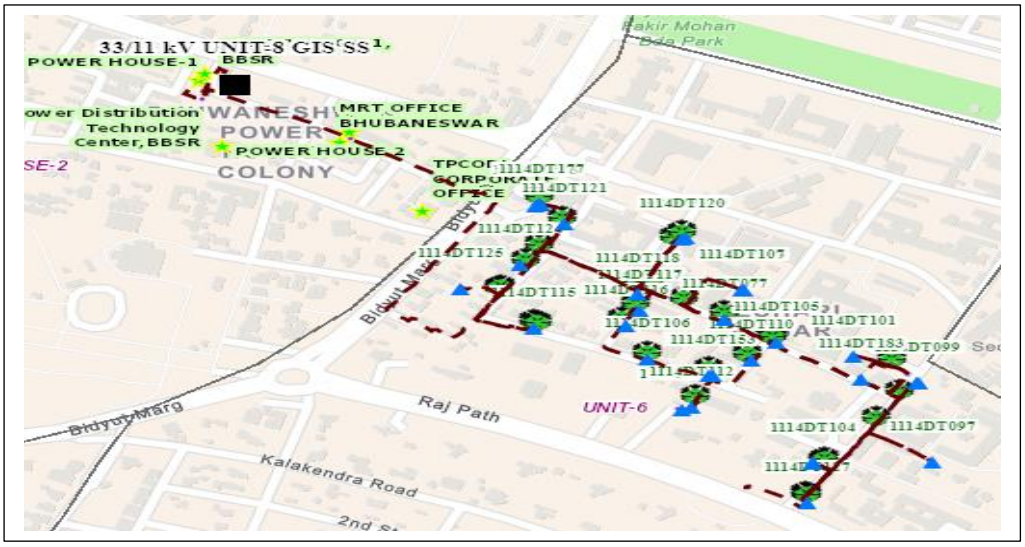
Existing Scenario:

- 11kV BM RMU-15 feeder is emanating from 33/11kV Unit-8 PSS. Total length of this feeder is 4.7KM and the peak load is 4.9MVA.
- Conductor size of 11kV BM RMU-15 feeder is & the feeder is 102% loaded w.r.t the current carrying capacity of the conductor and 123% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

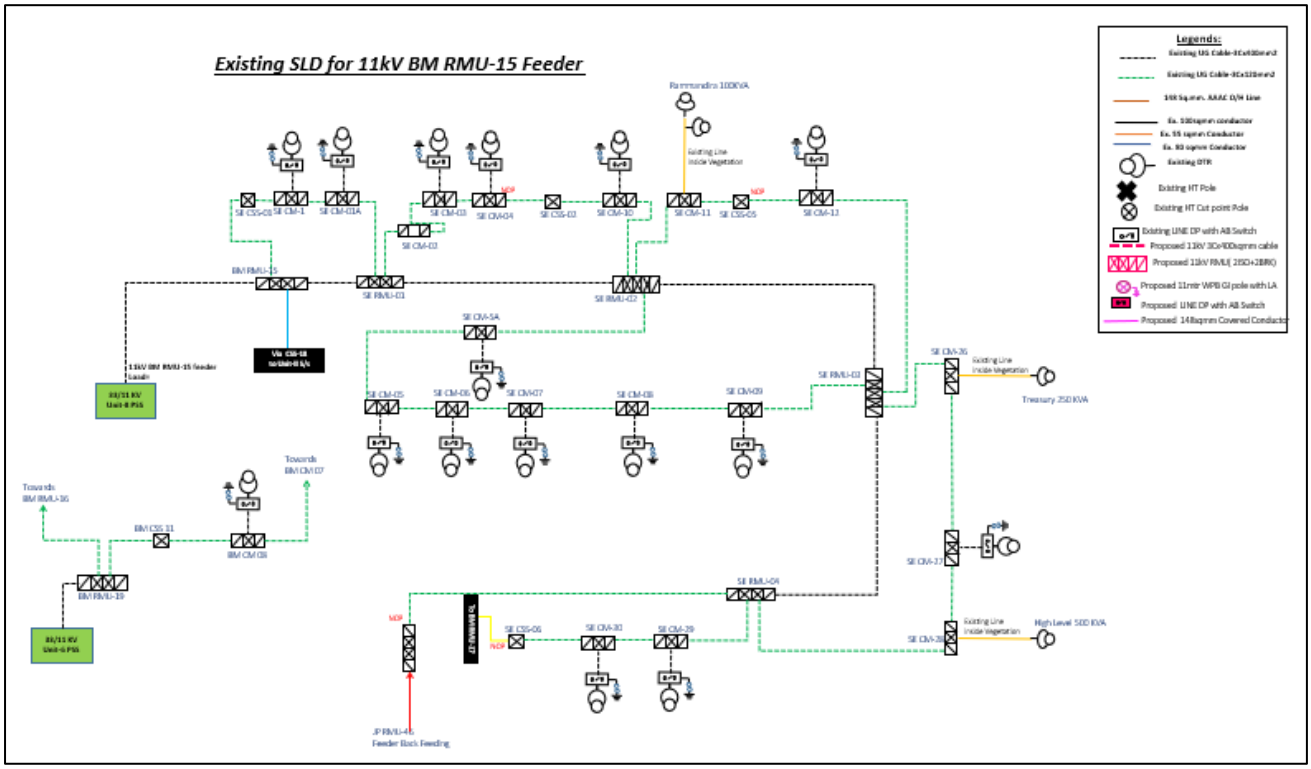
Existing Summer'26 Loading and projected load at 11 kV BM RMU-15 Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Summer' 28)	Loss in kW in Summer' 28
Unit-8	BM RMU 15	3.07	3.12	102%	Over load	3.78	123%	Over load	141.1

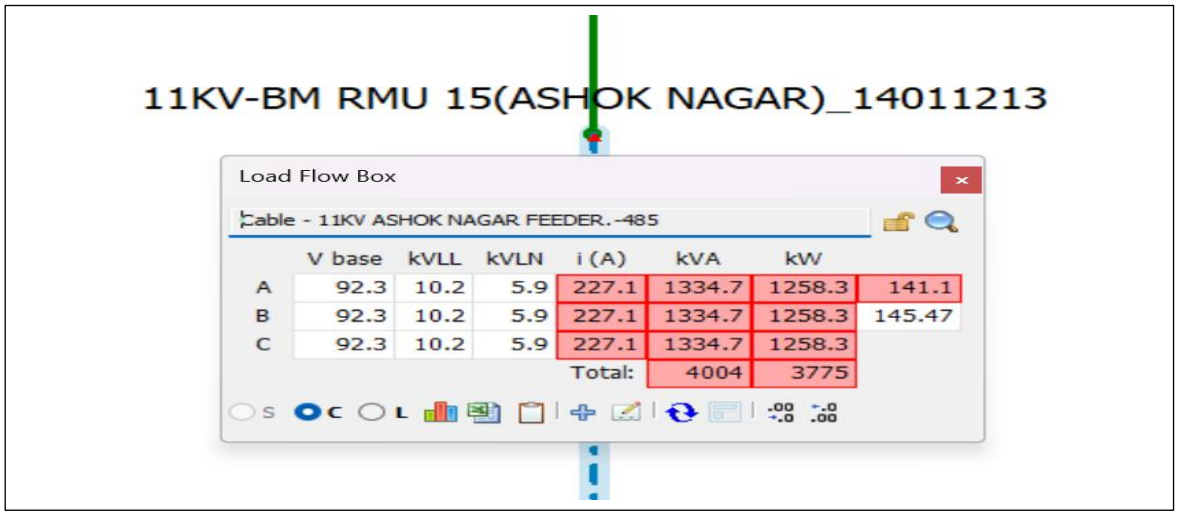
GIS Map: -



Existing SLD:



Load Flow Study of existing scenario in CYME Software: -

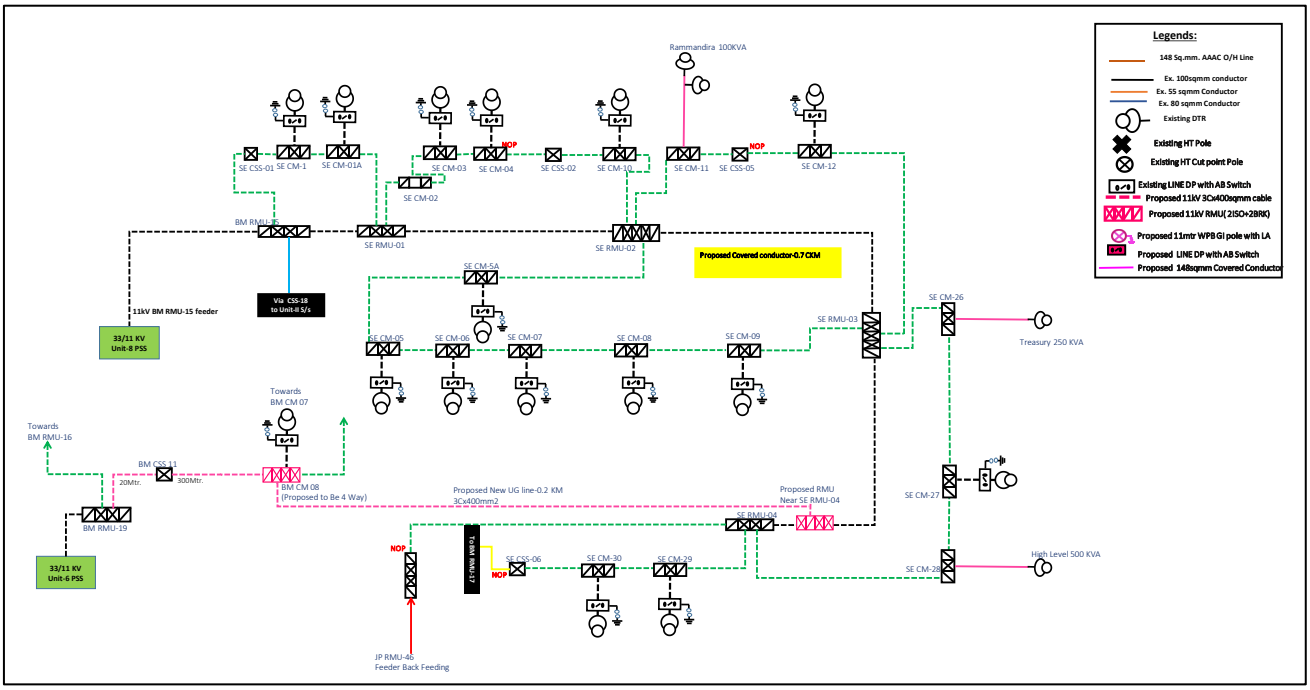


Proposed Scenario:

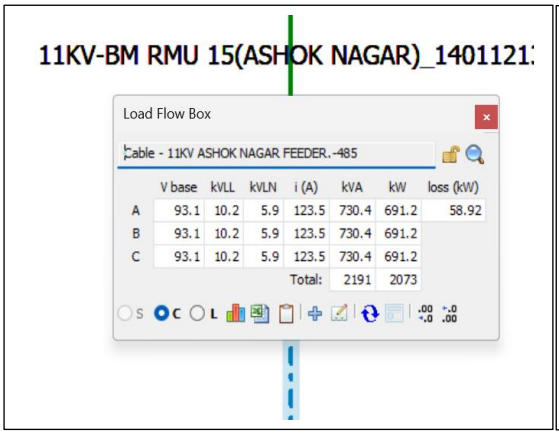
- It is proposed to construct of 0.52 KM new line using 11kV 3Cx400sqmm from BM CSS-11 to SE RMU-04 for load diversion.
- Installation of 2 No. of 11kV RMU for load diversion.
- Conductor augmentation of 0.7CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

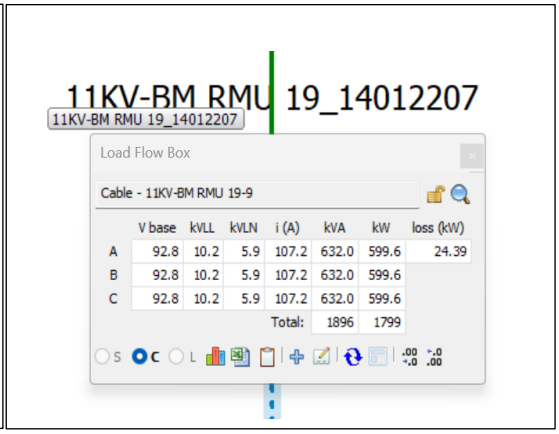
Loading after Proposal (Summer'28)						
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Projected load Summer'28 (MVA)	% Loading in Summer-28	Feeder Status	Loss in kW in Summer'28
Unit-8	BM RMU 15	5.75	2.19	38%	Under load	58.92
Unit-6	BM RMU 19	5.75	1.89	33%	Under load	24.39

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

- It is proposed to construct of 0.52 KM new line using 11kV 3Cx400sqmm from BM CSS-11 to SE RMU-04 for load diversion.
- Installation of 2 No. of 11kV RMU for load diversion.
- Conductor augmentation of 0.7CKM using 100mm2 XLPE Covered Conductor for feeder strengthening

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.7		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Unit-6
Name of the Feeder: -		11kV BM RMU-15
Name of the Work :-		Proposal for load diversion of 11kV BMRMU-15 through Linking line for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 0.52 KM using 3Cx400mm2 XLPE UG cable from BM CSS-11 t0 SE RMU 04. 2. Installation of 2 Nos. of RMU in 11kV BM RMU-19 & 11kV BM RMU-15.	93,90,294.74
2	Part-B:-Augmentation of 11kV BM RMU-15 Feeder of length 0.7 CKM.	12,02,724.09
3	Part-C Dismantling.	33,538.44
4	**Total Gross**	**1,06,26,557.27**
Total estimated cost is Rs. 1.06 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 1.06 Crore (For detailed BoQ refer Annexure- 21.7)

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Unit-8	BM RMU 15	3775	141	**57.79**	**14.74**	**129091.30**	**4.58**
After Proposal	Unit-8	BM RMU 15	2073	59				
After Proposal	Unit-6	BM RMU 19	1799	24				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	106.27	Rs. Lac
B	Additional load due to load growth	-	655.20	kVA
C	Total kW due to load growth	B*pf(power factor)	622.44	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	545257	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	13.03	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	4.58	Rs. Lac
J	Net Revenue Collected	H+I	17.61	Rs. Lac
K	% Revenue return	(J/A) *100	16.6	%
L	Pay Back Period	100/K	6.03	Years

Benefit to the system and consumers:

5. Improved Reliability thereby overloading mitigation
6. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
7. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
8. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
9. The above arrangement will help to release power supply to upcoming potential consumers

8. Proposal for overloading mitigation and Reliability improvement of 11kV JP RMU-34 Feeder:

Proposal:

Proposal for load bifurcation of 11 kV JP RMU-34 Feeder on 11kV Ganganagar feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading 11kV JP RMU-34 load will be bifurcated on 11kV Ganganagar Feeder and strengthening the existing network by doing Conductor Augmentation.

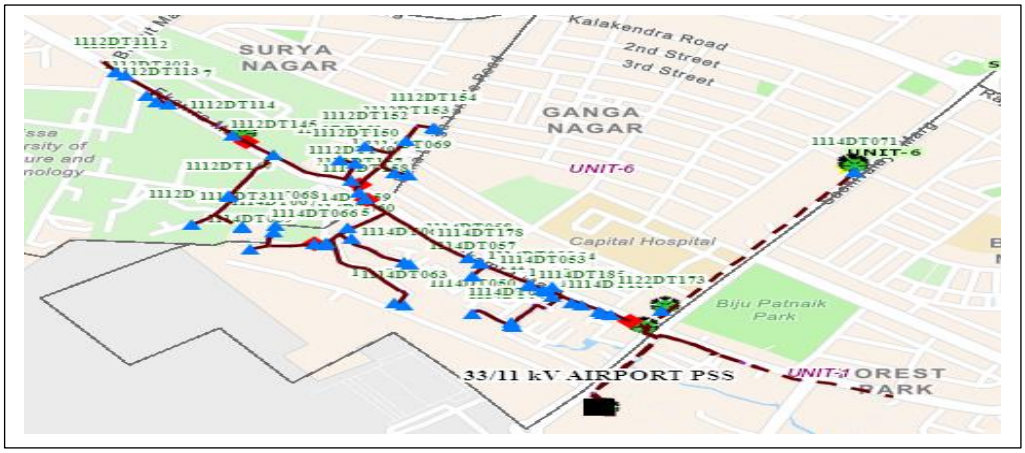
Existing Scenario:

- 11kV JP RMU-34 feeder is emanating from 33/11kV Airport PSS. Total length of this feeder is 5.12 KM and the peak load is 3.08 MVA.
- Conductor size of 11kV JP RMU-34 feeder is 120sq.mm & the feeder is 102% loaded w.r.t the current carrying capacity of the conductor and 123% loaded considering 10% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

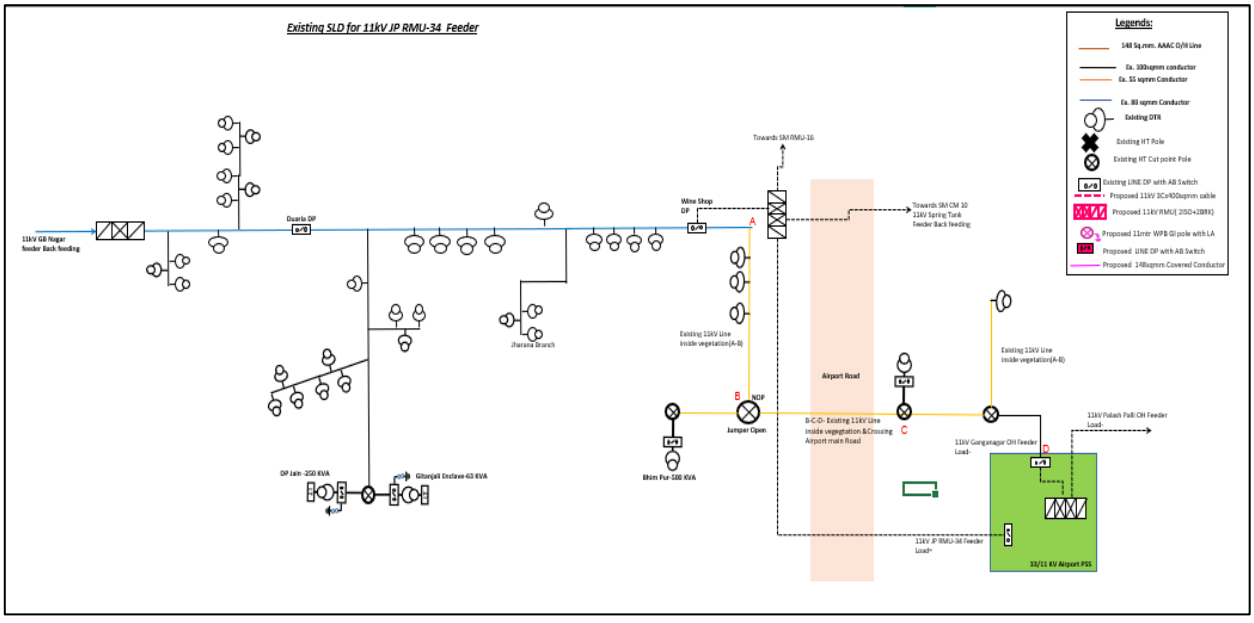
Existing Summer'26 Loading and projected load at 11 kV JP RMU-34 Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Summer' 28)	Loss in kW in Summer' 28
Airport	JP RMU 34	3.07	3.08	100%	Over load	3.73	122%	Over load	125.17

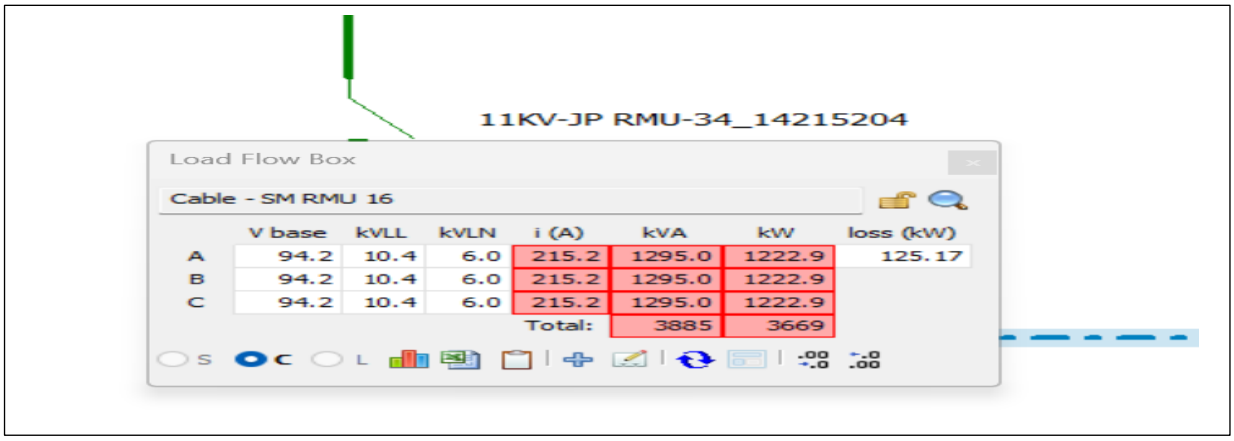
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software: -

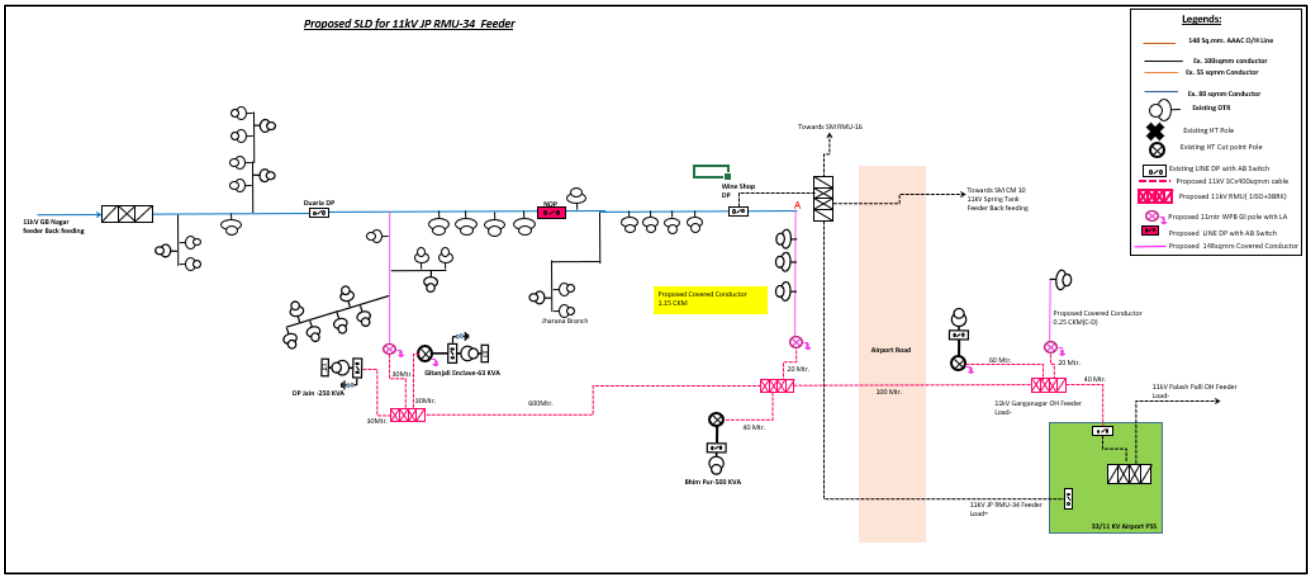


Proposed Scenario:

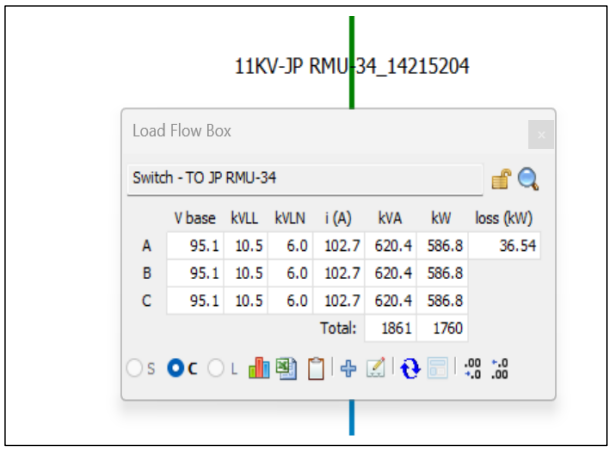
- It is proposed to construct of 0.65KM new line using 11kV 3Cx400sqmm from Shanti Pally PSS IDBI Square for load Bifurcation from existing 11KV JP RMU-34 Feeder.
- Installation of 2 No. of 11kV RMU for feeder bifurcation and reliability
- Conductor augmentation of 1.15CKM using 100mm2 XLPE Covered Conductor for feeder strengthening.

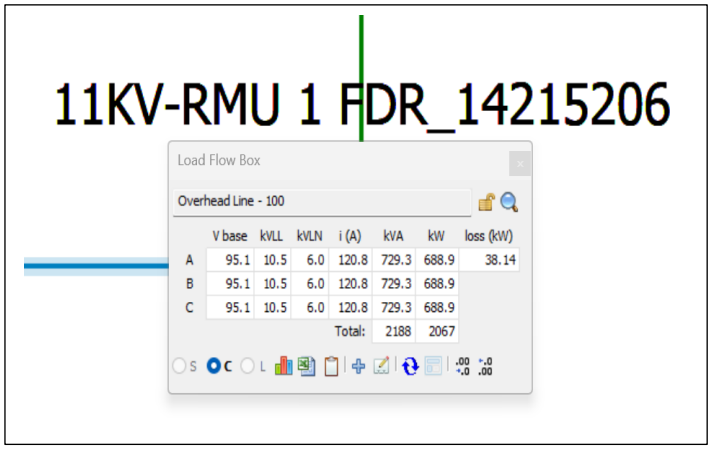
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Airport	JP RMU 34	3.07	1.86	61%	Under load	36.54
Airport	RMU 1	5.75	2.18	38%	Under load	38.14

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

- Laying of 11kV UG cable of length- 1.15 CKM using 3Cx400mm2 XLPE UG cable from Airport PSS to Gitanjali Enclave.
- Installation of 3 Nos. of RMU in 11kV JPRMU-34 Feeder.
- Augmentation of 11kV JP RMU-34 Feeder of length 1.15 CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.8		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Unit-6
Name of the Feeder: -		11kV JP RMU-34
Name of the Work :-		Proposal for Load Diversion through linking line 11kV JP RMU-34 Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A: - 1. Laying of 11kV UG cable of length- 1.15 CKM using 3Cx400mm2 XLPE UG cable from Airport PSS to Gitanjali Enclave. 2. Installation of 3 Nos. of RMU in 11kV JPRMU-34 Feeder.	1,48,96,648.41
2	Part-B: -Augmentation of 11kV JP RMU-34 Feeder of length 1.15 CKM.	21,05,417.82
3	Part-C Dismantling.	52,885.53
4	**Total Gross**	**1,70,54,951.76**
Total estimated cost is Rs. 1.71 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 1.71Crore (For detailed BoQ refer Annexure-21.8)

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Airport	JP RMU 34	3669	125	**50.49**	**12.87**	**112784.56**	**4.00**
After Proposal	Airport	JP RMU 34	1760	37				
After Proposal	Airport	RMU 1	2067	38				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	170.55	Rs. Lac
B	Additional load due to load growth	-	646.80	kVA
C	Total kW due to load growth	B*pf(power factor)	614.46	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	538267	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	12.86	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	4.00	Rs. Lac
J	Net Revenue Collected	H+I	16.87	Rs. Lac
K	% revenue return	(J/A)*100	9.9	%
L	Pay Back Period	100/K	10.11	Years

Benefit to the system and consumers:

- Improved Reliability thereby overloading mitigation.
- Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
- Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
- Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
- The above arrangement will help to release power supply to upcoming potential consumers

9. Proposal for overloading mitigation and Reliability improvement of 11kV Telephone Bhawan Feeder:

Proposal:

Proposal for bifurcation and augmentation of 11 kV Telephone Bhawan Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Kharvel Nagar PSS

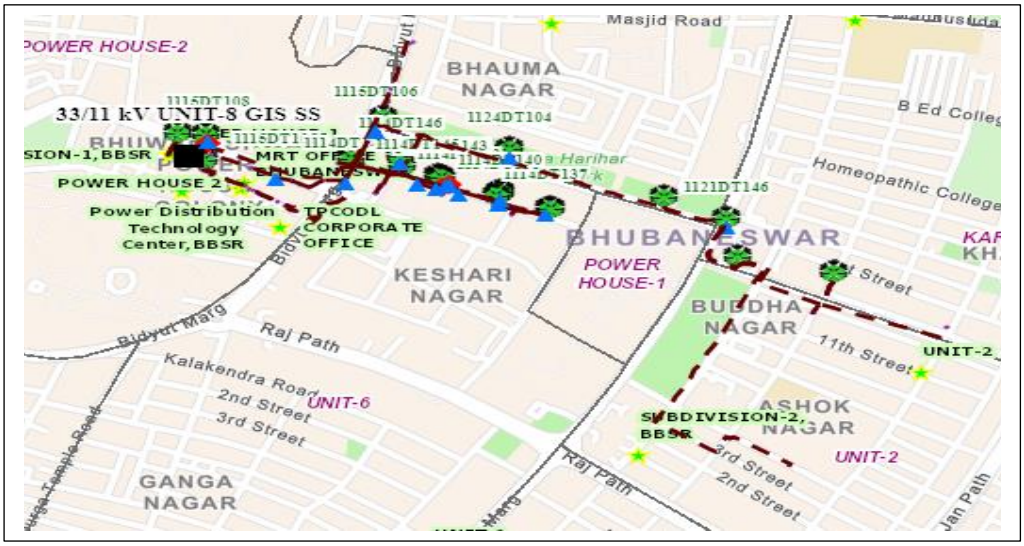
Existing Scenario:

- 11kV Telephone Bhawan feeder is emanating from 33/11kV Unit-8 PSS. Total length of this feeder is 2.28KM and the peak load is 2.59MVA.
- Conductor size of 11kV Ashok Nagar feeder is 3Cx120 sq.mm & the feeder is 84% loaded w.r.t the current carrying capacity of the conductor and 102% loaded considering 10% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

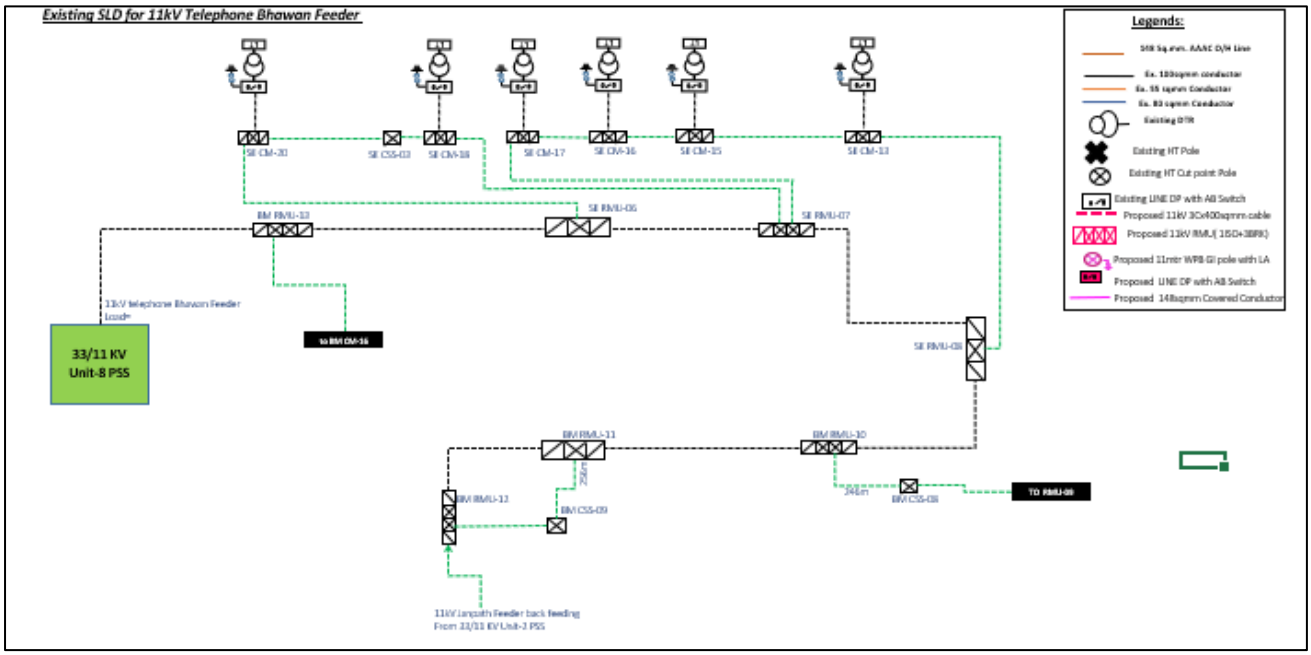
Existing Summer'26 Loading and projected load at 11 kV Telephone Bhawan Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Summer' 28)	Loss in kW in Summer' 28
Unit-8	Telephone bhavan	3.07	2.59	84%	Under load	3.13	102%	Over load	131.83

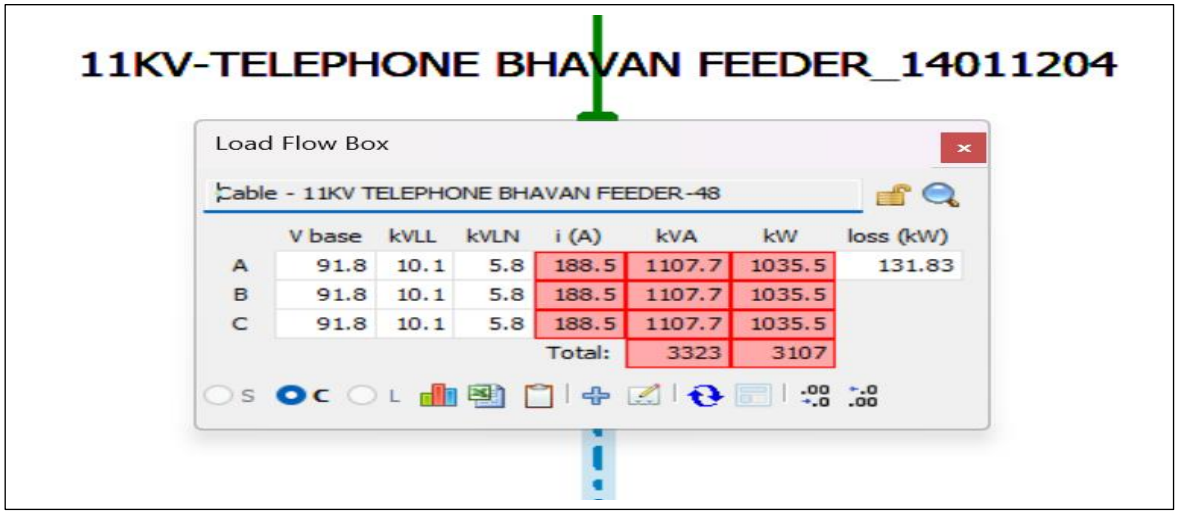
GIS Map: -



Existing SLD:



Load Flow Study of existing scenario in CYME Software: -

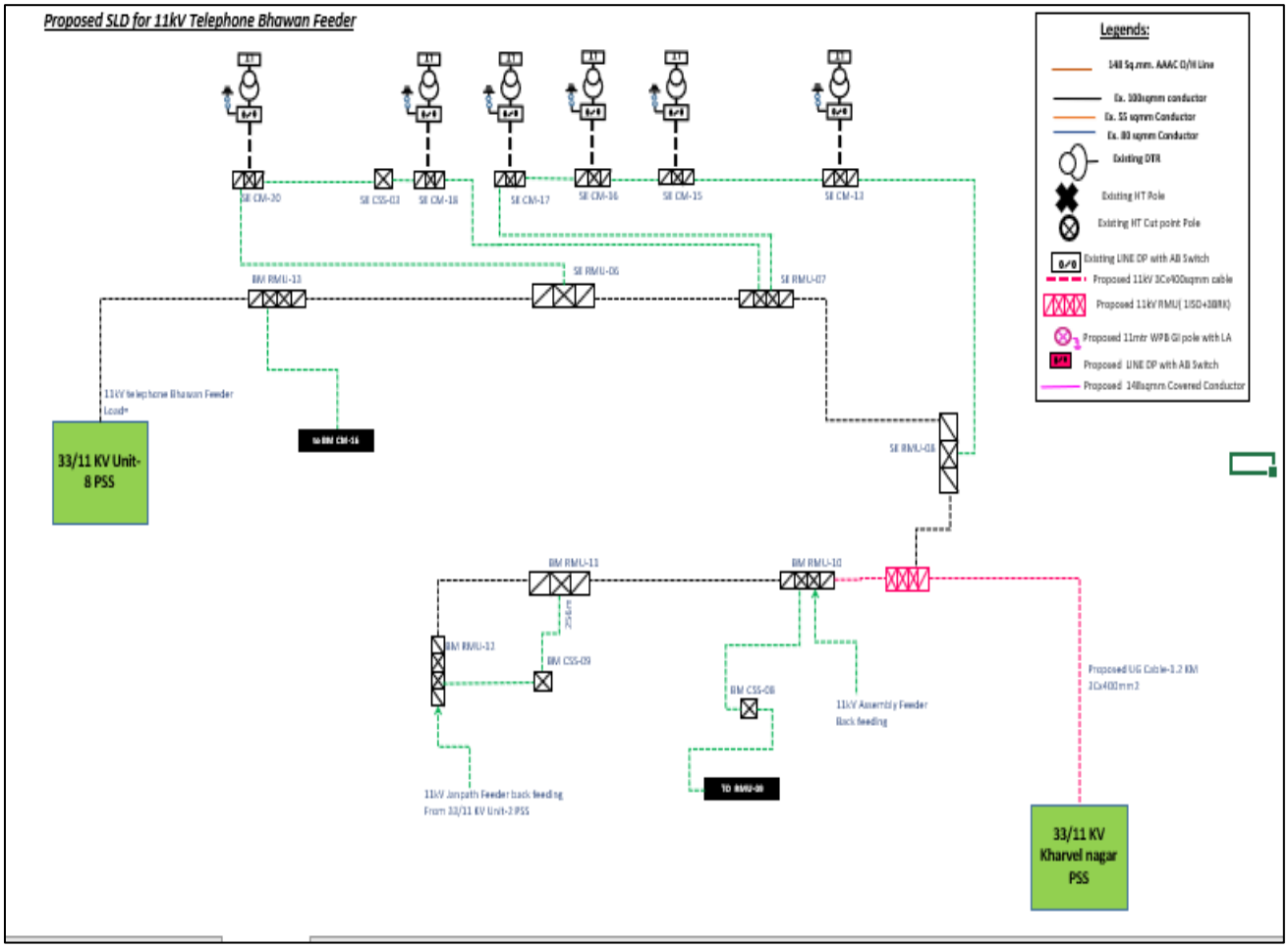


Proposed Scenario:

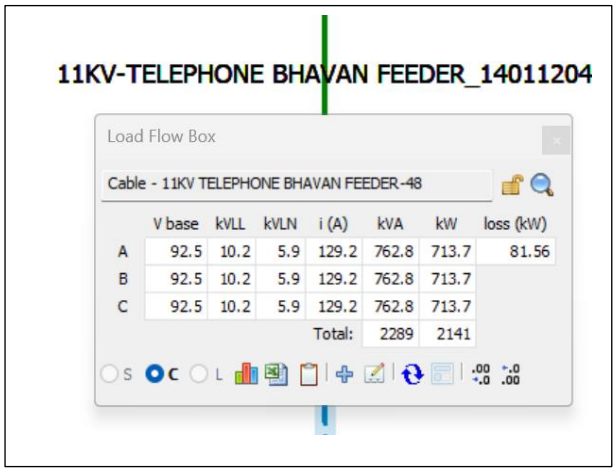
- It is proposed to construct of 1.2 KM new line using 11kV 3Cx400sqmm from Kharvel Nagar PSS to Telephone Bhawan feeder near Assembly for load Bifurcation from existing 11KV Telephone Bhawan Feeder.
- Installation of 1 No. of 11kV RMU for feeder bifurcation.

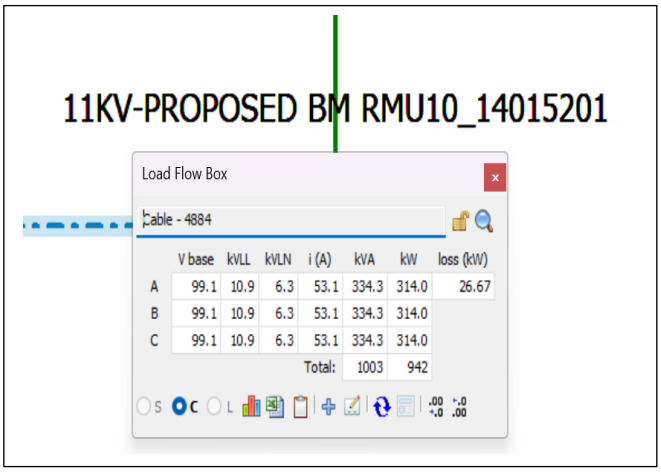
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Unit-8	Telephone Bhawan	3.07	2.28	74%	Under load	81.56
Kharavela Nagar	Proposed BM RMU-10	5.75	1.03	18%	Under load	26.67

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

- It is proposed to construct of 1.2 KM new line using 11kV 3Cx400sqmm from Kharvel Nagar PSS to Telephone Bhawan feeder near Assembly for load Bifurcation from existing 11KV Telephone Bhawan Feeder.
- Installation of 1 No. of 11kV RMU for feeder bifurcation.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.9		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division: -		BCDD-I
Name of the Sub-Division: -		SDO-1
Name of the Section: -		Unit-6
Name of the Feeder: -		11kV Telephone Bhawan feeder
Name of the Work: -		Proposal for Bifurcation of 11kV Telephone Bhawan Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A: - 1. Laying of 11kV UG cable of length- 1.2 CKM using 3Cx400mm2 XLPE UG cable from Kharvel nagar PSS to Telephone Bhawan feeder near Assembly. 2. Installation of 1no. Of RMU near BM RMU-10.	1,34,45,366.93
2	**Total Gross**	**1,34,45,366.93**
Total estimated cost is Rs. 1.34 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 1.34Crore (For detailed BoQ refer Annexure- 21.9)

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF – 0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Unit-8	Telephone Bhawan	3107	132	**23.60**	**6.02**	**52717.68**	**1.87**
After Proposal	Unit-8	Telephone Bhawan	2141	82				
After Proposal	Kharavela nagar	Proposed BM rmu 10	942	27				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	134.45	Rs. Lac
B	Additional load due to load growth	-	543.90	kVA
C	Total kW due to load growth	B*pf(power factor)	516.71	kW

D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	452634	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	10.82	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	1.87	Rs. Lac
J	Net Revenue Collected	H+I	12.69	Rs. Lac
K	% revenue return	(J/A)*100	9.4	%
L	Pay Back Period	100/K	10.60	Years

Benefit to the system and consumers:

- Improved Reliability thereby overloading mitigation.
- Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
- Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
- The above arrangement will help to release power supply to upcoming potential consumers.

10. Proposal for overloading mitigation and Reliability improvement of 11kV Town-2 Feeder:

Proposal:

Proposal for augmentation/refurbishment of 1.6 CKM 11 kV O/H line using 14 Mtr. H-Pole/11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAA Conductor along with construction of 0.8 CKM O/H line for N-1 connectivity between 11 kV Town-2 & Block Fdr. to mitigate overloading issue.

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Town-2 Feeder.

Existing Scenario:

- At present, 11kV Town-2 feeder is emanating from 33/11kV Kendrapara PSS. Total length of this feeder is 7.2 CKM and the peak load is 4.01 MVA.
- In the existing scenario, Conductor size of 11kV feeder is 80 sq.mm & the feeder is 89% loaded w.r.t the current carrying capacity of the conductor.
- Considering 11% load growth for next 2Yrs. the feeder loading will reach 109% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic consumers.
- This feeder is mainly feeding urban consumers of Kendrapara Town area, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load

growth of the area, conductor augmentation proposed for overloading mitigation & reliability improvement.

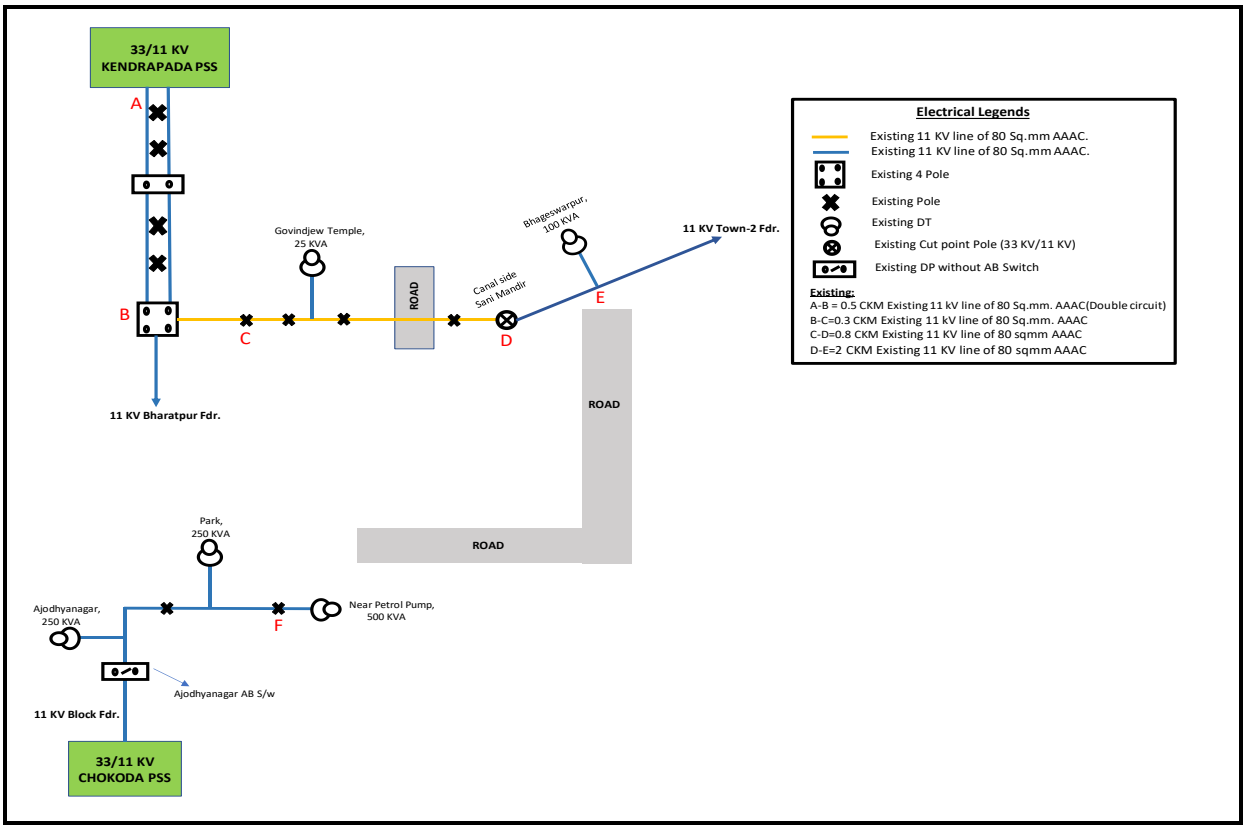
Existing Summer'26 Loading and projected load at 11kV Town-2 Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer '28
Kendrapara	Town-2	4.51	4.01	89%	Under load	4.94	109%	Over load	153.65

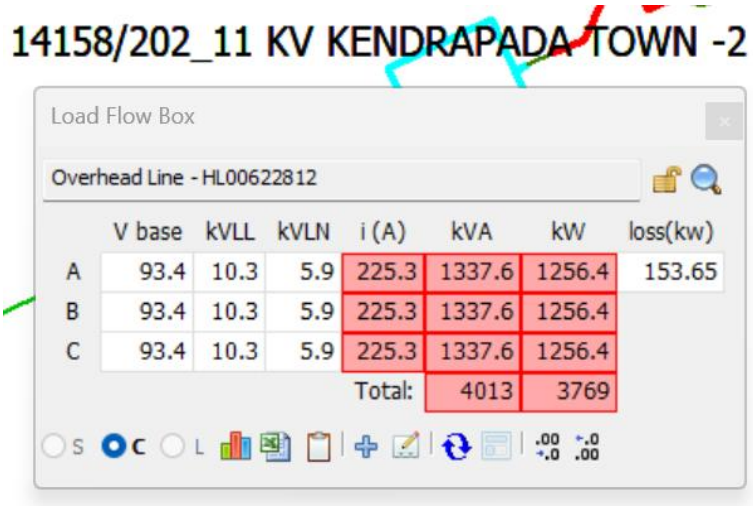
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 89% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 109%. In case the issue is not addressed, there will be load shedding of 2658 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 89% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

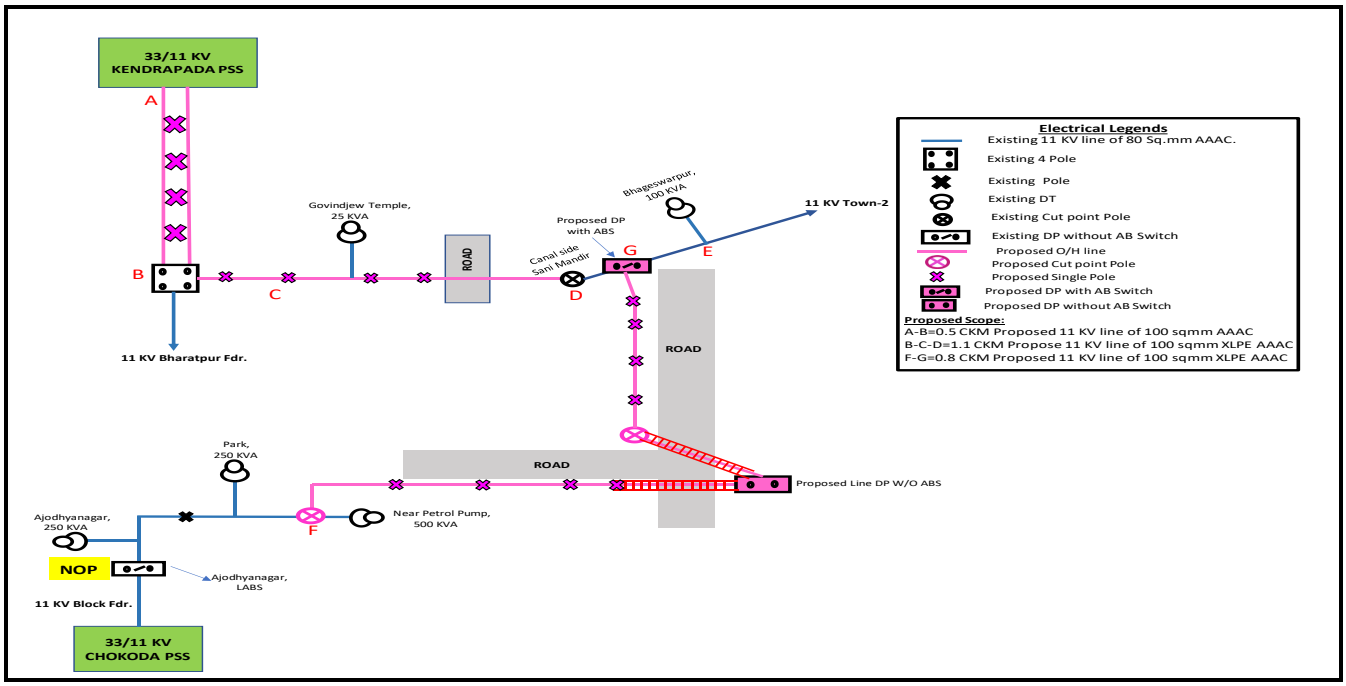
Proposed Scenario:

- Proposal for augmentation of 0.5 CKM 11 kV double circuit O/H line of 11 kV Town-2 & Bharatpur feeder using 100 Sq.mm. XLPE AAAC & 14 Mtr. H-Pole to mitigate overloading issue.
- Proposal for augmentation of 1.1 CKM O/H line of 11 kV Town-2 feeder using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC.
- Proposal for construction 0.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC for N-1 connectivity between 11 kV Town-2 & Block feeder.

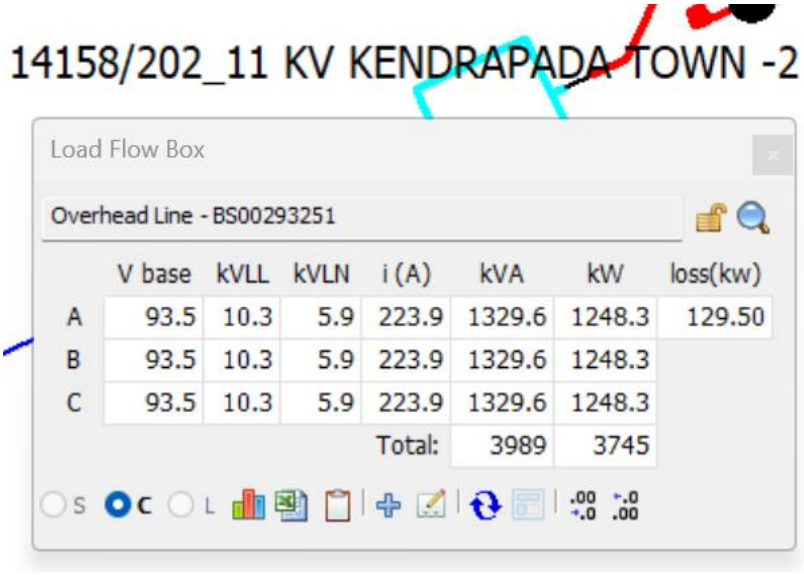
Proposed Summer'28 Loading and projected load at 11kV Town-2 Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Kendrapara	Town-2	5.18	4.94	95%	Under load	129.50

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	93.5	10.3	5.9	223.9	1329.6	1248.3	129.50
B	93.5	10.3	5.9	223.9	1329.6	1248.3	
C	93.5	10.3	5.9	223.9	1329.6	1248.3	
				Total:	3989	3745	

Scope of Work:

- Construction of 0.5 CKM 11 kV O/H line (Double Circuit) using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC.
- Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC.
- Construction of 0.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC in vertical arrangement.
- Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. for road crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.10		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Kendrapara	
Name of the Section : -	Kendrapara-I	
Name of the Work :-	Proposal for augmentation of 1.6 CKM 11 kV O/H line of 11 kV Town-2 feeder for mitigation of overloading issue along with construction of 0.8 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Block & Town-2 Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.5 CKM 11 kV O/H line (Double Circuit) using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD AB)	2,289,438.07
2	PART B: Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD BCD)	3,662,146.99
3	PART C: Construction of 0.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC in vertical arrangement (Refer PSLD F-G)	2,584,152.13
4	PART D: Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)	152,185.94
5	PART E: Dismantling Portion	105,103.98
6	**Total Amount**	**8,793,027.11**
	Total Amount (In Cr.)	**0.88**
Total estimated cost is Rs. 0.88 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.88 Crore (For detailed BoQ refer Annexure- 21.10)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Kendrapara	Town-2	3769	154	**24.15**	**6.16**	**53946.27**	**1.92**
After Proposal	Kendrapara	Town-2	3745	130				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	73.55	Rs. Lac
B	Additional load due to load growth	-	930.72	kVA
C	Total kW due to load growth	B*pf(power factor)	884.18	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	774546	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	18.51	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	1.92	Rs. Lac
J	Net Revenue Collected	H+I	20.43	Rs. Lac
K	% revenue return	(J/A)*100	27.8	%
L	Pay Back Period	100/K	3.60	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation of 11 kV Town-2 feeder.
2. N-1 connectivity will be established between 11 kV Town-2 & Block feeder.
3. Improved capability of Network by use of higher size conductor, resulting into reduction in tripping on the feeder.
4. Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
5. Consumers will get Quality & Reliable power supply with fewer interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
6. The above arrangement will help to release power supply to upcoming potential urban consumers.

11. Proposal for overloading mitigation and Reliability improvement of 11kV BDA Feeder:

Proposal:

Proposal for Load Diversion of existing 11 BDA Feeder load emanating from 33/11kV CSPur-1 PSS by linking with nearby Feeder.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by load diversion of the existing feeder with construction of new Linking line & load Diversion.

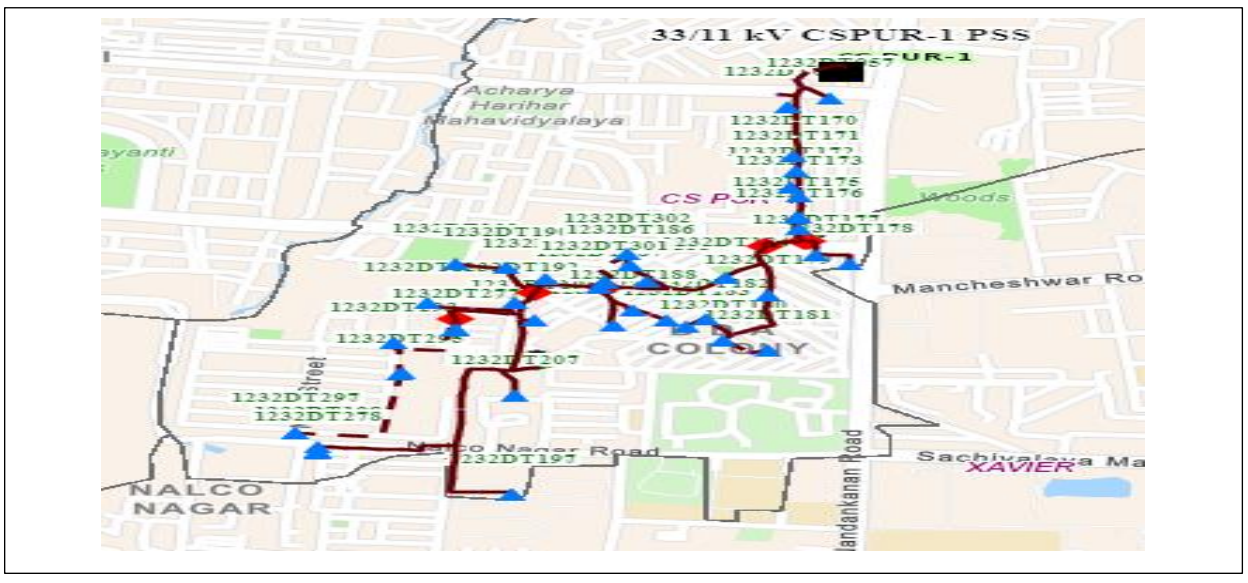
Existing Scenario:

- 11kV BDA feeder is emanating from 33/11kV CS Pur-1 PSS. Total length of this feeder is 5.65 CKM and the peak load is 3.56 MVA.
- Conductor size of 11kV CS Pur-1 BDA feeder is 55 sq.mm & the feeder is 101% loaded w.r.t the current carrying capacity of the conductor and 133% loaded considering 15% load growth for urban feeders.
- This feeder is completely feeding commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

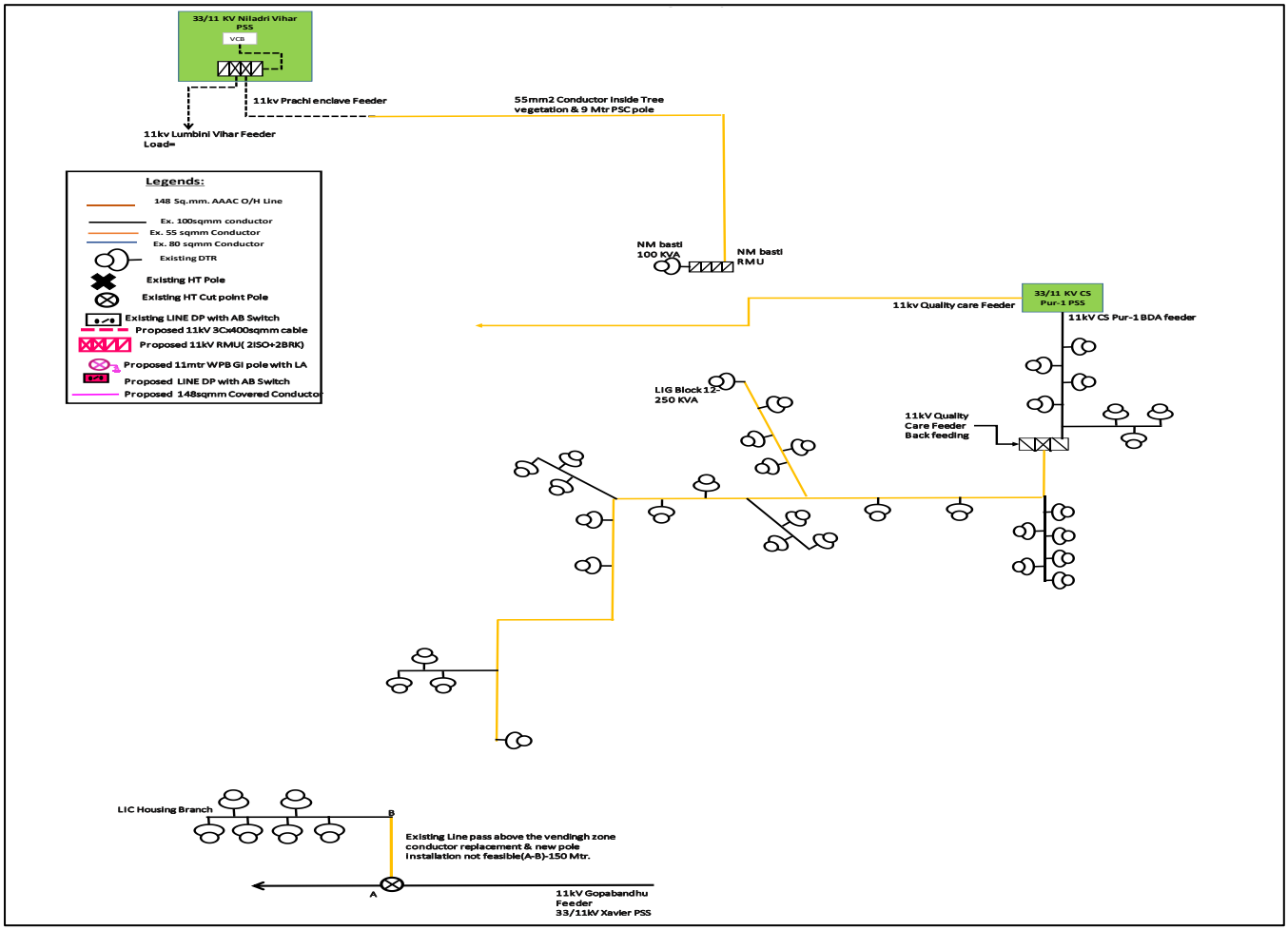
Existing Summer'26 Loading and projected load at 11kV BDA Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Summer' 28)	Loss in kW in Summer '28
CS Pur-1	BDA	3.56	3.58	101%	Over load	4.73	133%	Over load	155.75
CS Pur-1	Quality Care	3.56	1.25	35%	Under load	1.65	46%	Under load	26.39

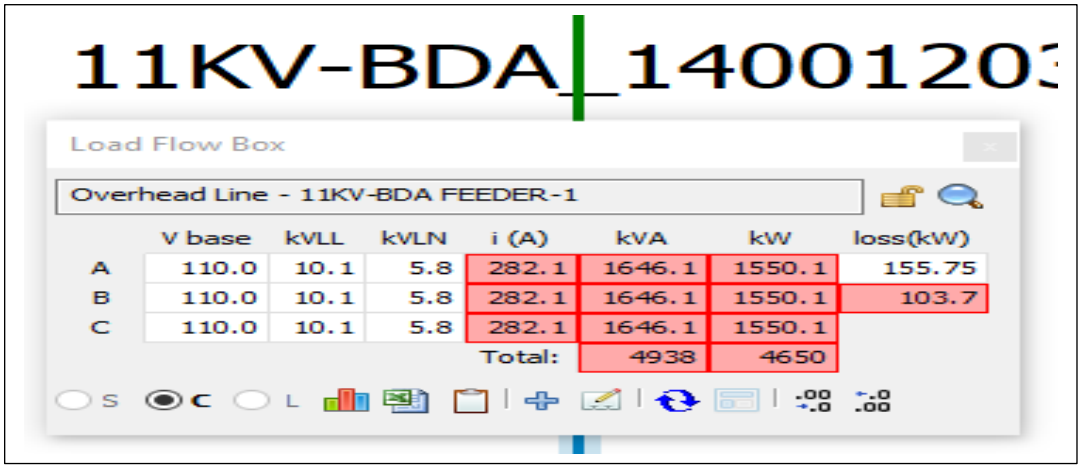
GIS Map:-



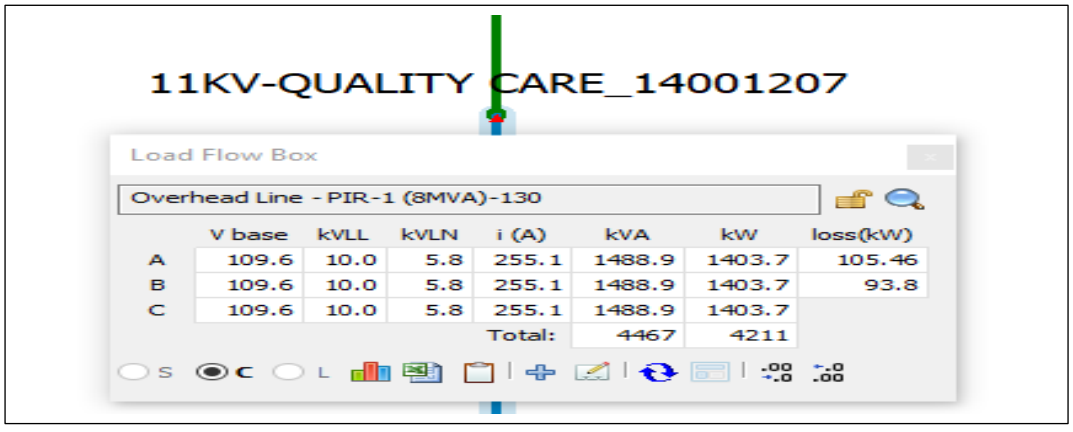
Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kW)
A	110.0	10.1	5.8	282.1	1646.1	1550.1	155.75
B	110.0	10.1	5.8	282.1	1646.1	1550.1	103.7
C	110.0	10.1	5.8	282.1	1646.1	1550.1	
				Total:	4938	4650	



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kW)
A	109.6	10.0	5.8	255.1	1488.9	1403.7	105.46
B	109.6	10.0	5.8	255.1	1488.9	1403.7	93.8
C	109.6	10.0	5.8	255.1	1488.9	1403.7	
				Total:	4467	4211	

Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 101% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 133%. In case the issue is not addressed, there will be load shedding of 3494 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 95% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

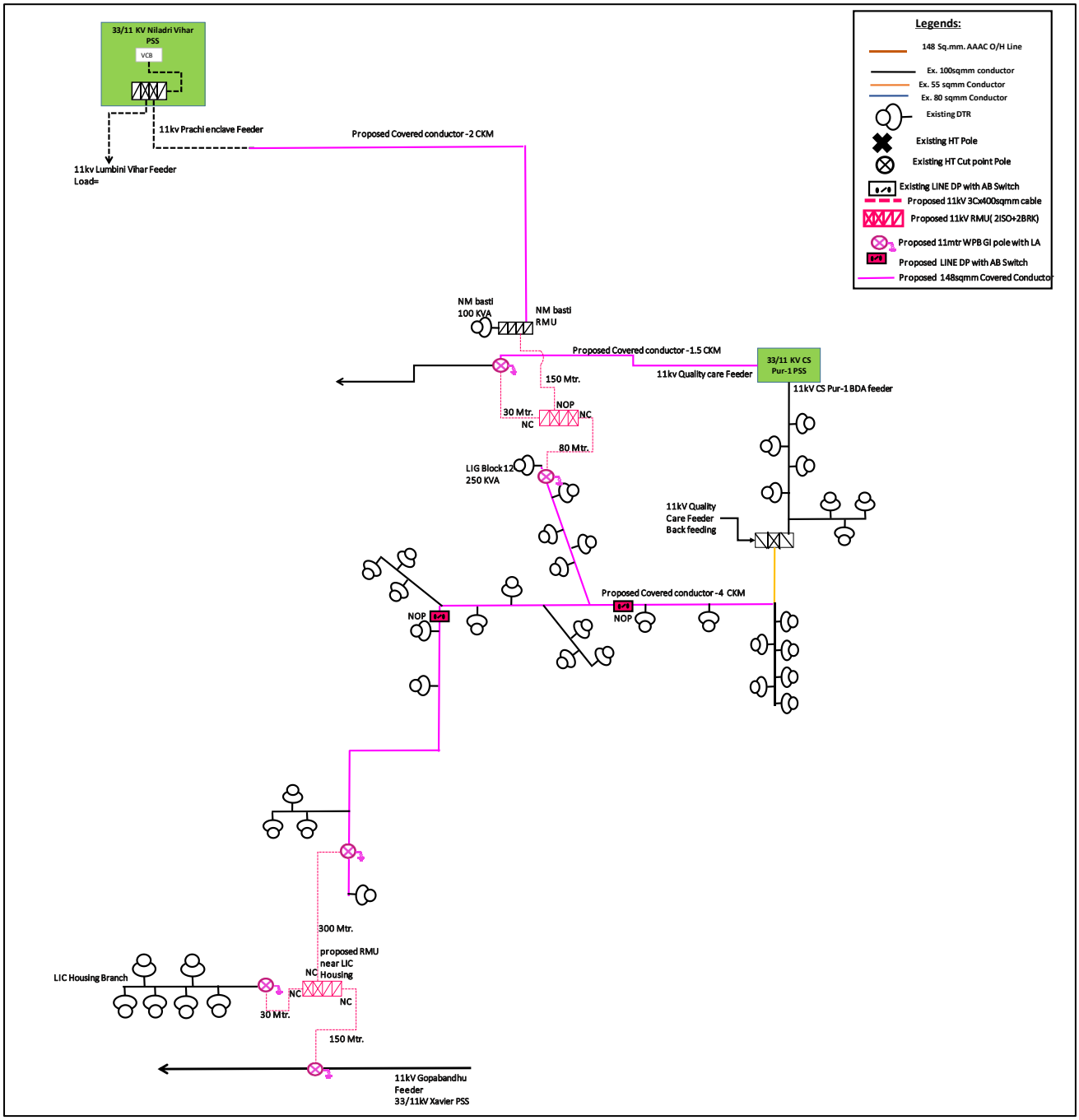
Proposed Scenario:

1. Installation of 2 Nos. of RMU in BDA Feeder for linking with 11kV Gopabandhu feeder, 11kV District Center & Quality Care Feeder.
2. Augmentation of 11kV BDA feeder of length 4CKM.
3. Augmentation of Back feeding 11kV district center feeder of length-2 CKM
4. Augmentation of Back feeding 11kV Quality Care feeder of length 1.5 CKM.

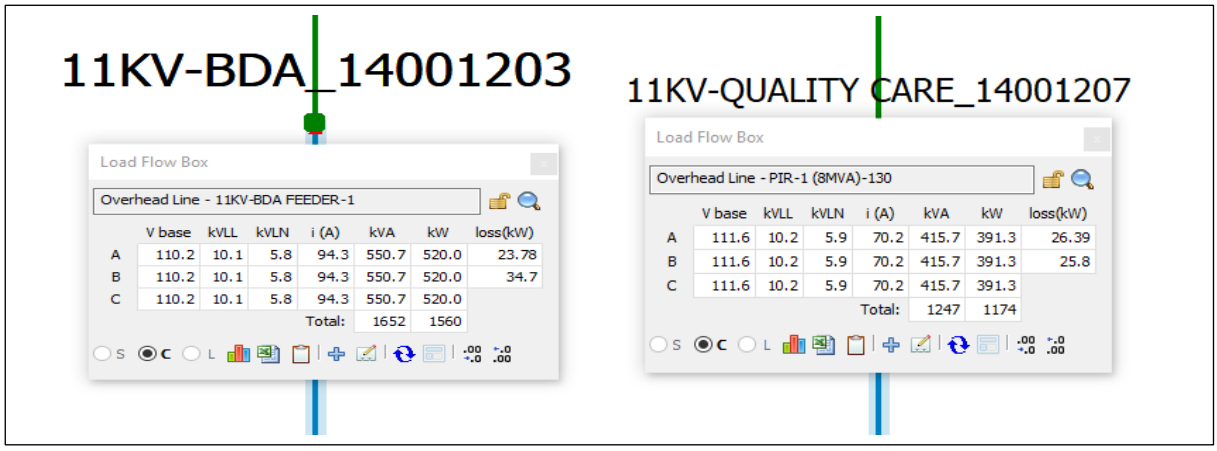
Proposed Summer'28 Loading and projected load at 11kV BDA Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
CS Pur-1	BDA	5.18	1.65	32%	Under load	23.78
CS Pur-1	Quality Care	5.18	4.46	86%	Under load	105.46

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

1. Installation of 2 Nos. of RMU in BDA Feeder for linking with 11kV Gopabandhu feeder, 11kV District Center & Quality Care Feeder.
2. Augmentation of 11kV BDA feeder of length 4CKM.
3. Augmentation of Back feeding 11kV district center feeder of length-2 CKM
4. Augmentation of Back feeding 11kV Quality Care feeder of length 1.5 CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.11		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Periphery
Name of the Section : -		CS Pur-1
Name of the Feeder: -		11kV BDA
Name of the Work :-		Proposal for Load Bifurcation of existing 11kV BDA feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A: - 1. Installation of 2 Nos. of RMU in BDA Feeder for linking with 11kV Gopabandhu feeder, 11kV District Center & Quality Care Feeder. (Near LIC housing & Near care Hospital Main Road).	87,06,252.59
2	Part-B: -Augmentation of 11kV BDA feeder of length 4CKM. 2. Augmentation of Back feeding 11kV district center feeder of length-2 CKM 3. Augmentation of Back feeding 11kV Quality Care feeder of length 1.5 CKM.	1,23,65,081.10
3	Part-C Dismantling.	3,06,560.76
4	**Total Gross**	**2,13,77,894.45**
Total estimated cost is Rs. 2.14 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 2.14 Crore (For detailed BoQ refer Annexure-21.11)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF – 0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	CS Pur-1	BDA	4650	156	**52.90**	**13.49**	**118168.02**	**4.19**
	CS Pur-1	Quality Care	1174	26				
After Proposal	CS Pur-1	BDA	1560	24				
	CS Pur-1	Quality Care	4211	105				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	213.78	Rs. Lac
B	Additional load due to load growth	-	1557.68	kVA
C	Total kW due to load growth	B*pf (power factor)	1479.79	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	1296297	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	30.98	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	4.19	Rs. Lac
J	Net Revenue Collected	H+I	35.18	Rs. Lac
K	% Revenue return	(J/A) *100	16.5	%
L	Pay Back Period	100/K	6.08	Years

Benefit to the system and consumers:

- Improved Reliability thereby overloading mitigation.
- Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
- Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
- Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
- The above arrangement will help to release power supply to upcoming potential consumers.

12. Proposal for overloading mitigation and Reliability improvement of 11kV Info Patia Feeder:

Proposal:

Proposal for Load Diversion & Augmentation of existing 11 kV Info Patia Feeder emanating from 33/11kV Infocity PSS by installation of RMU & interlinking with nearby 11kV Feeder.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by load diversion & augmentation of the existing feeder with interlinking with nearby Feeder.

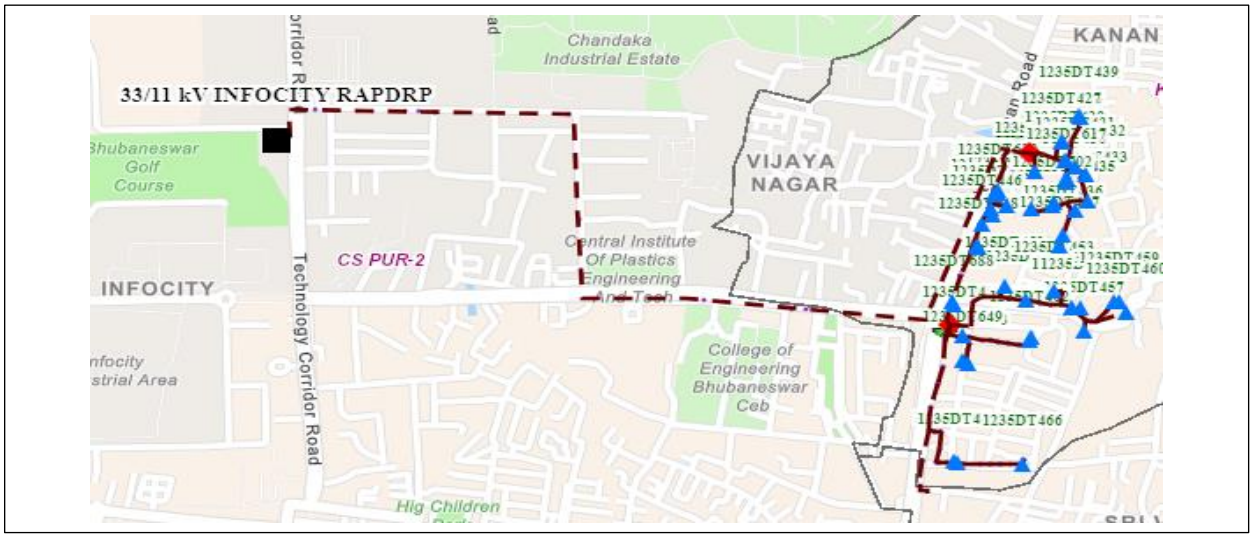
Existing Scenario:

- 11kV Info Patia feeder is emanating from 33/11kV Infocity PSS. Total length of this feeder is 7.1 CKM and the peak load is 3.98 MVA.
- Conductor size of 11kV Infopatia feeder is 80 sq.mm & the feeder is 88.18% loaded w.r.t the current carrying capacity of the conductor and 116% loaded considering 15% load growth for urban feeders.
- This feeder is completely feeding commercial & domestic consumers, feeder is passes inside tree vegetation. Several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

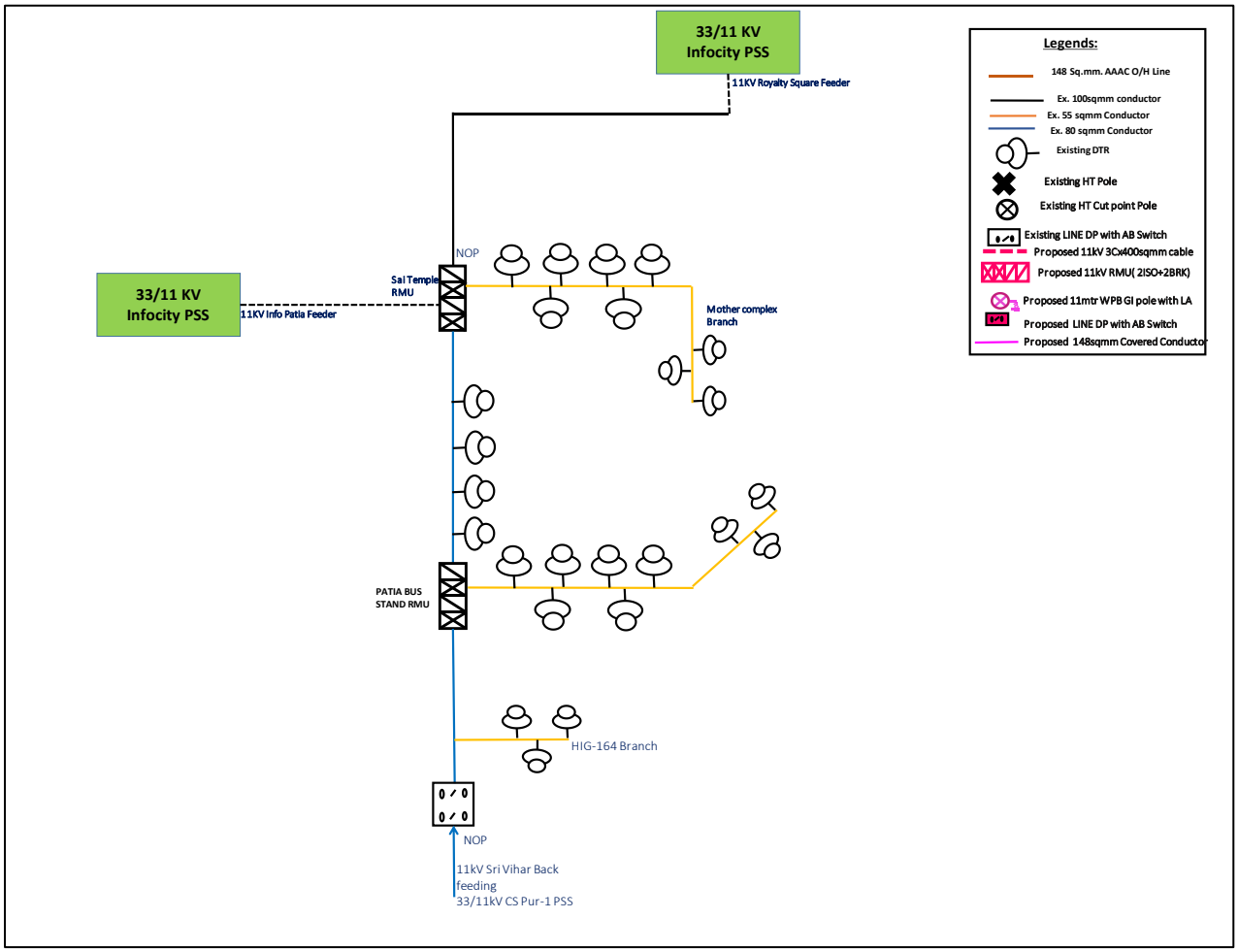
Existing Summer'26 Loading and projected load at 11kV Info Patia Feeder

Existing Scenario									
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status (Summer' 28)**	**Loss in kW in Summer' 28**
Infocity	Info-Patia	4.54	3.98	88%	Under load	5.26	116%	Over load	155.75
Kanan Vihar	Royalty square	5.75	3.25	57%	Under load	4.30	75%	Under load	26.39

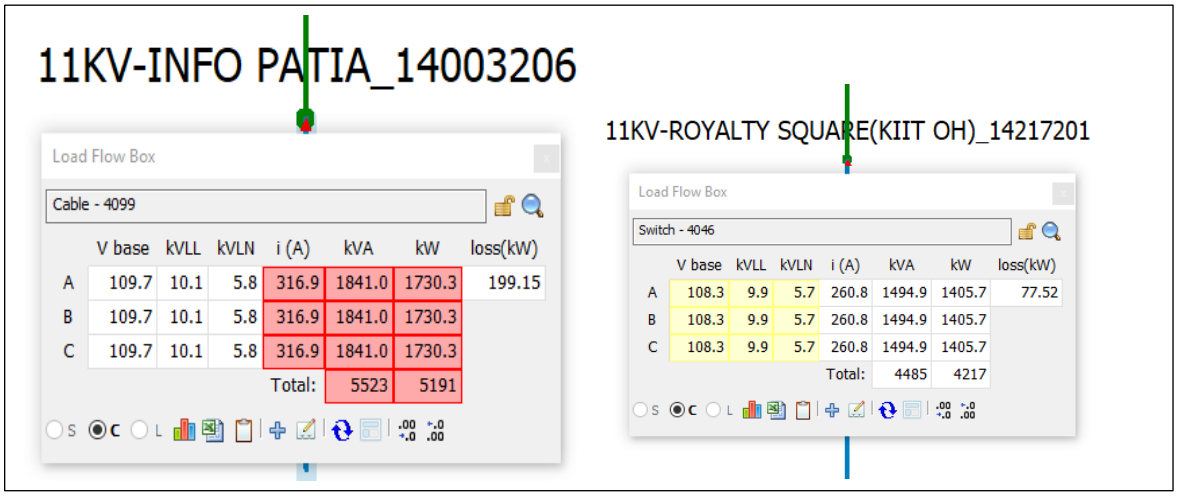
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 88% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 116%. In case the issue is not addressed, there will be load shedding of 2169 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 88% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

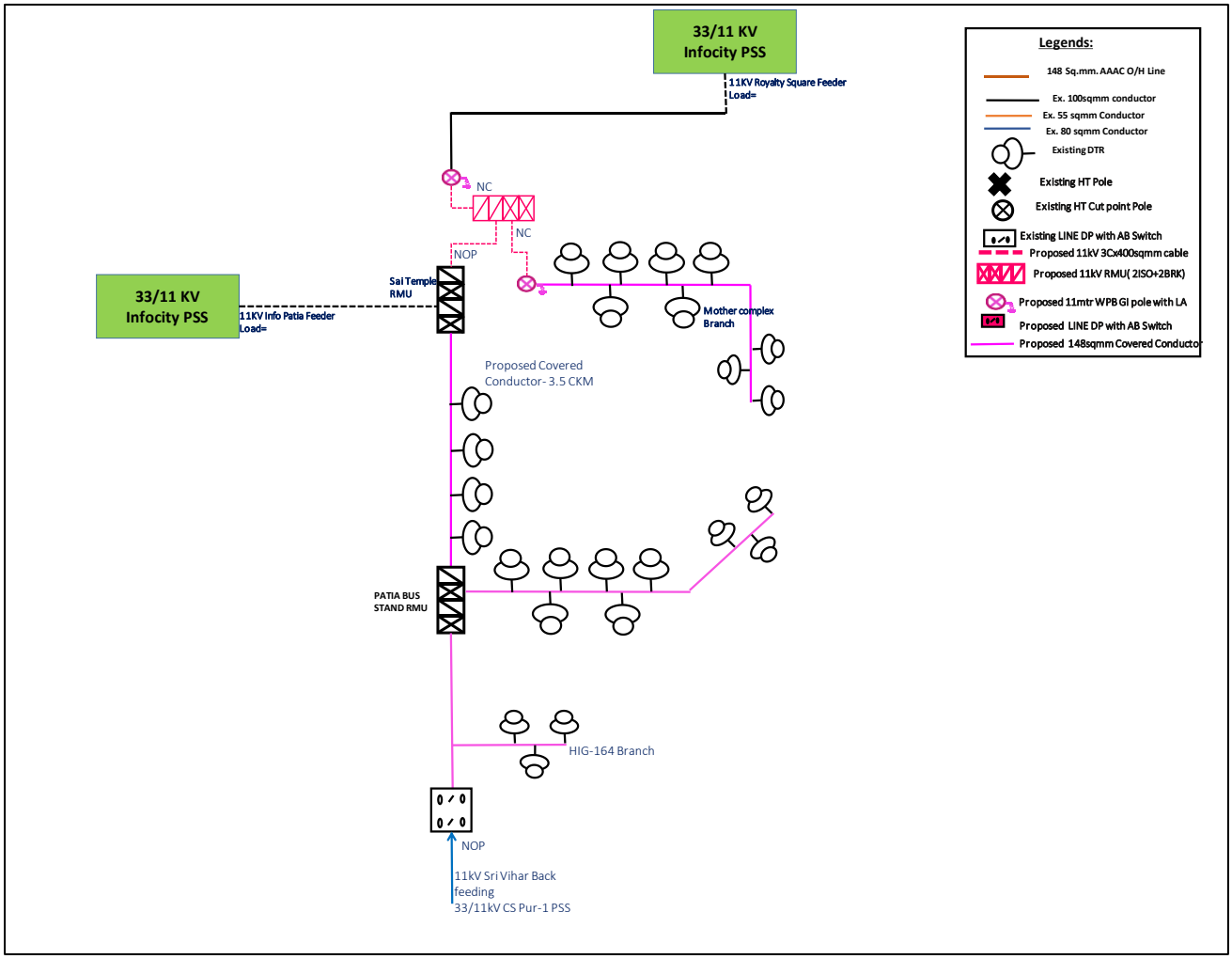
Proposed Scenario:

- Installation of 1 No. of RMU in near Sai Mandir RMU in Info Patia Feeder for linking with Royalty Square feeder.
- Augmentation of 11kV Info patia feeder of length 3.5CKM.

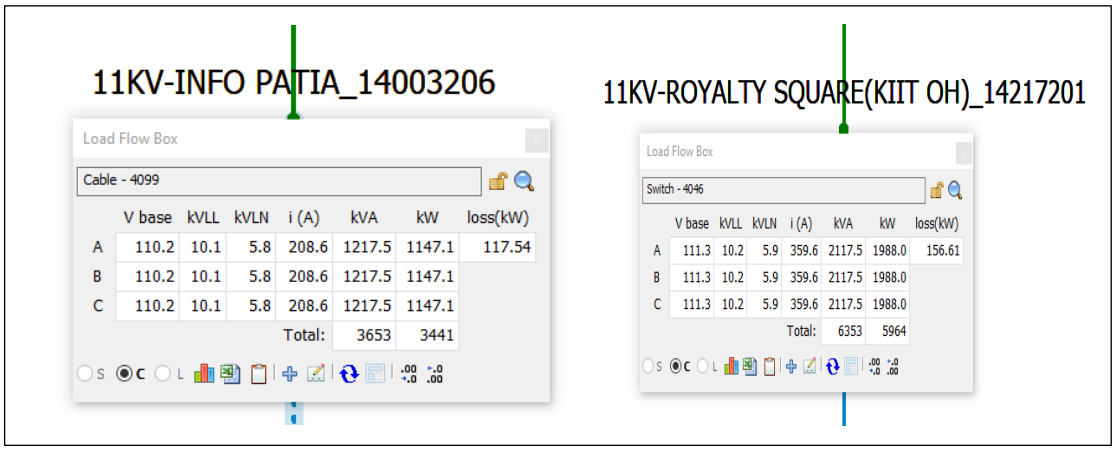
Proposed Summer'28 Loading and projected load at 11kV Info Patia Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Infocity	Info-Patia	5.18	3.65	70%	Under load	23.78
Kanan Vihar	Royalty square+Apolo Villa	5.18	6.35	123%	Over Load	105.46

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Installation of 1 No. of RMU in near Sai Mandir RMU in Info Patia Feeder for linking with Royalty Square feeder.
- Augmentation of 11kV Info patia feeder of length 3.5CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.12		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Periphery
Name of the Section : -		CS Pur-2
Name of the Feeder: -		11kV Info Patia
Name of the Work :-		Proposal for Augmentation of existing 11kV Info patia feeder using 100mm2 XLPE Covered conductor & Load Diversion to near By feeder for mitigation of Overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A: - 1. Installation of 1 No. of RMU in near Sai Mandir RMU in Info Patia Feeder for linking with Royalty Square feeder.	26,03,175.37
2	Part-B: -Augmentation of 11kV Info patia feeder of length 3.5CKM.	59,99,583.83
3	Part-C Dismantling.	1,46,835.72
4	**Total Gross**	**87,49,594.92**
Total estimated cost is Rs. 0.87 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 0.87 Crore (For detailed BoQ refer Annexure- 21.12)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Infocity	Info-Patia	5191	199	**2.52**	**0.64**	**5629.18**	**0.20**
	Kanan Vihar	Royalty square	4217	78				
After Proposal	Infocity	Info-Patia	3441	118				
	Kanan Vihar	Royalty square	5964	157				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	87.50	Rs. Lac
B	Additional load due to load growth	-	2330.75	kVA
C	Total kW due to load growth	B*pf(power factor)	2214.22	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	1939653	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	46.36	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	0.20	Rs. Lac
J	Net Revenue Collected	H+I	46.56	Rs. Lac
K	% revenue return	(J/A)*100	53.2	%
L	Pay Back Period	100/K	1.88	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

13. Proposal for overloading mitigation and Reliability improvement of 11kV Sijua Feeder:

Proposal:

Proposal for Augmentation of existing 11 KV Sijua Feeder load emanating from 33/11kV Ranasingh Pur PSS by augmentation of Conductor.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by augmentation of Feeder.

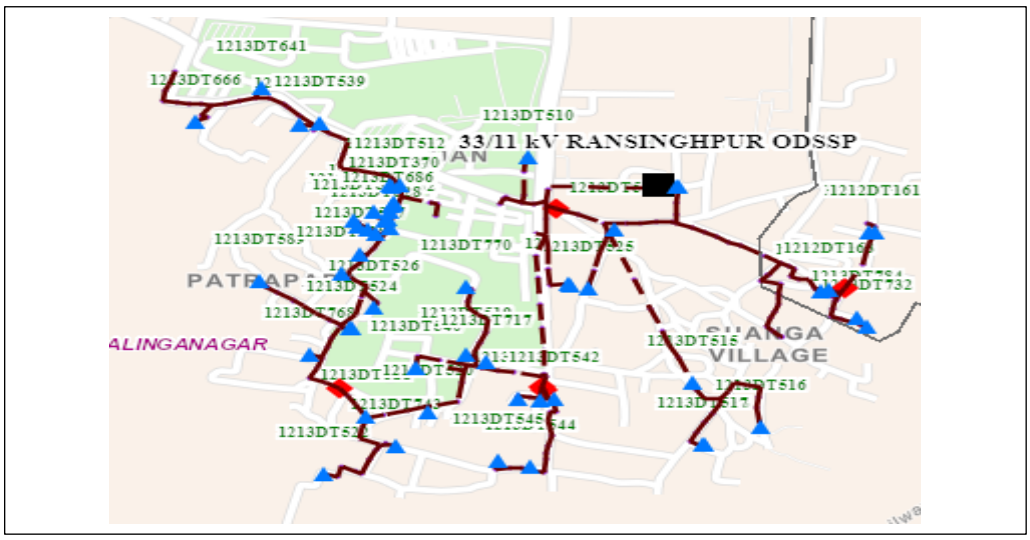
Existing Scenario:

- 11kV Sijua feeder is emanating from 33/11kV Ranasingh Pur PSS. Total length of this feeder is 18.22 CKM and the peak load is 4.74 MVA.
- Conductor size of 11kV Sijua feeder is 55 sq.mm & the feeder is 94% loaded w.r.t the current carrying capacity of the conductor and 124% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding industrial, commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

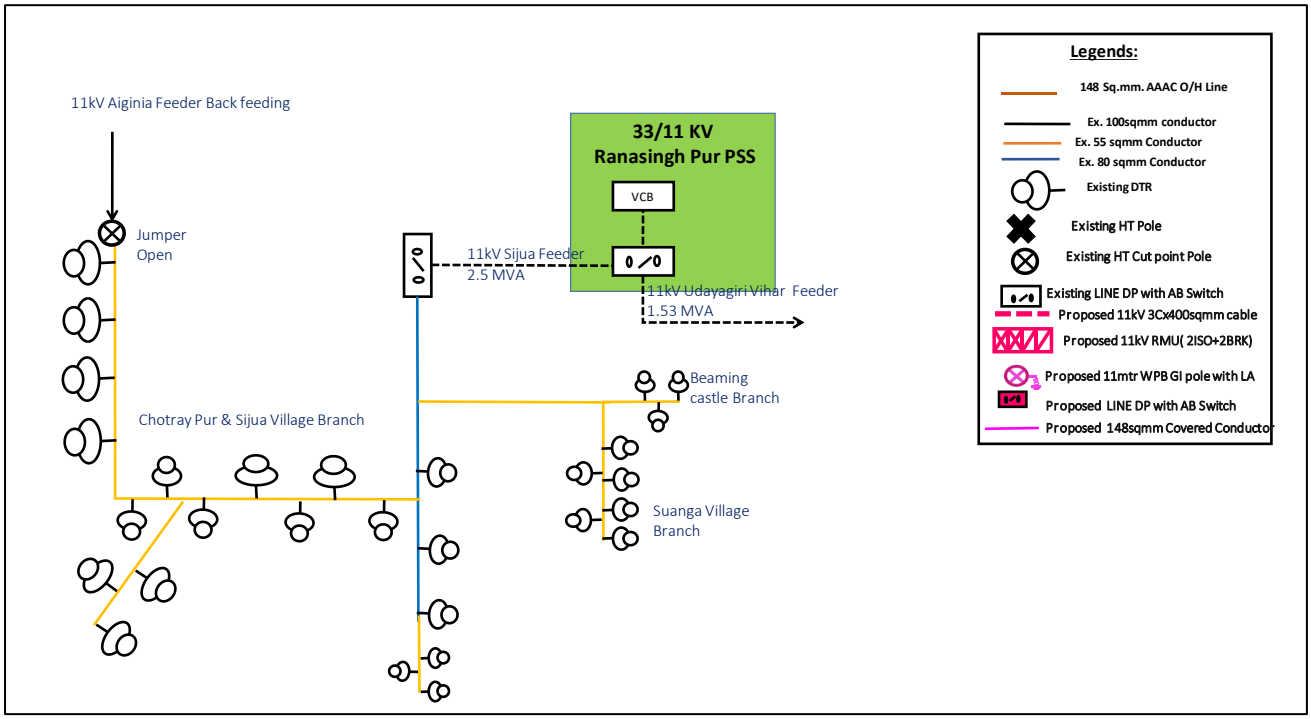
Existing Summer'26 Loading and projected load at 11kV Sijua Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer'28 (MVA)	% Loading	Feeder Overloading Status (Summer '28)	Loss in kW in Summer'28
Ranasingh Pur	Sijua & Udayagiri Vihar	5.05	4.74	94%	Under load	6.27	124%	Over load	160.27

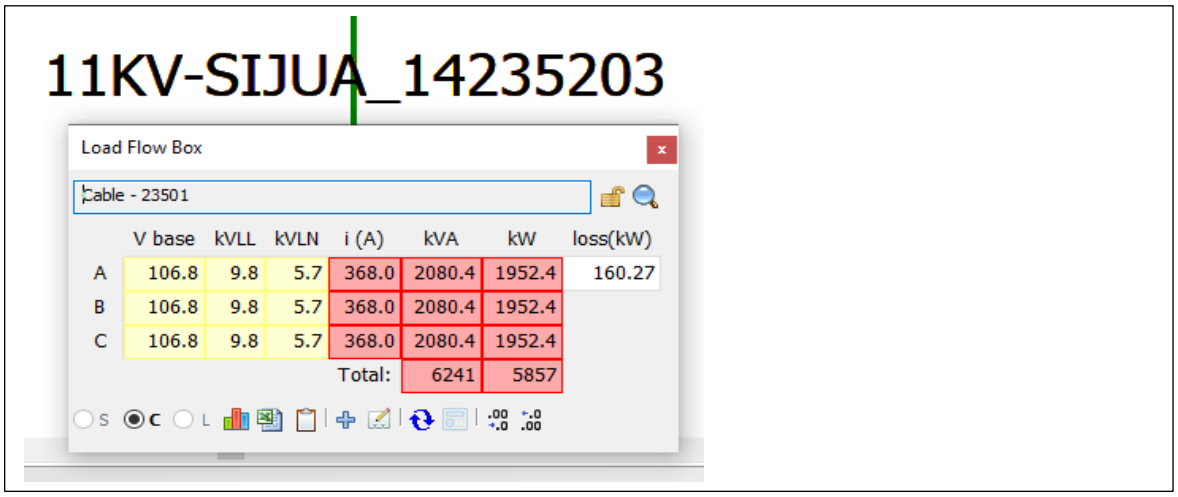
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 94% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 124%. In case the issue is not addressed, there will be load shedding of 1517 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.

- In AS IS scenario, the feeder is 97% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

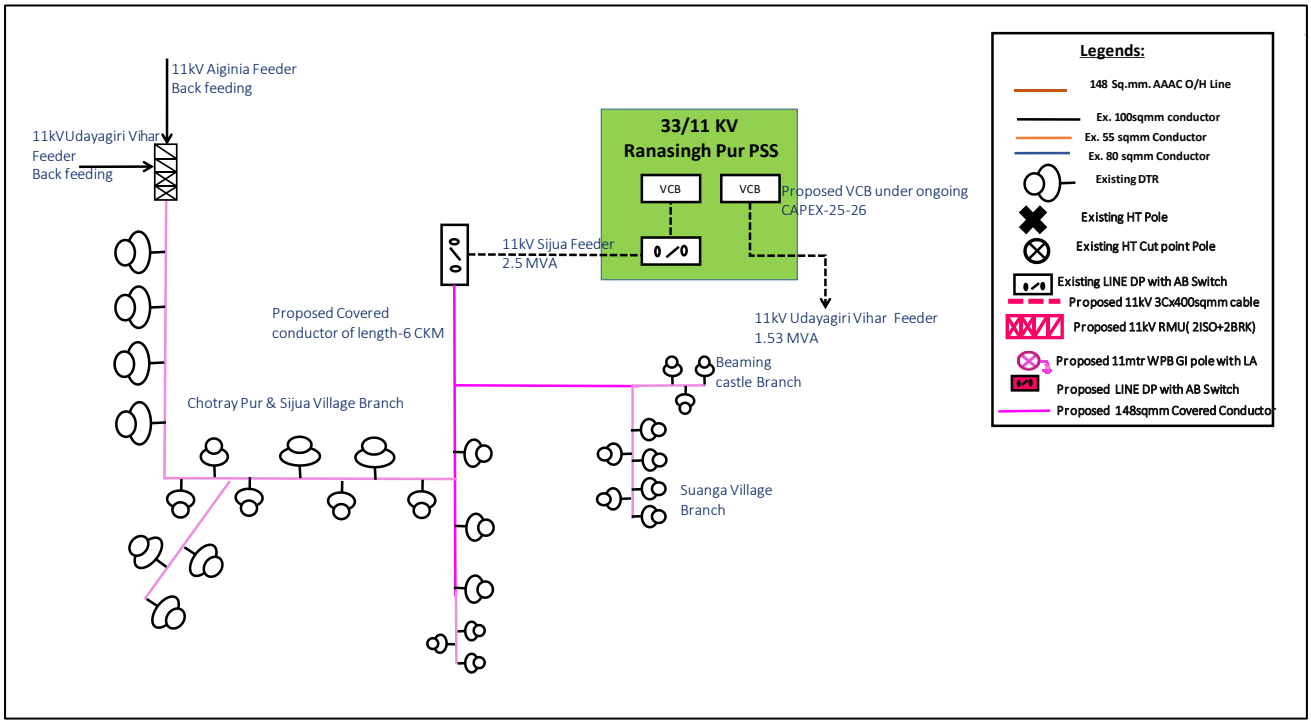
Proposed Scenario:

- Augmentation of 11kV Sijua feeder of length 6CKM.

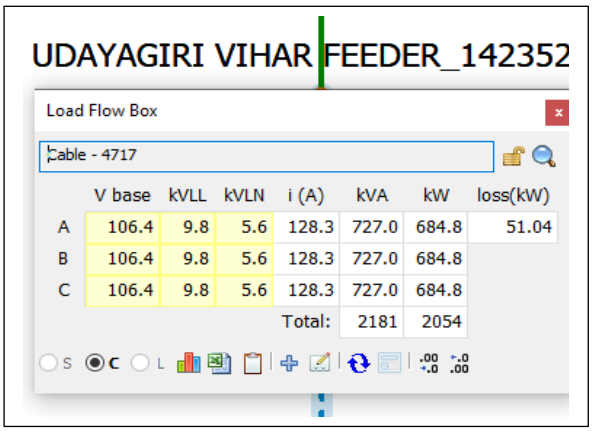
Proposed Summer'28 Loading and projected load at 11kV Sijua Feeder:

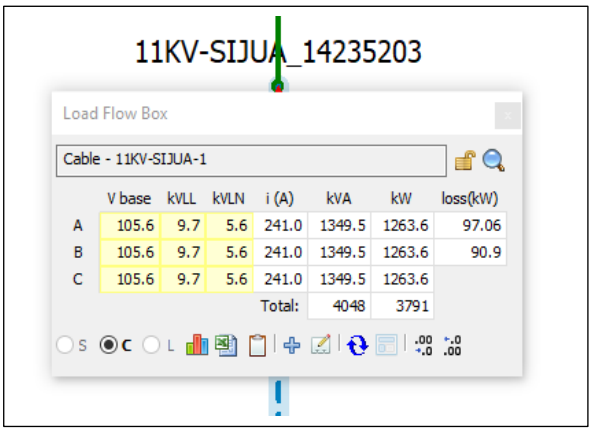
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Ranasingh Pur	Sijua	5.05	3.79	75%	Under load	97.06
Ranasingh Pur	Udayagiri Vihar	5.752381	3.60	63%	Under load	51.04

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

- Augmentation of 11kV Sijua feeder of length 6CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE- 21.13		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division: -		Khandagiri
Name of the Section: -		Kalinga Nagar
Name of the Feeder: -		11kV Sijua
Name of the Work: -		Proposal for Augmentation of existing 11kV Sijua feeder using 100mm2 XLPE Covered conductor for mitigation of Overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A: -Augmentation of 11kV Sijua feeder of length 6CKM.	93,60,971.57
2	Part-C Dismantling.	2,11,282.30
4	**Total Gross**	**95,72,253.87**
Total estimated cost is Rs. 0. 96 Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 0.96 Crore (For detailed BoQ refer Annexure- 21.13)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Ranasingh Pur	Sijua & Udayagiri Vihar	5857	160	**12.17**	**3.10**	**27185.35**	**0.97**
After Proposal	Ranasingh Pur	Sijua	3791	97				
After Proposal	Ranasingh Pur	Udayagiri Vihar	2054	51				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	95.72	Rs. Lac
B	Additional load due to load growth	-	1528.65	kVA
C	Total kW due to load growth	B*pf(power factor)	1452.22	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	1272143	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	30.40	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	0.97	Rs. Lac
J	Net Revenue Collected	H+I	31.37	Rs. Lac
K	% revenue return	(J/A)*100	32.8	%
L	Pay Back Period	100/K	3.05	Years

Benefit to the system and consumers:

- Improved Reliability thereby overloading mitigation.
- Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
- Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
- Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
- The above arrangement will help to release power supply to upcoming potential consumers.

14. Proposal for overloading mitigation and Reliability improvement of 11kV OMFED Feeder:

Proposal:

Proposal for Bifurcation of existing 11 KV OMFED Feeder load emanating from 33/11 KV Nimapada PSS by using 11kV RMU to mitigate overloading issue & to improve reliability

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the existing feeder by using 11 KV RMU.

Existing Scenario:

- 11kV OMFED feeder is emanating from 33/11kV Nimapada PSS. Total length of this feeder is 13.6 CKM and the peak load is 4.50 MVA.
- Conductor size of 11kV OMFED feeder is 3CX185 sq.mm & the feeder is 116% loaded w.r.t the current carrying capacity of the conductor and 140% loaded considering 10% load growth for urban feeders.
- This feeder is completely feeding commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

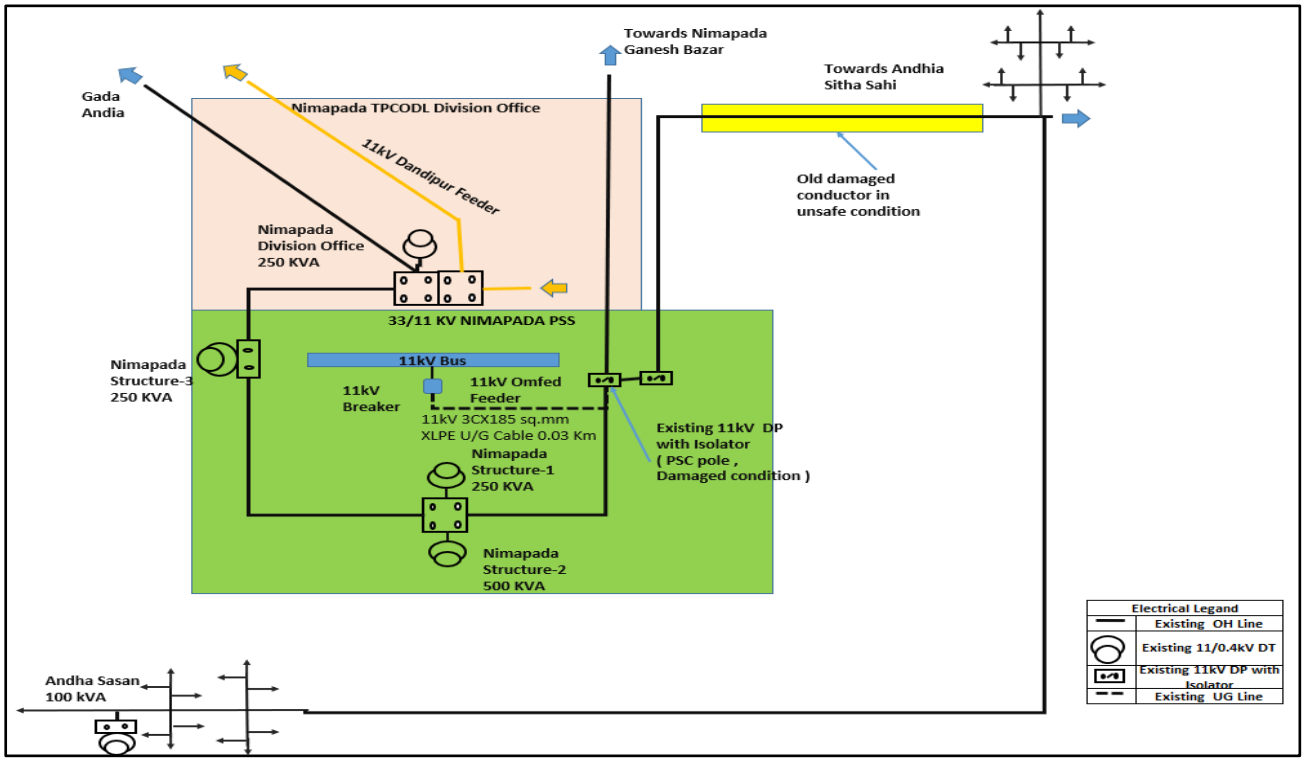
Existing Summer'26 Loading and projected load at 11kV OMFED Feeder

Existing Loading								
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status**	**Loss in kW in Summer'28**
Nimapada	OMFED	3.89	4.50	116%	5.44	140%	OVERLOAD	114.9

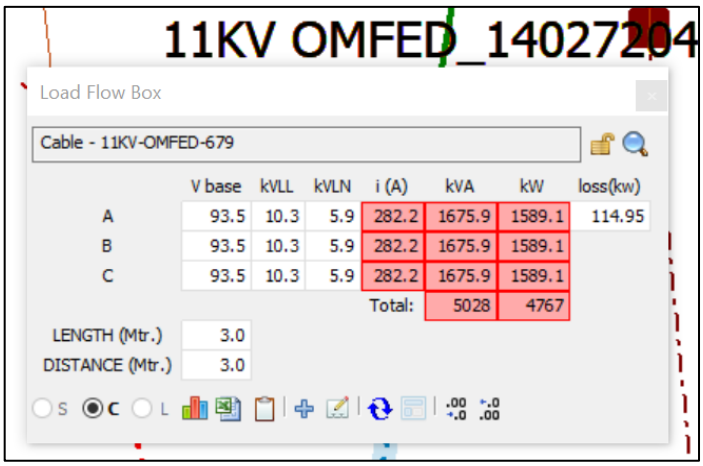
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Since the feeder loading has reached 116% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 140%. In case the issue is not addressed, there will be load shedding of 3852nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.

- In AS IS scenario, the feeder is 97% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

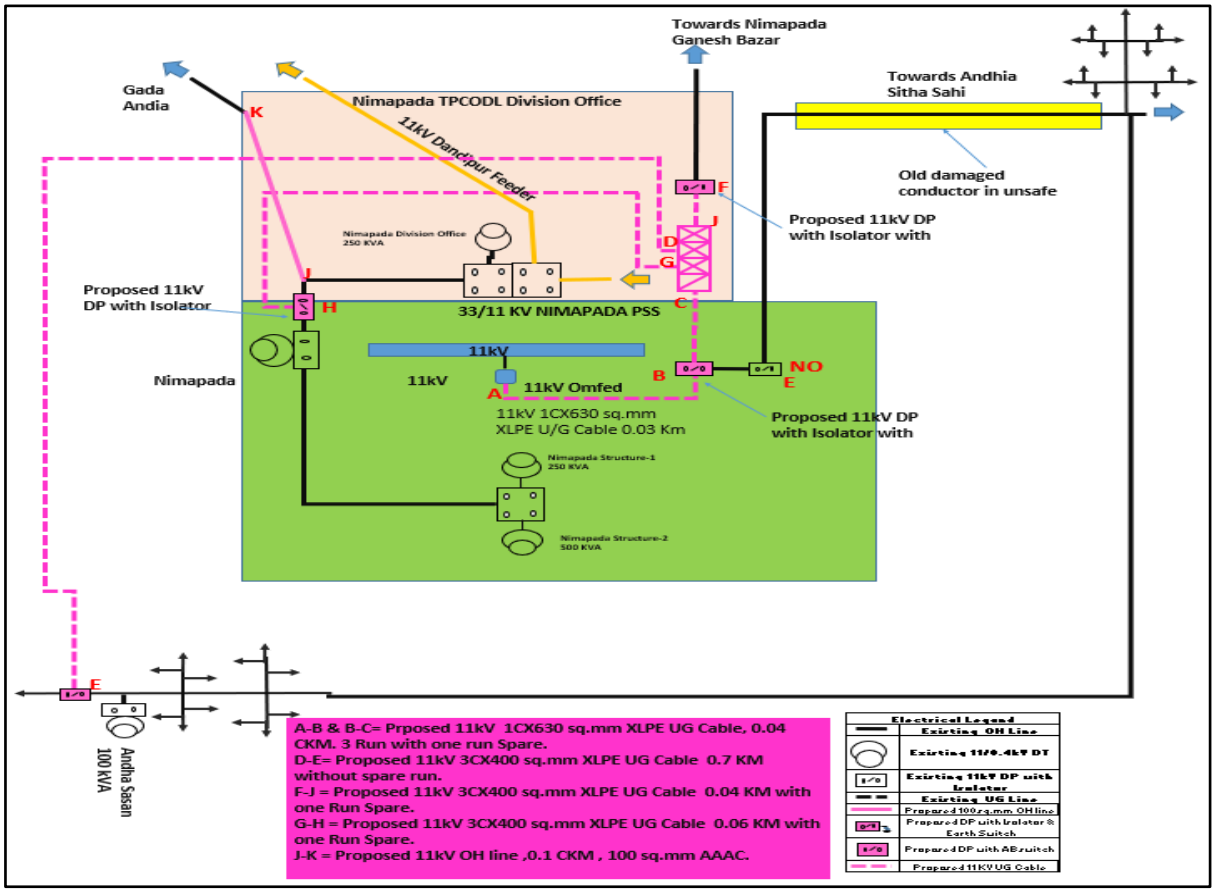
Proposed Scenario:

- 0.04 KM new U/G line using 1CX630 sqmm XLPE U/G cable 3 run without spare run.
- 0.8 KM new U/G line using 3CX400 sqmm XLPE U/G cable with one run spare.
- 0.1 CKM 11 KV O/H line using 100mm2 AAAConductor.

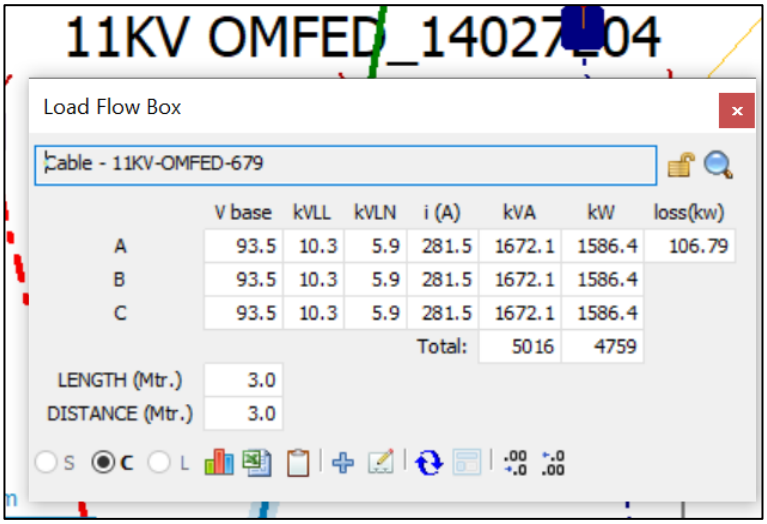
Proposed Summer'28 Loading and projected load at 11kV OMFED Feeder:

Loading of Feeder after Proposal								
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Summer -26 Loading without Proposal	% Proposed Loading of feeder	Summer-28 loading after execution of proposals	% Loading in Summer -28	Feeder Status	Loss in kW in Summer'28
Nimapada	OMFED	8.57	4.50	52%	5.44	63%	OK	106.70

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- 0.04 KM new U/G line using 1CX630 sqmm XLPE U/G cable 3 run without spare run.
- 0.8 KM new U/G line using 3CX400 sqmm XLPE U/G cable with one run spare.
- 0.1 CKM 11 KV O/H line using 100mm2 AAAConductor.

Proposed Cost with Estimate Break-up:

Annexure-21.14		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		NED
Name of the Sub-Division : -		Nimapada
Name of the Section : -		Nimapada-1
Name of the Work :-		Proposal for Bifurcation of existing 11 KV OMFED Feeder load emanating from 33/11 KV Nimapada PSS by using 11kV RMU to mitigate overloading issue & to improve reliability.
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A- Supply and Laying of 11kV 1C, 630sqmm UG Cable of length = 0.04 KM, 3 run without spare run.	26,38,950.37
2	PART B: Construction of 11kV Feeder outgoing DP with isolator & Earth switch.	2,92,205.32
3	PART C- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.8 KM, with one run spare.	1,08,56,119.92
4	11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -AAA Conductor	8,06,775.75
5	PART E: Dismantling of Materials	7,300.49
6	**Total Gross**	**1,46,01,351.84**
Total estimated cost is Rs. 1.46 Cr.		

Cost Estimate: ₹ 1.46 Crore (For detailed BoQ refer Annexure- 21.14)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Nimapada	Omfed	4767	115	**8.16**	**2.08**	**18227.81**	**0.65**
After Proposal	Nimapada	Omfed	4759	107				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	146.01	Rs. Lac
B	Additional load due to load growth	-	944.00	kVA
C	Total kW due to load growth	B*pf(power factor)	896.80	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	785597	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G*D/10^5	18.78	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	0.65	Rs. Lac
J	Net Revenue Collected	H+I	19.42	Rs. Lac
K	% revenue return	(J/A)*100	13.3	%
L	Pay Back Period	100/K	7.52	Years

Benefit to the system and consumers:

10. Improved Reliability thereby overloading mitigation.
11. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
12. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
13. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
14. The above arrangement will help to release power supply to upcoming potential consumers.

15. Proposal for overloading mitigation and Reliability improvement of 11kV Shatabdi Nagar Feeder:

Proposal:

Proposal for bifurcation and augmentation of 11 kV Shatabdi Nagar Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the feeder from Delta PSS and strengthening the existing network by doing Conductor Augmentation.

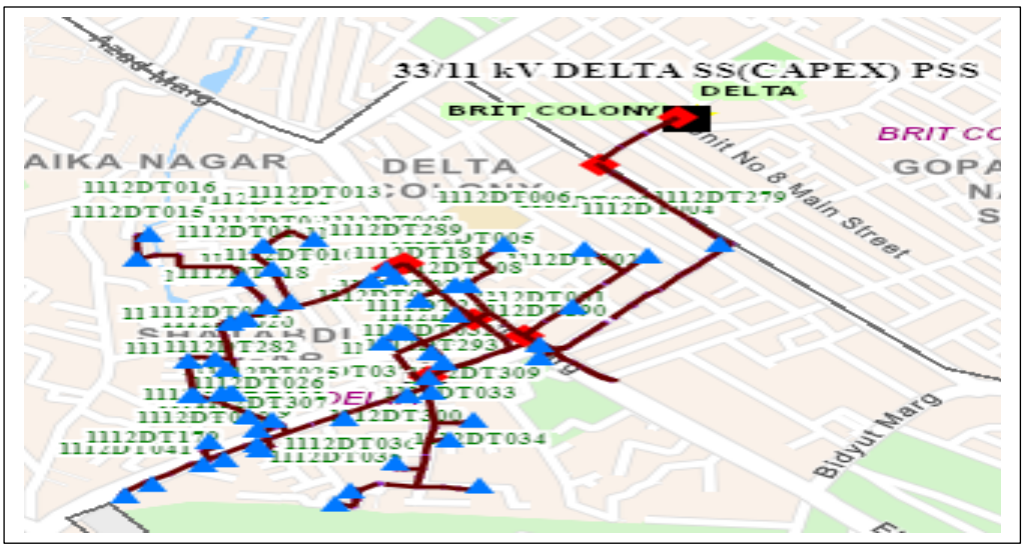
Existing Scenario:

- 11kV Shatabdi Nagar feeder is emanating from 33/11kV Delta PSS. Total length of this feeder is 10.8 KM and the peak load is 3.58MVA.
- Conductor size of 11kV Shatabdi Nagar feeder is 80sq.mm & the feeder is 99% loaded w.r.t the current carrying capacity of the conductor and 119% loaded considering 15% load growth for Urban feeders.
- This feeder is completely feeding Urban consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

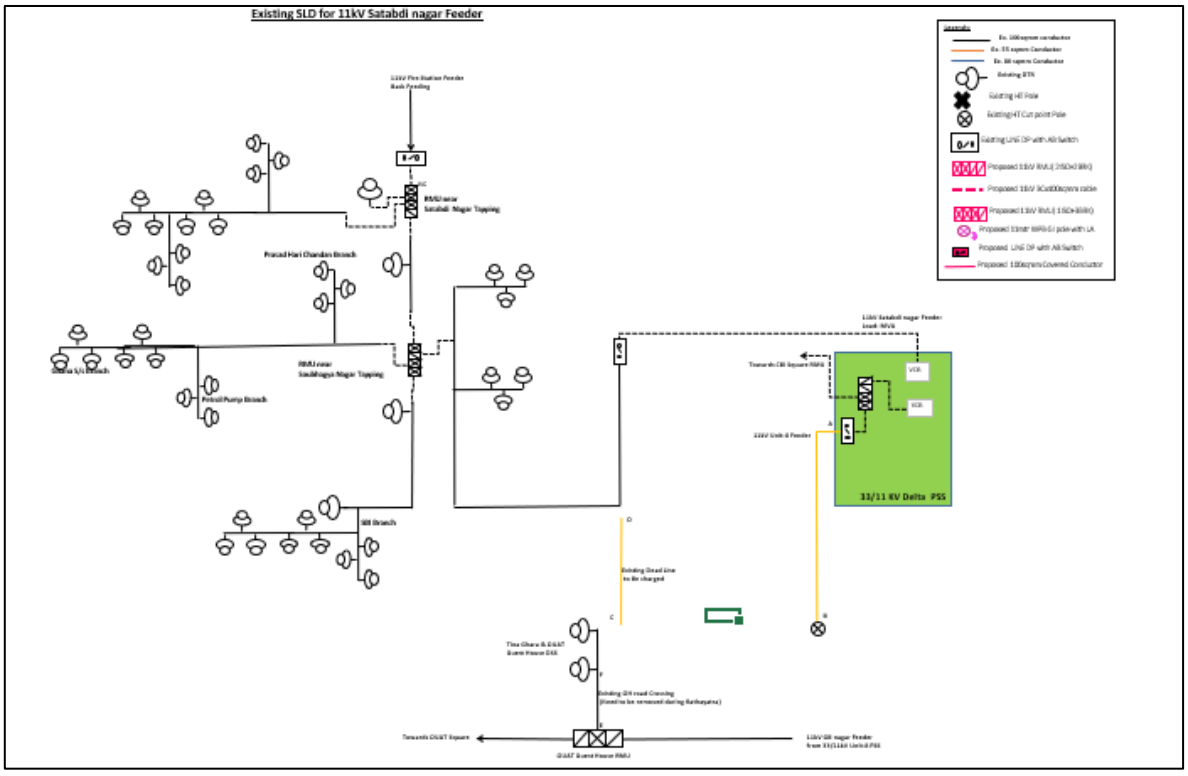
Existing Summer'26 Loading and projected load at 11 kV Shatabdi Nagar Feeder

Existing Scenario									
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer' 28**
Delta	Shatabdi nagar	4.54	4.48	99%	Under load	5.42	119%	Over load	106.7

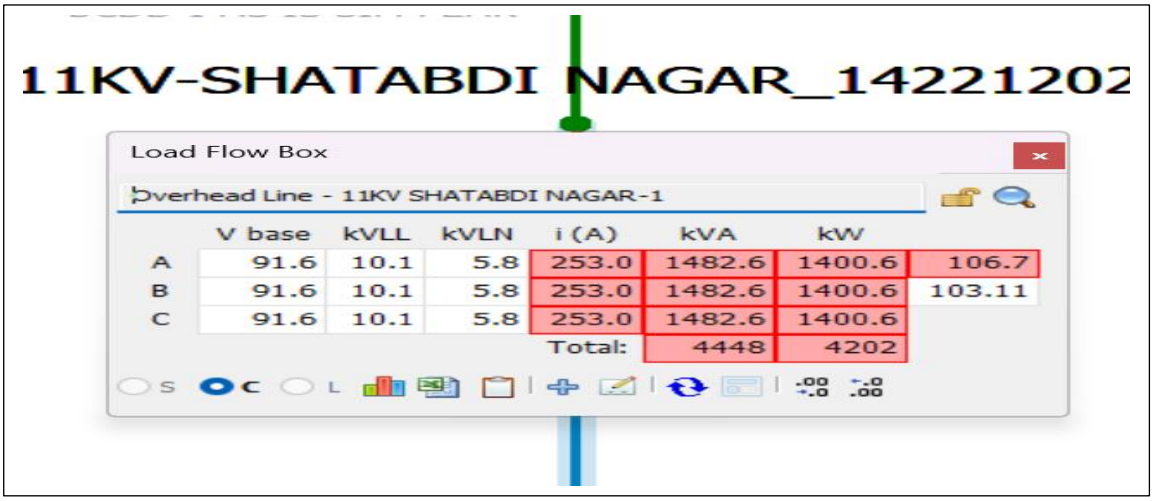
GIS Map:-



Existing SLD:

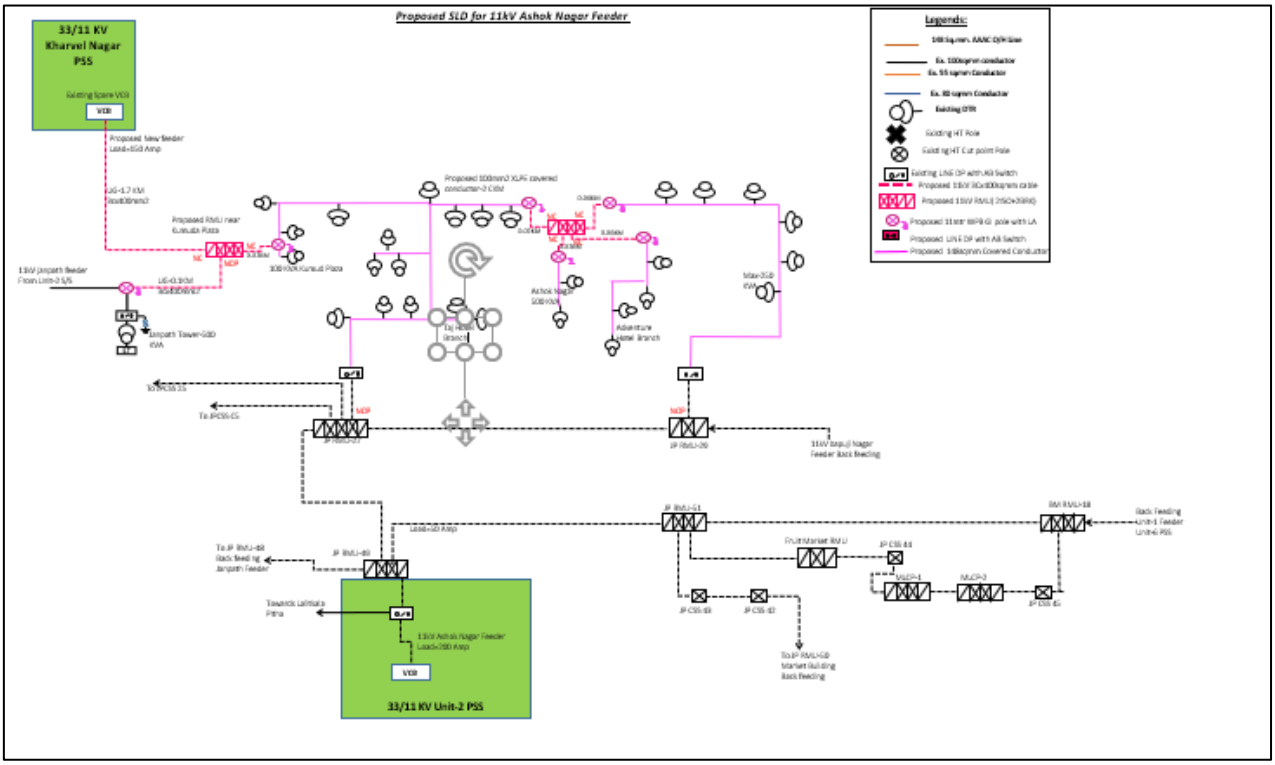


Load Flow Study of existing scenario in CYME Software: -

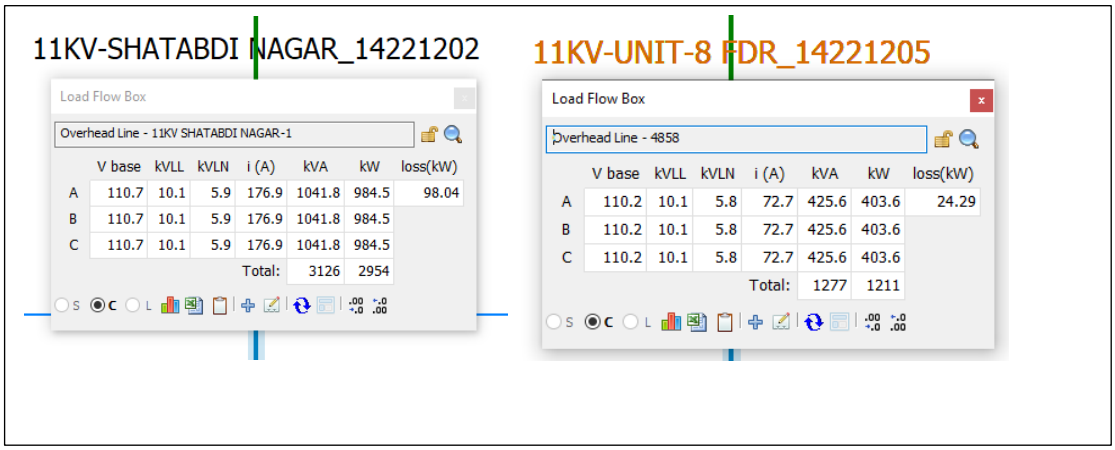


- It is proposed to construct of 2 KM new line using 11kV 3Cx400sqmm from near Watco SS to City Women's College Chowk.
- Installation of 2 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 5CKM using 100mm2 XLPE Covered Conductor for feeder strengthening

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 2 KM new line using 11kV 3Cx400sqmm from near Watco SS to City Womens College Chowk.
- Installation of 2 No. of 11kV RMU for feeder bifurcation.
- Conductor augmentation of 5CKM using 100mm2 XLPE Covered Conductor for feeder strengthening

Proposed Cost with Estimate Break-up:

ANNEXURE-21.15		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Delta
Name of the Feeder: -		11kV Shatabdi Nagar
Name of the Work :-		Proposal for Bifurcation of 11kV Shatabdi Nagar Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 0.82 CKM using 3Cx400mm2 XLPE UG cable from near Watco SS to City Womens College Chowk. 2. Installation of 2 Nos. of RMU.	1,29,58,843.37
2	Part-B:-Augmentation of 11kV Unit-8 feeder of length 0.5 CKM. 2. Augmentation of 11kV Shatabdi Nagar feeder of length-4 CKM. 3. Construction of 11kV New O/H line of length 0.5 CKM for linking with 11kV Shatabdi Nagar feeder(OUAT Guest House to near PHD SS)	75,45,755.09
3	Part-C Dismantling.	2,06,360.17
4	**Total Gross**	**2,07,10,958.62**
Total estimated cost is Rs. 2.07Crore. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 2.07 Crore (For detailed BoQ refer Annexure-21.15)

Cost Benefit Analysis:

PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Delta	Shatabdi nagar	4202	107	**-15.63**	**-3.99**	**-34914.29**	**-1.24**
Delta	Shatabdi nagar	2954	98				
Delta	Unit-08	1211	24				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	207.11	Rs. Lac
B	Additional load due to load growth	-	791.80	kVA
C	Total kW due to load growth	B*pf(power factor)	752.21	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	658936	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	15.75	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	-1.24	Rs. Lac
J	Net Revenue Collected	H+I	14.51	Rs. Lac
K	% revenue return	(J/A)*100	7.0	%
L	Pay Back Period	100/K	14.27	Years

Benefit to the system and consumers:

- Improved Reliability thereby overloading mitigation.
- Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
- Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
- Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
- The above arrangement will help to release power supply to upcoming potential consumers

16. Proposal for overloading mitigation and Reliability improvement of 11kV Chandeswar Feeder:

Proposal:

Proposal for Bifurcation of existing 11 KV Chandeswar Feeder load emanating from 33/11kV Kuhudi PSS by construction of 1no. of new 11kV feeder from 33/11kV Kuhudi PSS through existing 11kV bay and 1.86km 11KV new line from Kuhudi PSS to NH-16.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by bifurcating the existing feeder with construction of new 11kV feeder.

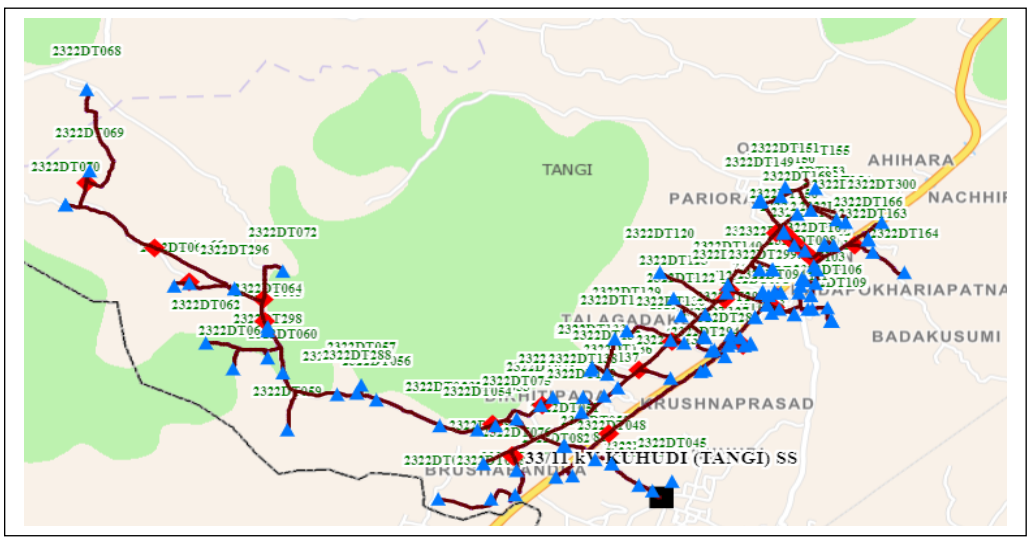
Existing Scenario:

- 11kV Chandeswar feeder is emanating from 33/11kV Kuhudi PSS. Total length of this feeder is 31.6 CKM and the peak load is 3.45 MVA.
- Conductor size of 11kV Chandeswar feeder is 55 sq.mm & the feeder is 97% loaded w.r.t the current carrying capacity of the conductor and 109% loaded considering 6% load growth for rural feeders.
- This feeder is completely feeding industrial, commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

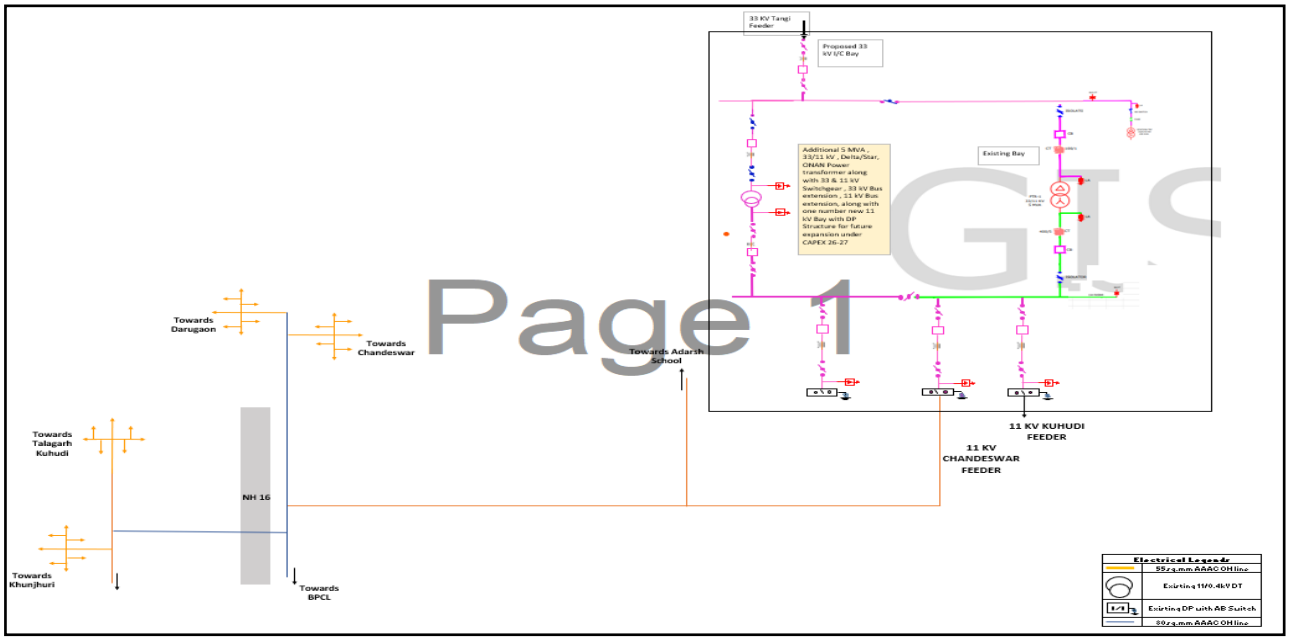
Existing Summer'26 Loading and projected load at 11kV Chandeswar Feeder

Existing Loading							
Name of the PSS	**11kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Over loading Status**
Kuhudi	Chandeswar	3.54	3.45	97%	4.33	122%	Over load

GIS Map:-

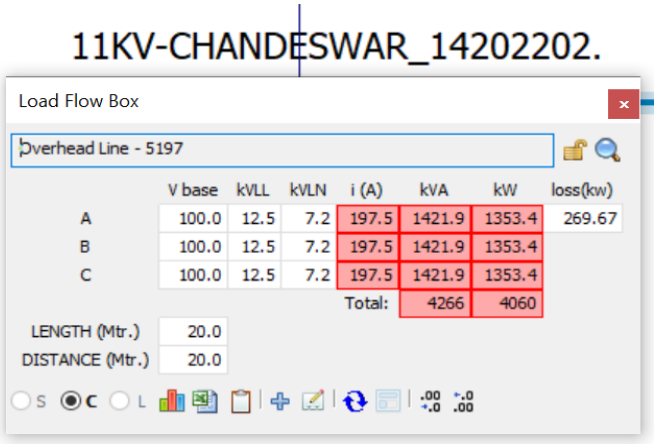


Existing SLD:



Page 1

Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Since the feeder loading has reached 97% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 122%. In case the issue is not addressed, there will be load shedding of 2636 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 97% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

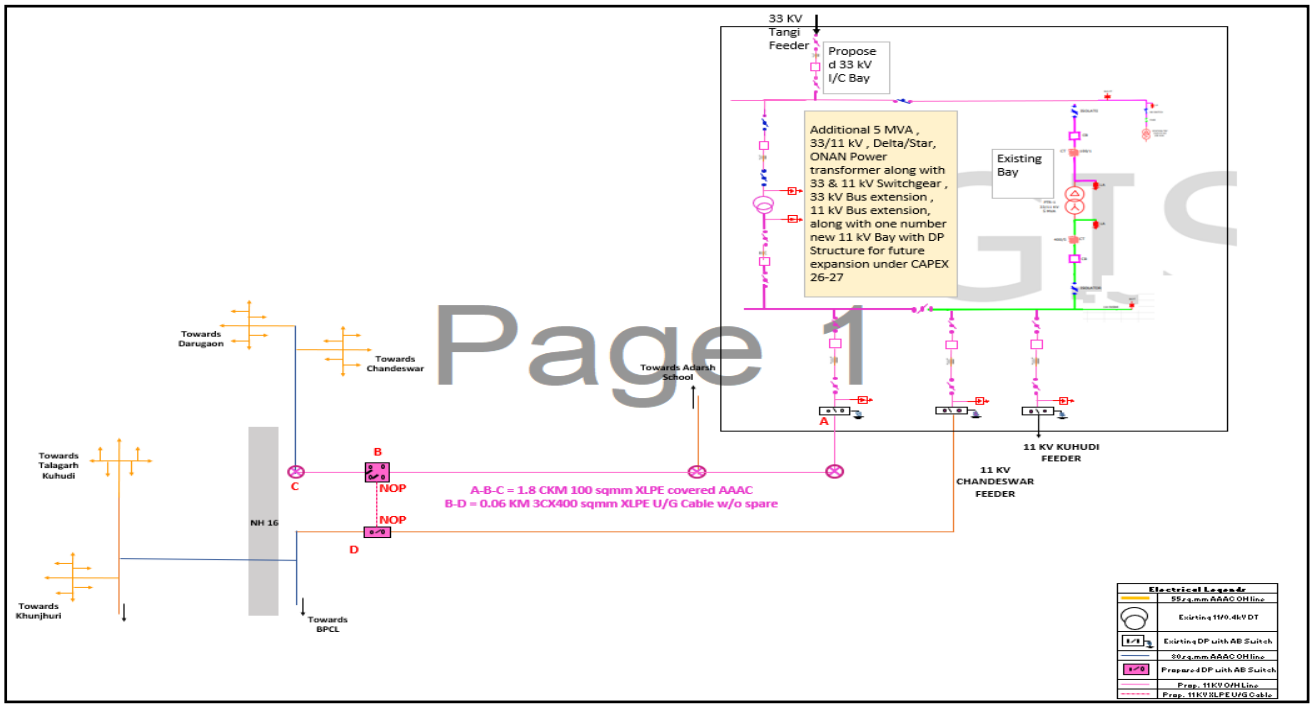
Proposed Scenario:

- It is proposed to construct of 1.8 CKM new line using 100 sqmm XLPE covered AAAC from Kuhudi PSS to NH-16.
- 0.06 KM new U/G line using 3CX400 sqmm XLPE U/G cable without spare run.

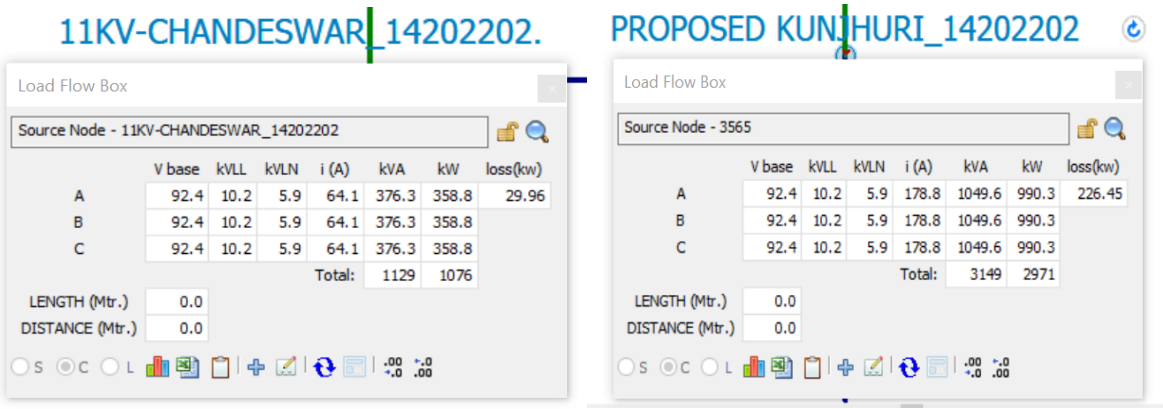
Proposed Summer'28 Loading and projected load at 11kV Chandeswar Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Kuhudi	Chandeswar	3.54	1.13	32%	Under load	29.96
Kuhudi	Proposed Khunjhuri	5.18	3.20	62%	Under load	226.45

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- It is proposed to construct of 1.8 CKM new line using 100 sqmm XLPE covered AAAC from Kuhudi PSS to NH-16.
- 0.06 KM new U/G line using 3CX400 sqmm XLPE U/G cable without spare run.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.16		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BAED
Name of the Sub-Division : -		Tangi
Name of the Section : -		Kuhudi
11kV feeder name : -		11kV Chandeswar feeder
Name of the Work :-		Proposal for Bifurcation of existing 11 KV Chandeswar Feeder load emanating from 33/11 KV Kuhudi PSS by constructing 1 No. of new feeder from 33/11 KV Kuhudi PSS through 1.86 CKM 11KV new line from Kuhudi PSS to NH-16.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 1.8 CKM 11kV O/H Line with 40 Mtr. Span using 100 SQ.MM. - XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP. (Refer PSLD A-B-C)	55,56,751.44
2	PART B: Construction of 1 no. 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with 2 nos. AB Switch and LA Set (Refer PSLD point B)	4,20,967.63
3	PART C: Supply & laying of 0.06 KM 11kV 3CX400sqmm U/G Cable without spare run. (Refer PSLD point B-D)	3,77,878.80
4	**Total Gross**	**63,55,597.88**
Total estimated cost is Rs. 0.64 Cr.		

Cost Estimate: ₹ 0.64 Crore (For detailed BoQ refer Annexure- 21.16)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF – 0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Kuhudi	Chandeswar	4060	270	**13.26**	**3.94**	**34498.81**	**1.22**
After Proposal	Kuhudi	Chandeswar	1076	30				
	Kuhudi	Proposed Khunjhuri	2971	226				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	63.56	Rs. Lac
B	Additional load due to load growth	-	878.04	kVA
C	Total kW due to load growth	B*pf(power factor)	834.14	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	730708	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G*D/10^5	17.46	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	1.22	Rs. Lac
J	Net Revenue Collected	H+I	18.69	Rs. Lac
K	% revenue return	(J/A)*100	29.4	%
L	Pay Back Period	100/K	3.40	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

17. Proposal for overloading mitigation and Reliability improvement of 11 kV Sanapadar Feeder:

Proposal:

Augmentation and refurbishment of 11 kV Sanapadar Feeder to mitigate overloading and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by strengthening the existing network doing Conductor Augmentation.

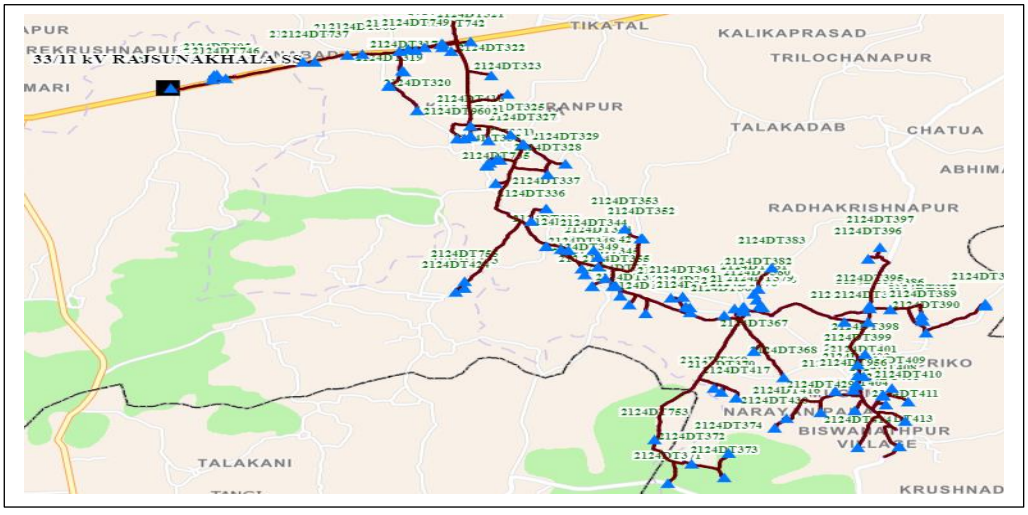
Existing Scenario:

- 11kV Sanapadar feeder is emanating from 33/11kV Binodpada PSS. Total length of this feeder is 46.1 CKM and the peak load is 2.46 MVA.
- Conductor size of 11kV Sanapadar feeder is 34 sq.mm & the feeder is 93% loaded w.r.t the current carrying capacity of the conductor and 117% loaded considering 12% load growth for rural feeders.
- This feeder is completely feeding commercial and domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, augmentation of this feeder is proposed to mitigate overloading issue.

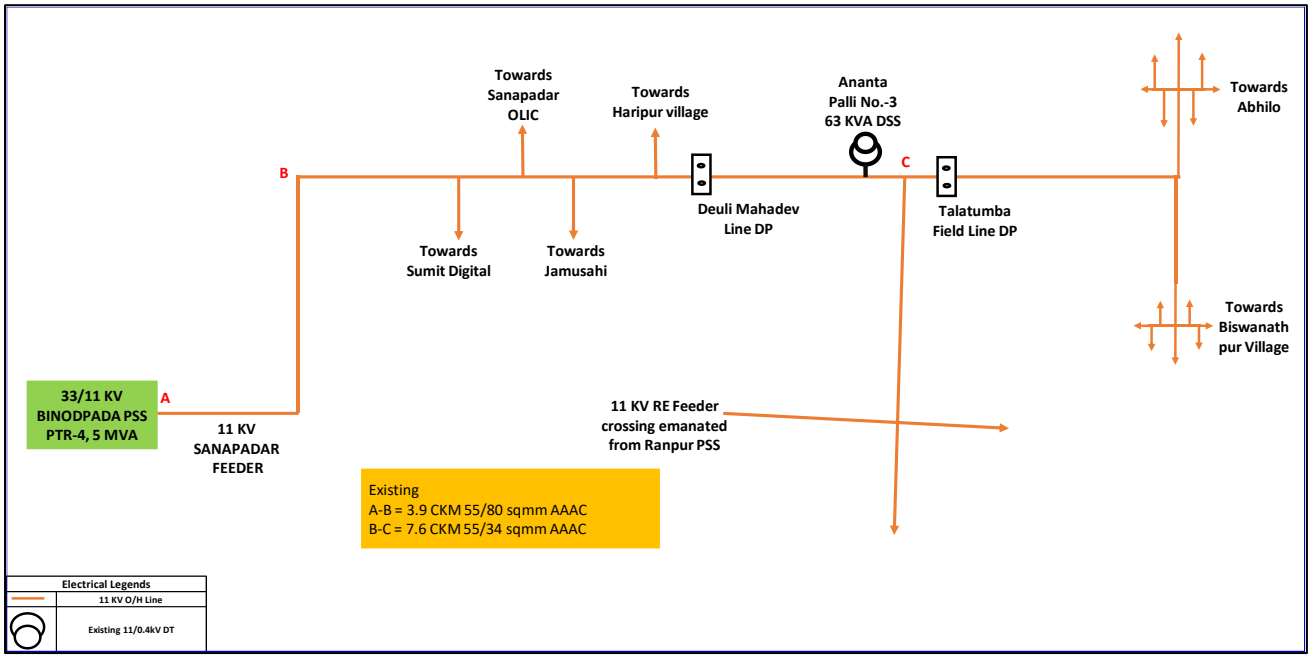
Existing Summer'26 Loading and projected load at 11 kV Sanapadar Feeder

Existing Scenario								
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer' 28**
Binodpada	Sanapadar	2.63	2.46	93%	3.09	117%	OVERLOAD	592.54

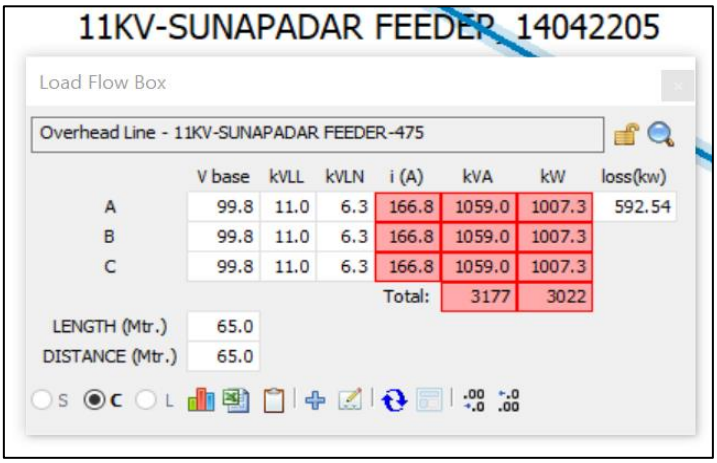
GIS Map:-



Existing SLD:



***Load Flow Study of existing scenario in CYME Software*:-**



Priority of the Project:

Since the feeder loading has reached 93% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 117%. In case the issue is not addressed, there will be load shedding of 3409 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 93% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

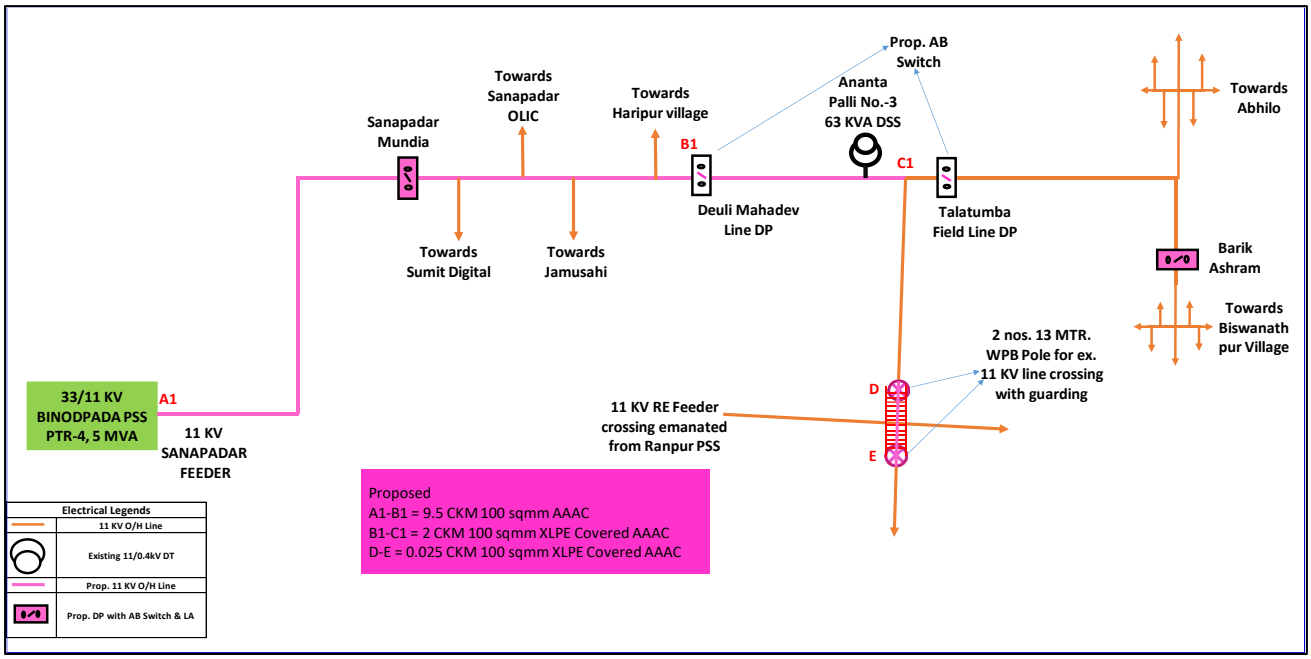
Proposed Scenario:

- Conductor augmentation of 9.5 CKM using 100mm2 AAA Conductor for feeder strengthening & mitigation of overload.
- Conductor augmentation of 2.025 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening & mitigation of overload.
- Installation of 1 Set FPI every 3 CKM of the line.

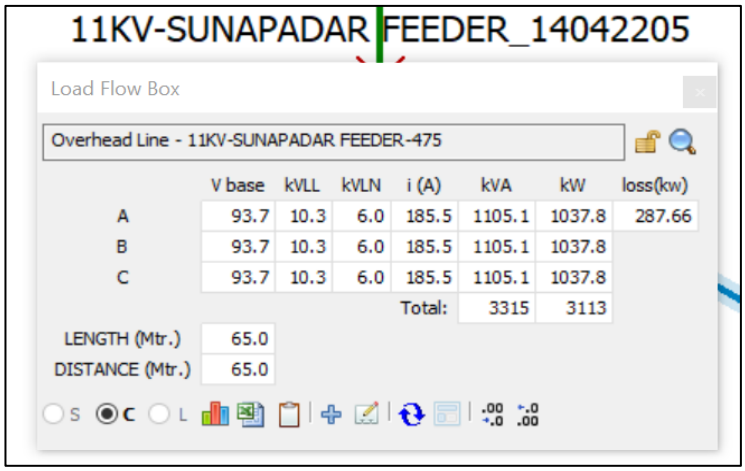
Proposed Summer'28 Loading and projected load at 11 kV Sanapadar Feeder:

Loading of Feeder after Proposal						
Name of the PSS	11 kV kV Feeder Name	Feeder Capacity (MVA)	Projected load Summer'28 (MVA)	% Loading	Feeder Overloading Status	Loss in kW in Summer' 28
Binodpada	Sanapadar	5.18	3.09	60%	Underload	287.66

Proposed SLD:



***Load Flow Study of proposed scenario in Cyme Software*:**



Scope of Work:

- Conductor augmentation of 9.5 CKM using 100mm2 AAA Conductor for feeder strengthening & mitigation of overload.
- Conductor augmentation of 2.025 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening & mitigation of overload.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.17		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		KHD
Name of the Sub-Division : -		Begunia
Name of the Section : -		Rajsunakhala
11kV feeder name : -		11kV Sanapadar feeder
Name of the Work :-		Proposal for augmentation of existing 11 KV Sanapadar Feeder emanating from 33/11 KV Binodpada PSS to mitigate the overloading issue.
Names of Schemes: -		**CAPEX 27-28**
WBS: -		
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 9.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor over existing and new intermediate pole. (Refer PSLD point A1-B1)	1,37,82,522.67
2	PART B: Augmentation of 2.025CKM 11kV O/H Line Length using 100 SQ.MM. -XLPE AAA Covered Conductor over existing and new intermediate pole. (Refer PSLD point B1-C1 & D-E)	37,16,745.16
3	PART C: Construction of 1 no.11 KV Line Protecting Guarding on Single Pole. (Refer PSLD point D-E)	28,797.88
4	PART D: Dismantling of Materials	4,92,243.20
5	**Total Gross**	**1,80,20,308.90**
Total estimated cost is Rs. 1.80 Cr.		

Cost Estimate: ₹ 1.80 Crore (For detailed BoQ refer Annexure- 21.17)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

f) Compliance with electrical safety regulation for distribution system.

g) Reduction of electrocution risk and public safety hazards.

h) Safe operation and isolation of the feeder.

i) Protection of electrical assets against lightening and surge related failure.

j) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Binodpada	Sanapadar	3022	593	**304.88**	**77.74**	**681040.94**	**24.18**
After Proposal	Binodpada	Sanapadar	3113	288				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	180.20	Rs. Lac
B	Additional load due to load growth	-	626.29	kVA
C	Total kW due to load growth	B*pf(power factor)	594.98	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	521199	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G*D/10^5	12.46	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	24.18	Rs. Lac
J	Net Revenue Collected	H+I	36.63	Rs. Lac
K	% revenue return	(J/A)*100	20.3	%
L	Pay Back Period	100/K	4.92	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
5. The above arrangement will help to release power supply to upcoming potential consumers

18. Proposal for overloading mitigation and Reliability improvement of 11 kV Itamati Feeder:

Proposal:

Augmentation and refurbishment of 11 kV Itamati Feeder to mitigate overloading issue and improve reliability.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by strengthening the existing network doing Conductor Augmentation.

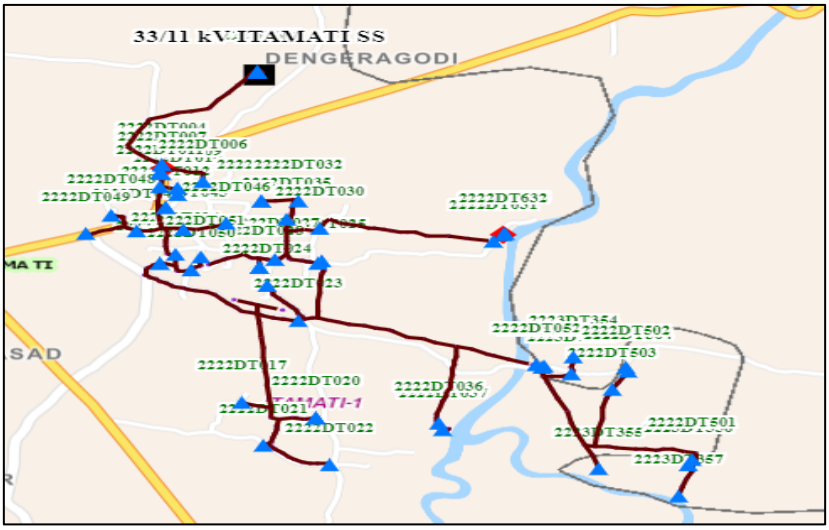
Existing Scenario:

- 11kV Itamati feeder is emanating from 33/11kV Itamati PSS. Total length of this feeder is 12.1 CKM and the peak load is 2.67 MVA.
- Conductor size of 11kV Talabasta feeder is 55/34 sq.mm & the feeder is 101% loaded w.r.t the current carrying capacity of the conductor and 114% loaded considering 6% load growth for rural feeders.
- This feeder is completely feeding commercial and domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, augmentation of this feeder is proposed to mitigate overloading issue.

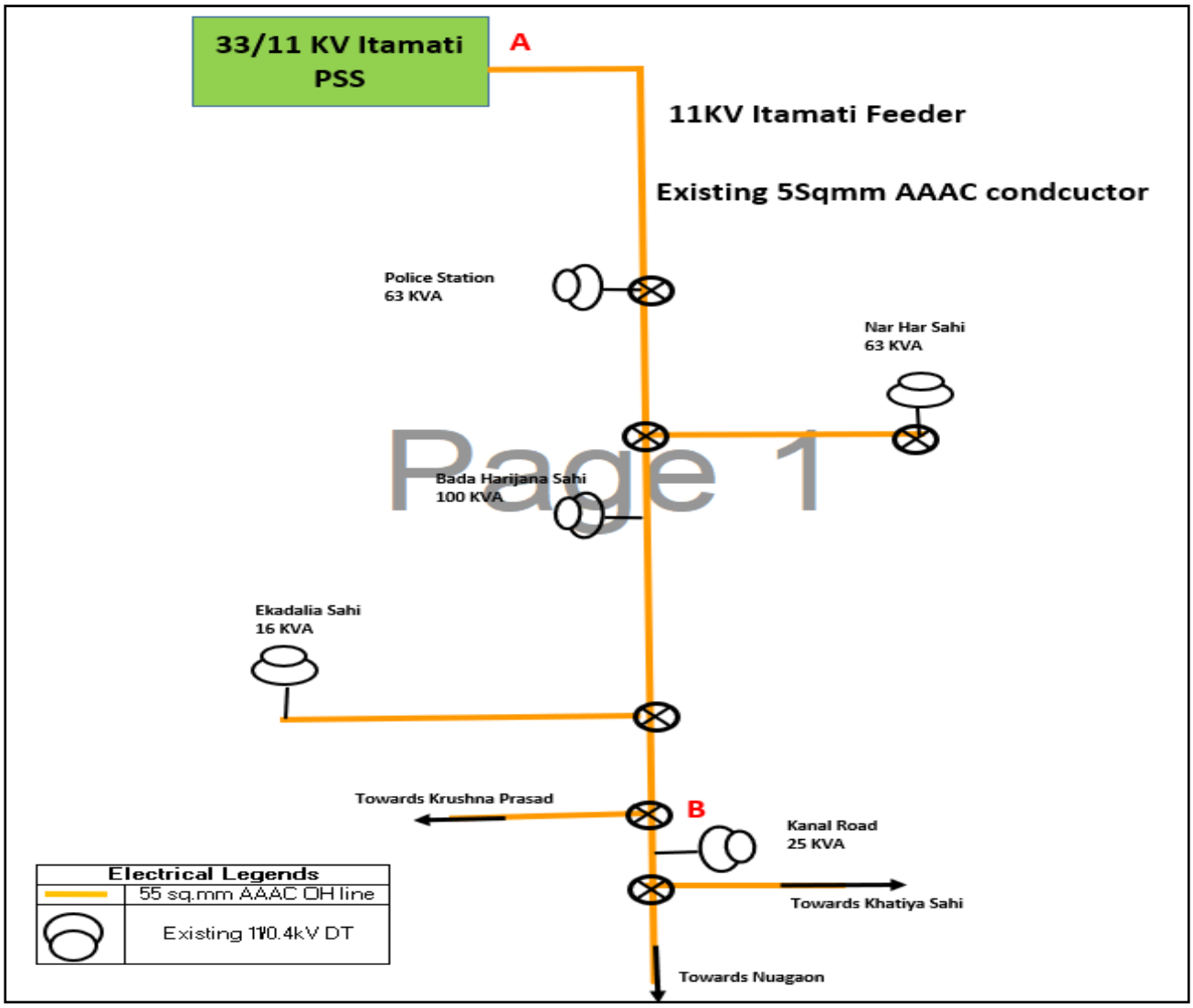
Existing Summer'26 Loading and projected load at 11 kV Itamati Feeder

Existing Scenario								
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer'26 (MVA)**	**% Loading**	**Projected load Summer'28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer'28**
Itamati	Itamati	2.63	2.67	101%	3.00	114%	Over load	202.38

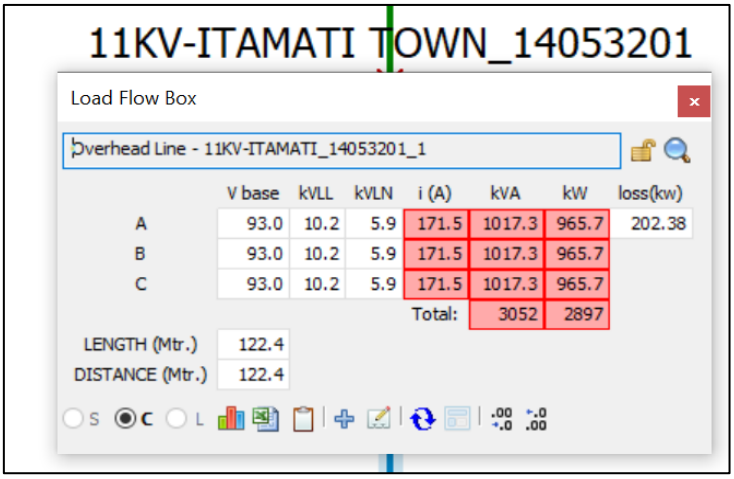
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority of the Project:

Since the feeder loading has reached 101% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 114%. In case the issue is not addressed, there will be load shedding of 4267nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 89% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

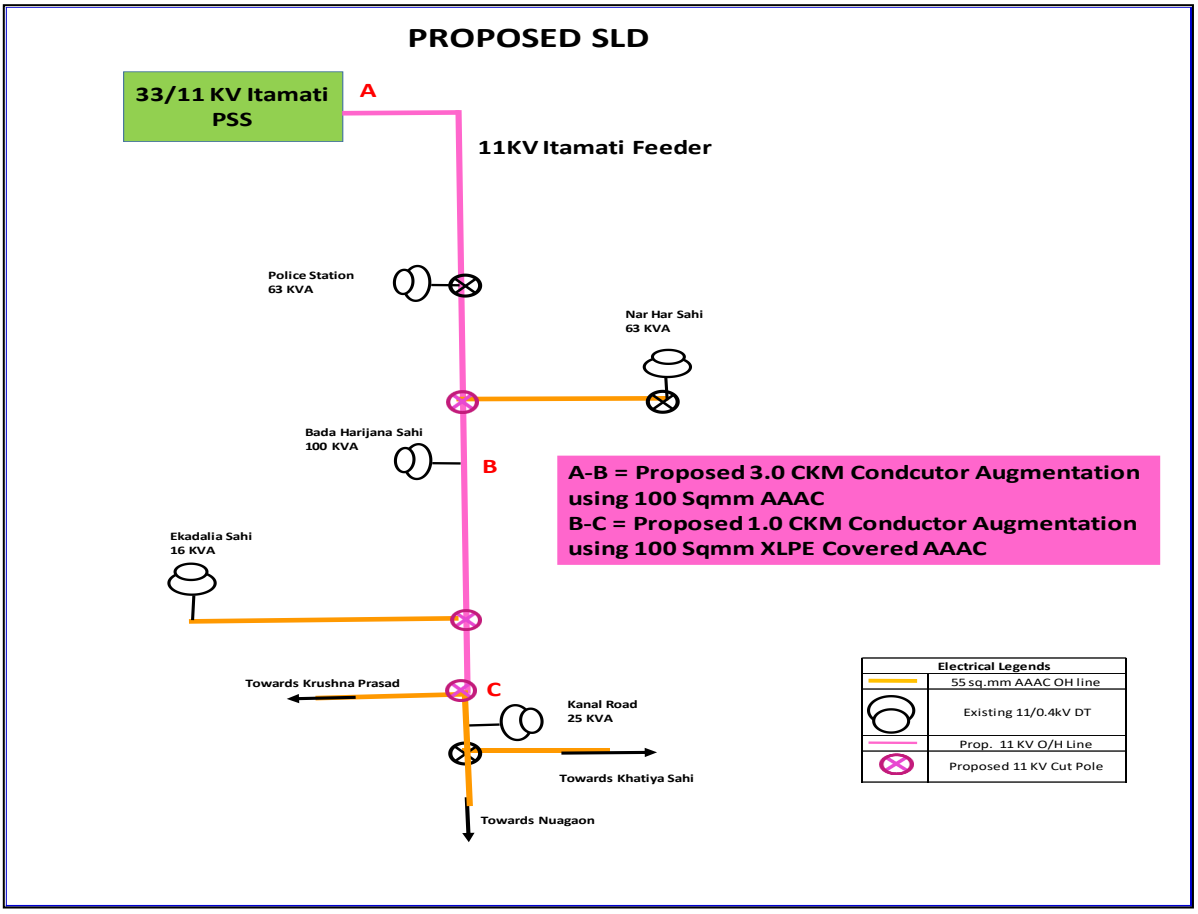
Proposed Scenario:

- Conductor augmentation of 3 CKM using 100mm2 AAA Conductor for feeder strengthening & mitigation of overload.
- Conductor augmentation of 1 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening & mitigation of overload.

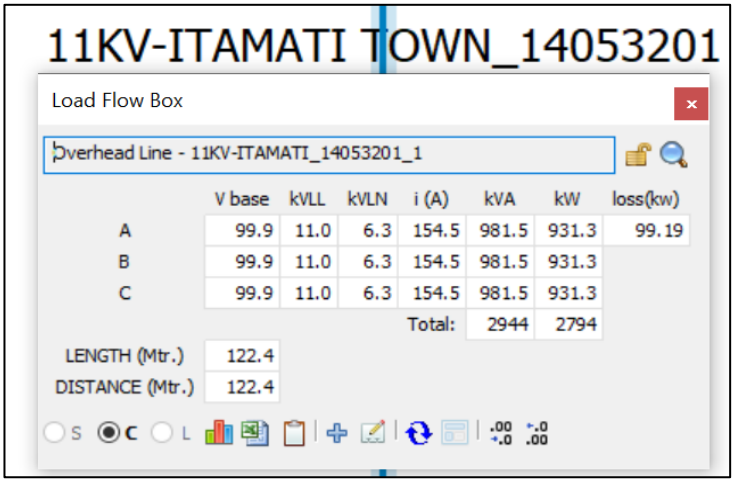
Proposed Summer'28 Loading and projected load at 11 kV Itamati Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Itamati	Itamati	5.18	3.00	58%	Under load	99.19

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Conductor augmentation of 3 CKM using 100mm2 AAA Conductor for feeder strengthening & mitigation of overload.
- Conductor augmentation of 1 CKM using 100mm2 XLPE Covered Conductor for feeder strengthening & mitigation of overload.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.18		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		NYED
Name of the Sub-Division :-		Itamati
Name of the Section : -		Itamati
Name of the Work :-		Proposal for augmentation of existing 11 KV Itamati Feeder emanating from 33/11 KV Itamati PSS to mitigate the overloading issue.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 3 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.	24,26,204.22
2	PART B: Augmentation of 1 CKM 11kV O/H Line using 100 SQ.MM. -XLPE AAA Covered Conductor.	10,10,769.98
3	Standard BoQ and Estimate for Dismantling of Materials	61,377.70
4	**Total Gross**	**34,98,351.90**
Total estimated cost is Rs. 0.35 Cr. (On TPCODL CAPEX Scheme)		

Cost Estimate: ₹ 0.35 Crore (For detailed BoQ refer Annexure- 21.18)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Itamati	Itamati	2897	202	**103.19**	**26.31**	**230505.82**	**8.18**
After Proposal	Itamati	Itamati	2794	99				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	34.98	Rs. Lac
B	Additional load due to load growth	-	329.60	kVA
C	Total kW due to load growth	B*pf(power factor)	313.12	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	274293	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G*D/10^5	6.56	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	8.18	Rs. Lac
J	Net Revenue Collected	H+I	14.74	Rs. Lac
K	% revenue return	(J/A)*100	42.1	%
L	Pay Back Period	100/K	2.37	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply
5. The above arrangement will help to release power supply to upcoming potential consumers

19. Proposal for overloading mitigation and Reliability improvement of 11kV Bilasuni (Tola) Feeder:

Proposal:

Proposal for augmentation/refurbishment of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor along with construction of 0.16 CKM 11 kV line for N-1 connectivity between 11 kV Bilasuni(Tola) & Kaliaghai Fdr to mitigate overloading issue.

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Bilasuni(Tola) Feeder.

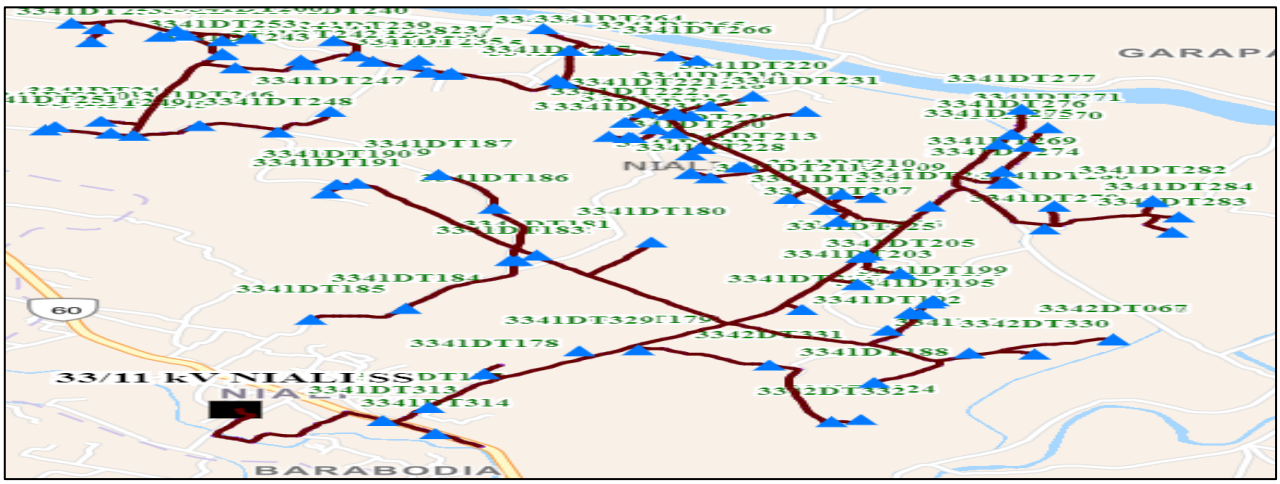
Existing Scenario:

- At present, 11kV Bilasuni(Tola) feeder is emanating from 33/11kV Niali PSS. Total length of this feeder is 45.62 CKM and the peak load is 3.7 MVA.
- In the existing scenario, Conductor size of 11kV Bilasuni(Tola) feeder is 55 sq.mm & the feeder is 104% loaded w.r.t the current carrying capacity of the conductor.
- Considering 7% load growth for next 2Yrs. the feeder loading will reach 120% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic consumers.
- This feeder is mainly feeding sub urban and rural consumers of Niali area, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the area, conductor augmentation proposed for overloading mitigation & reliability improvement.

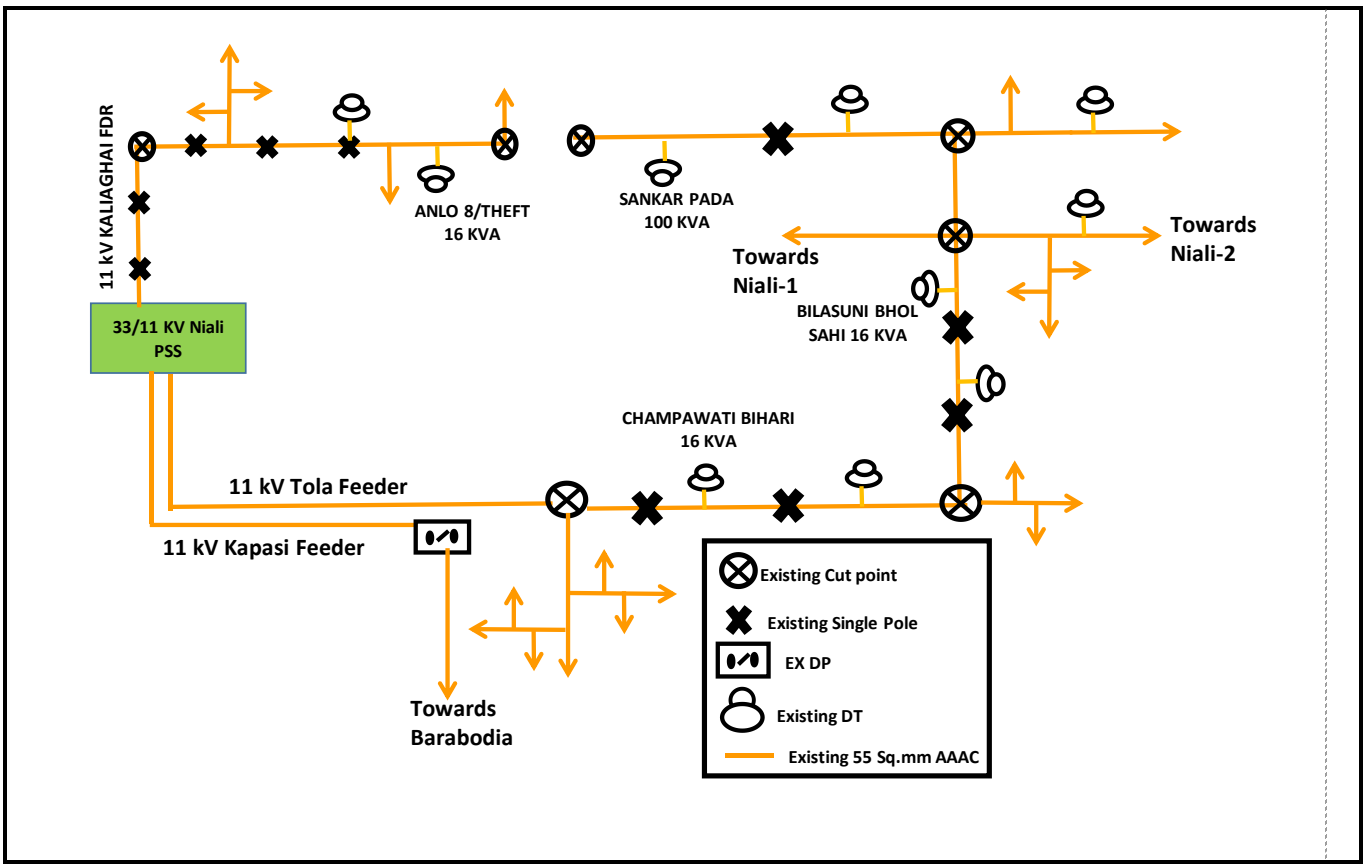
Existing Summer'26 Loading and projected load at 11kV Bilasuni(Tola) Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer '28
Niali	Bilasuni(Tola)	3.54	3.70	104%	Over load	4.24	120%	Over load	547

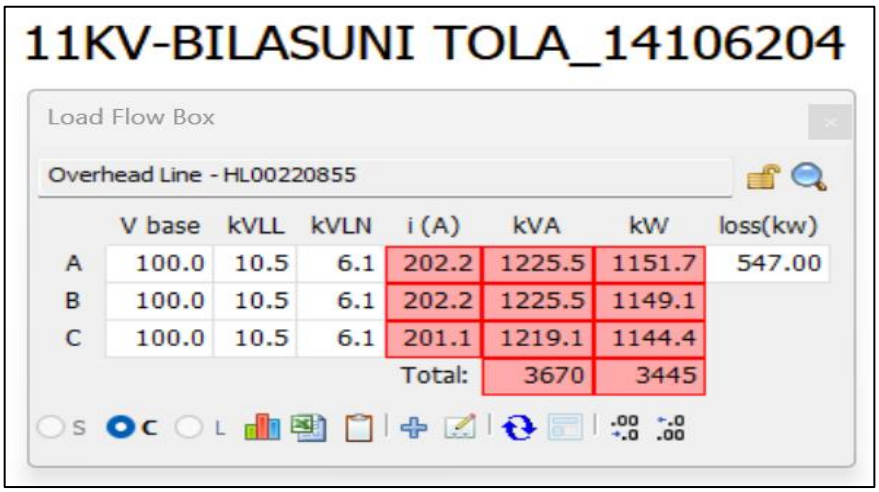
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	100.0	10.5	6.1	202.2	1225.5	1151.7	547.00
B	100.0	10.5	6.1	202.2	1225.5	1149.1	
C	100.0	10.5	6.1	201.1	1219.1	1144.4	
				Total:	3670	3445	

Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 104% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 120%. In case the issue is not addressed, there will be load shedding of 4651nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.

- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 104% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

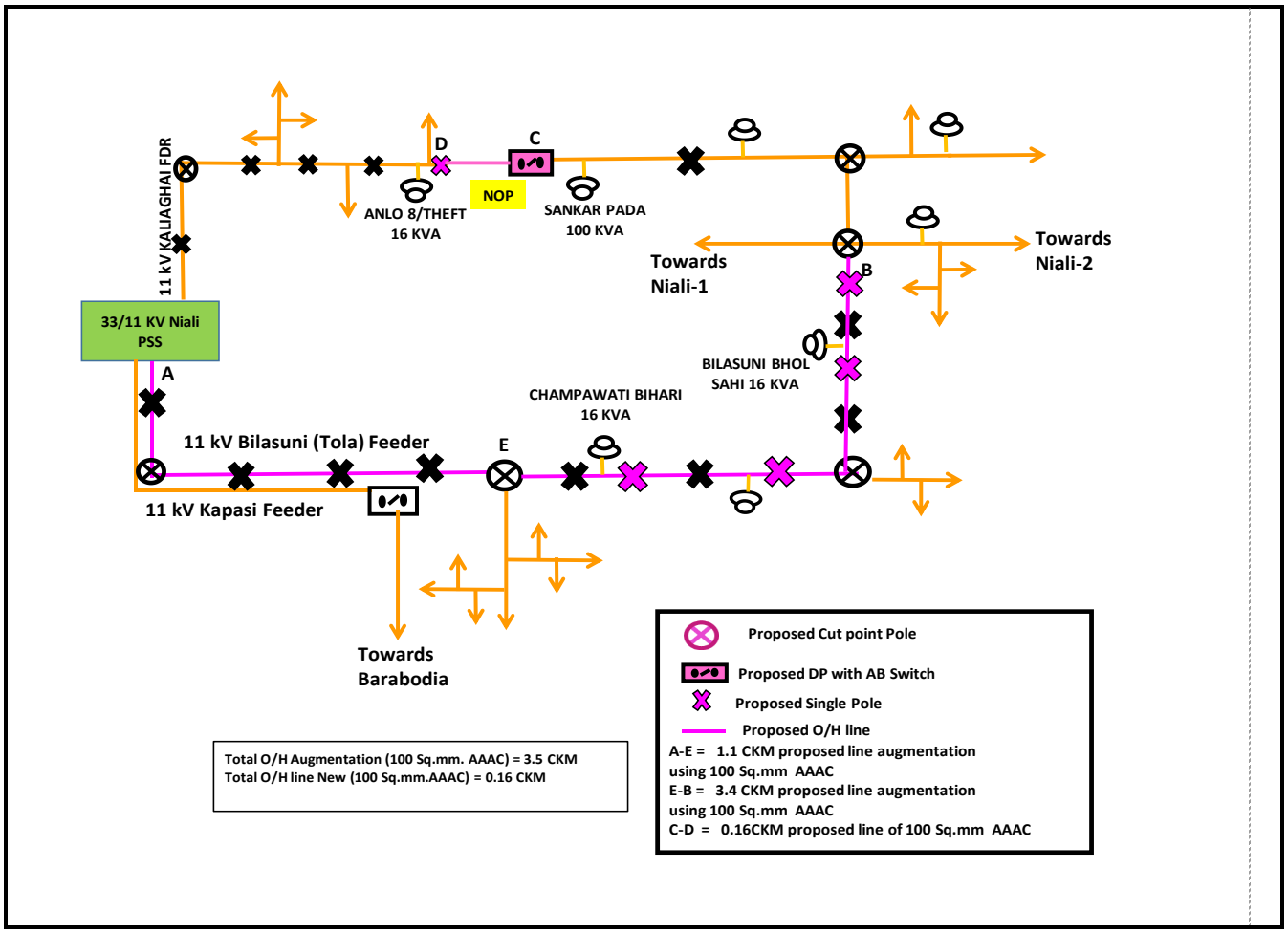
Proposed Scenario:

- Proposal for construction of 0.16 CKM 11 kV interlinking line between 11 kV Tola & kaliaghai feeder to improve N-1 reliability.
- Augmentation of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB & 100 Sq.mm. AAAC to mitigate overloading issue.

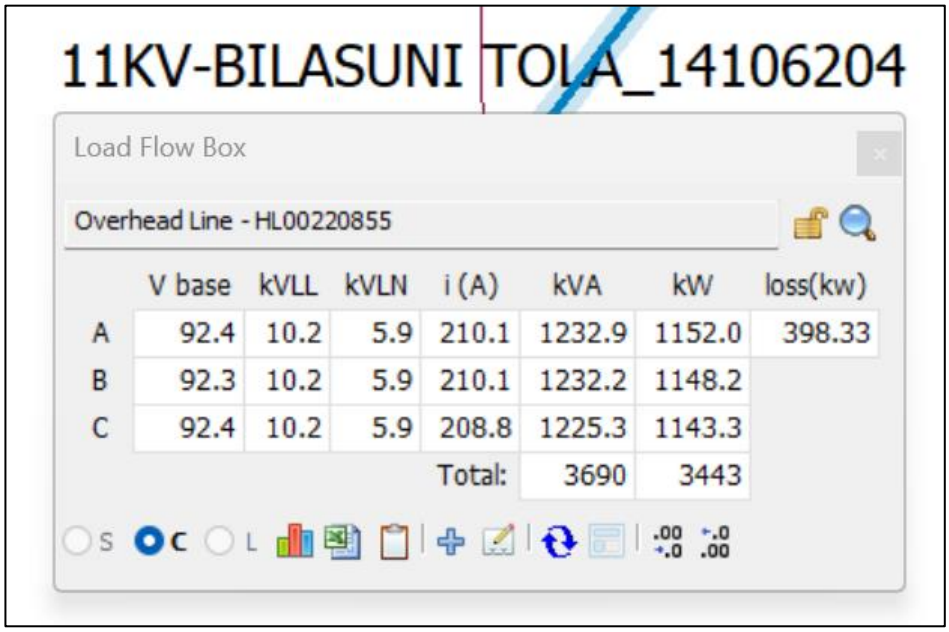
Proposed Summer'28 Loading and projected load at 11kV Bilasuni(Tola) Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Projected load Summer'28 (MVA)	% Loading in Summer-28	Feeder Status	Loss in kW in Summer'28
Niali	Bilasuni(Tola)	5.18	4.24	82%	Under load	398.33

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 1.1 CKM 11 kV line using 100 Sq.mm. AAA Conductor (Poles is not required).
- Augmentation of 3.4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor.
- Construction of 0.16 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole for N-1 connectivity between 11 kV Tola & Kaliaghai FDR.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.19		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	NIALI	
Name of the Section : -	NIALI	
Name of the Work :-	Proposal for augmentation/refurbishment of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor along with construction of 0.16 CKM 11 kV line for N-1 connectivity between 11 kV Bilasuni(Tola) & Kaliaghai Fdr to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Augmentation of 1.1 CKM 11 kV line using 100 Sq.mm. AAA Conductor (Poles is not required) (Refer PSLD A-E) 2. Augmentation of 3.4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD E-B) 3. Construction of 0.16 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole for N-1 connectivity between 11 kV Tola & Kaliaghai FDR (Refer PSLD C-D)	46,43,603.23

2	Part B: Dismantling	1,12,625.10
	Total Amount	**47,56,228.33**
	Total Amount (In Cr.)	**0.48**
Total estimated cost is Rs. 0.48 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.48 Crore (For detailed BoQ refer Annexure- 21.19)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF – 0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Niali	Bilasuni(Tola)	3445	547	**148.67**	**37.91**	**332099.05**	**11.79**
After Proposal	Niali	Bilasuni(Tola)	3443	398				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	47.56	Rs. Lac
B	Additional load due to load growth	-	536.13	kVA
C	Total kW due to load growth	B*pf(power factor)	509.32	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	446167	kWH
E	Power Purchase cost per unit	-	3.55	Rs.

F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	10.66	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	11.79	Rs. Lac
J	Net Revenue Collected	H+I	22.45	Rs. Lac
K	% revenue return	(J/A)*100	47.2	%
L	Pay Back Period	100/K	2.12	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation of 11 kV Bilasuni(Tola) feeder.
2. Improved capability of Network by use of higher size conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fewer interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

20. Proposal for overloading mitigation and Reliability improvement of 11kV Megha Feeder:

Proposal:

Proposal for refurbishment of 3 CKM O/H line using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) along with conversion of O/H to 0.25 CKM U/G in college premises to mitigate overloading issue of 11 kV Megha feeder.

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Megha Feeder.

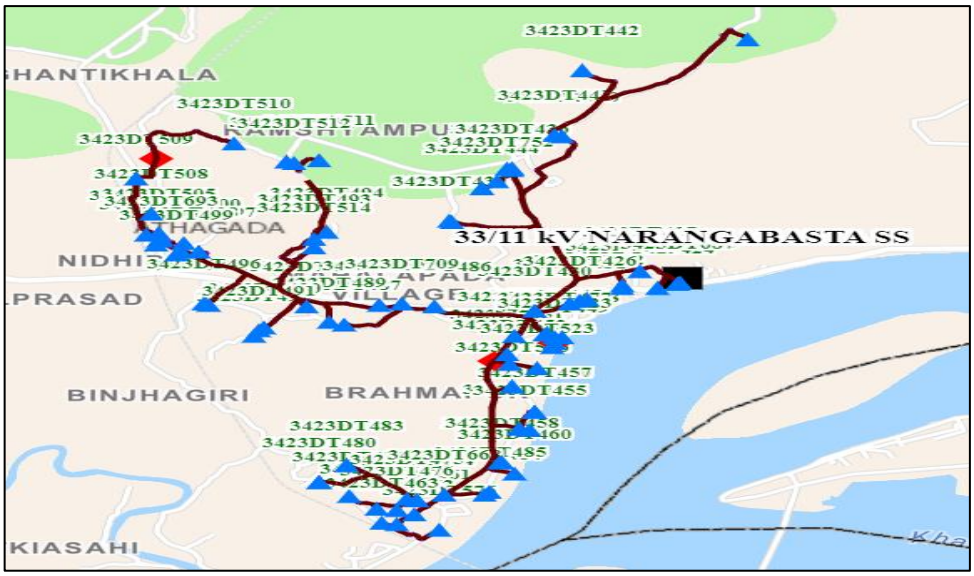
Existing Scenario:

- At present, 11kV Megha feeder is emanating from 33/11kV Narangabasta PSS. Total length of this feeder is 27.11 CKM and the peak load is 3.08 MVA.
- In the existing scenario, Conductor size of 11kV Megha feeder is 55 sq.mm & the feeder is 87% loaded w.r.t the current carrying capacity of the conductor.
- Considering 8% load growth for next 2Yrs. the feeder loading will reach and 101% of its capacity.
- This feeder is mainly feeding rural consumers of Narangabasta area, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the area, conductor augmentation proposed for overloading mitigation & reliability improvement.

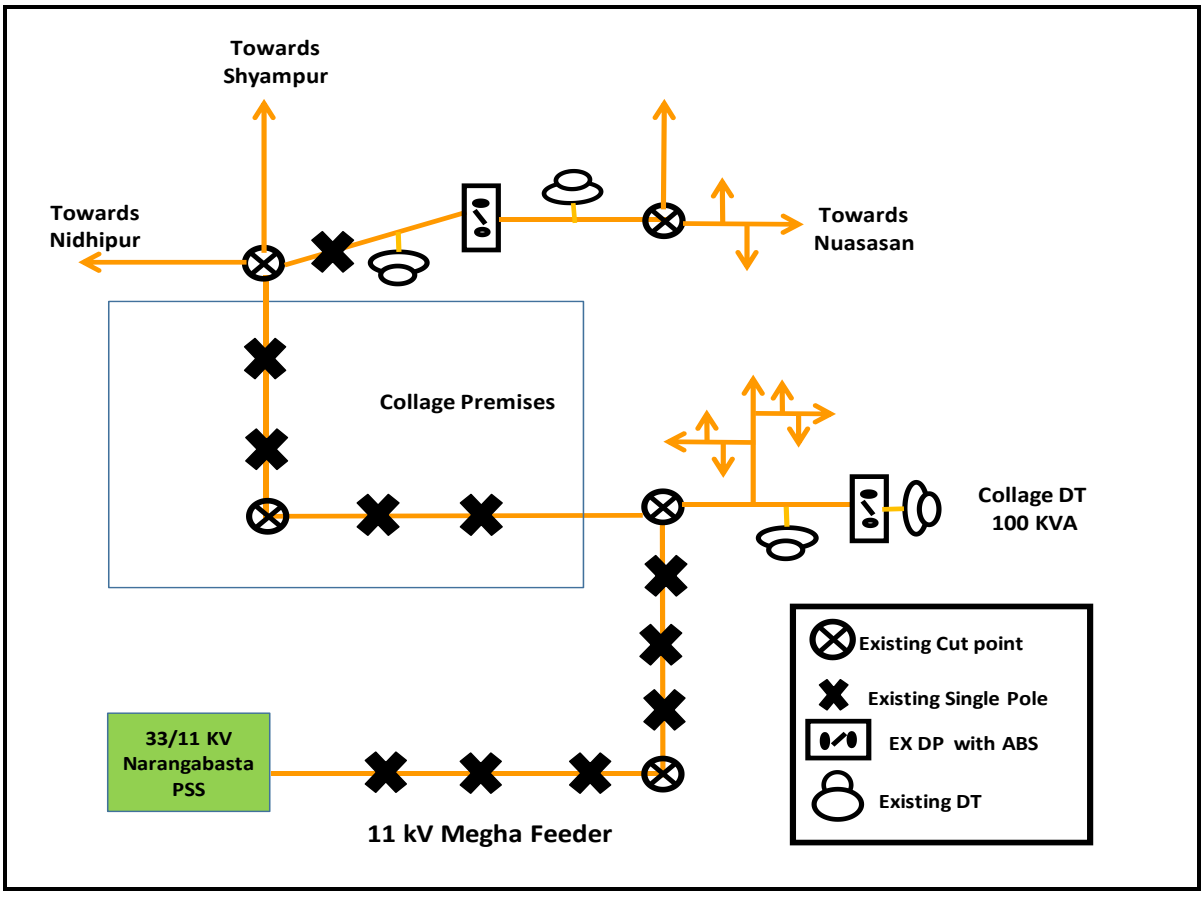
Existing Summer'26 Loading and projected load at 11kV Megha Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer'28
Narangabasta	Megha	3.54	3.08	87%	Under load	3.59	101%	Over load	157.72

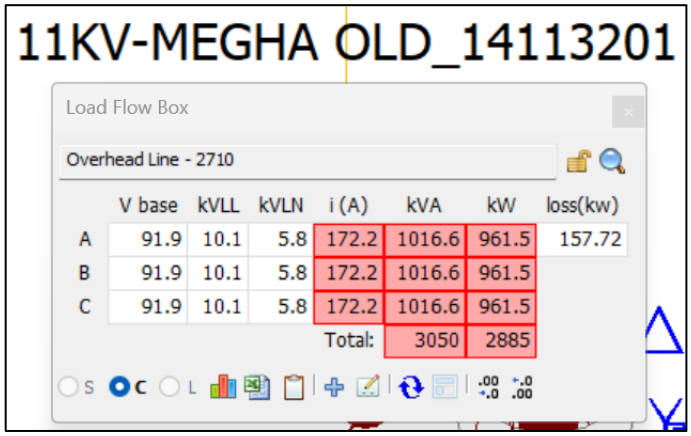
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 87% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 101%. In case the issue is not addressed, there will be load shedding of 2751 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 96% loaded w.r.t the current carrying capacity.

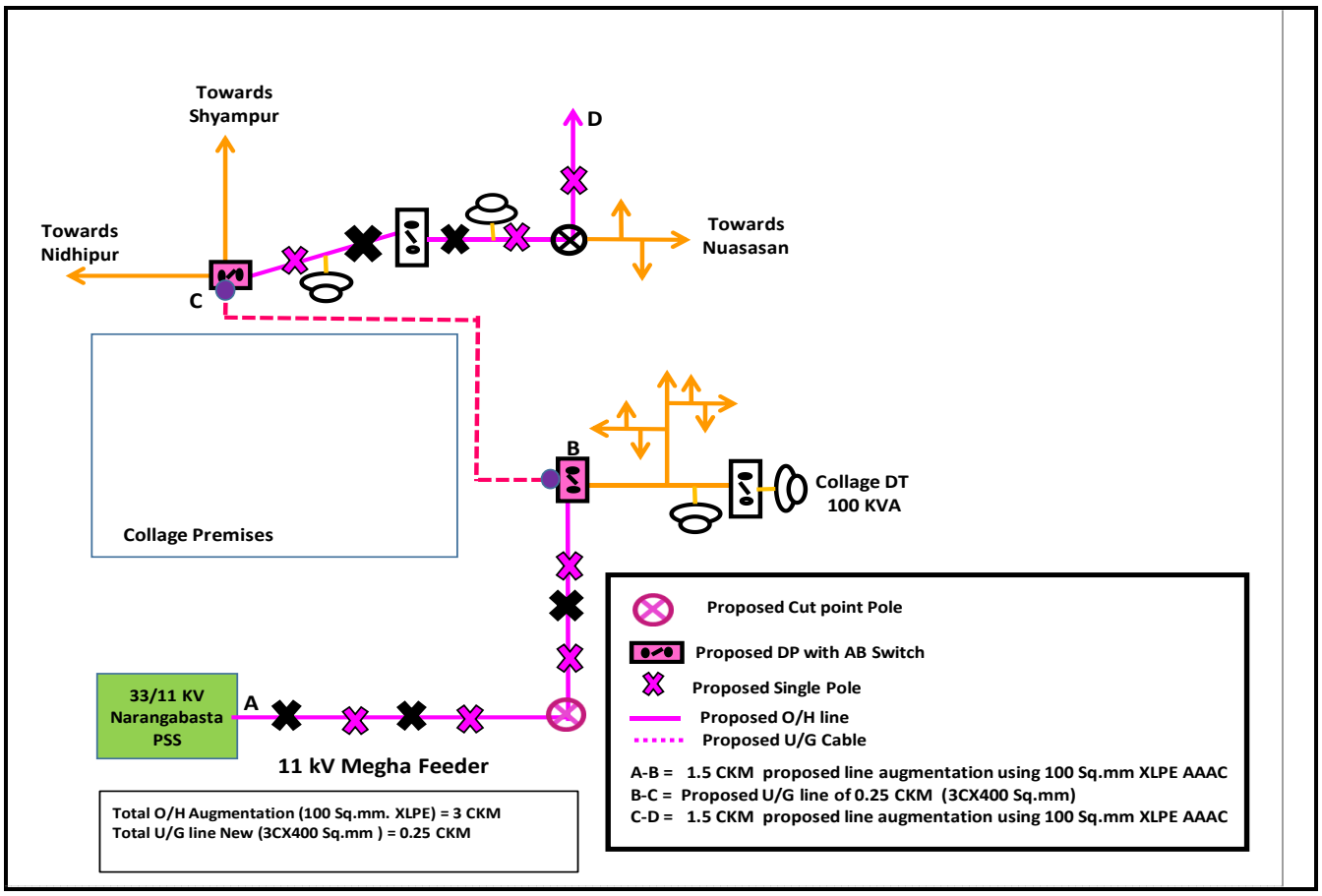
Proposed Scenario:

- Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB (interposing) & 100 Sq.mm. XLPE AAAC to mitigate overloading issue of 11 kV Megha feeder.
- Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 250 MTR Without Spare run in college premises area for safe operation.

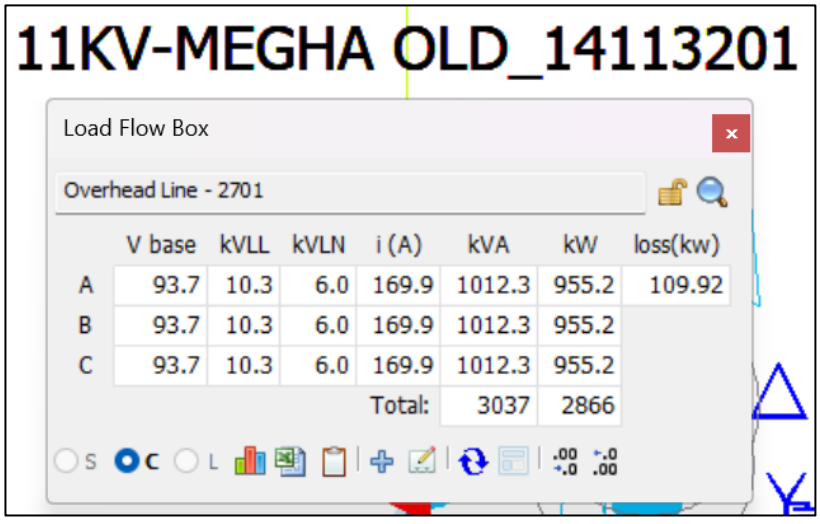
Proposed Summer'28 Loading and projected load at 11kV Megha Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Narangabasta	Megha	5.18	3.59	69%	Under load	109.92

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor.
- Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 250 MTR Without Spare run in college premises.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.20		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	AED	
Name of the Sub-Division : -	ATHAGARH	
Name of the Section : -	KHUNTUNI	
Name of the Work :-	Proposal for refurbishment of 3 CKM O/H line using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) along with conversion of O/H to 0.25 CKM U/G in college premises to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction New Line of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)	41,17,330.70
2	Part B: Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 250 MTR Without Spare . (Refer Proposed SLD point B-C)	18,55,988.20
3	Part C: Dismantling	86,405.50
	Total Amount	**60,59,724.41**
	Total Amount (In Cr.)	**0.61**
Total estimated cost is Rs. 0.61 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.61 Crore (For detailed BoQ refer Annexure- 21.20)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Narangabasta	Megha	2885	158	**47.80**	**12.19**	**106775.64**	**3.79**
After Proposal	Narangabasta	Megha	2866	110				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	60.60	Rs. Lac
B	Additional load due to load growth	-	512.51	kVA
C	Total kW due to load growth	B*pf(power factor)	486.89	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	426512	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	10.19	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	3.79	Rs. Lac
J	Net Revenue Collected	H+I	13.98	Rs. Lac
K	% revenue return	(J/A)*100	23.1	%
L	Pay Back Period	100/K	4.33	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation of 11 kV Megha feeder.
2. Improved capability of Network by use of higher size conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fewer interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

21. Proposal for overloading mitigation and Reliability improvement of 11kV Naiguan Feeder:

Proposal:

Proposal for augmentation of of 4 CKM O/H line of 11 kV Naiguan Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) to mitigate overloading issue.

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Naiguan Feeder.

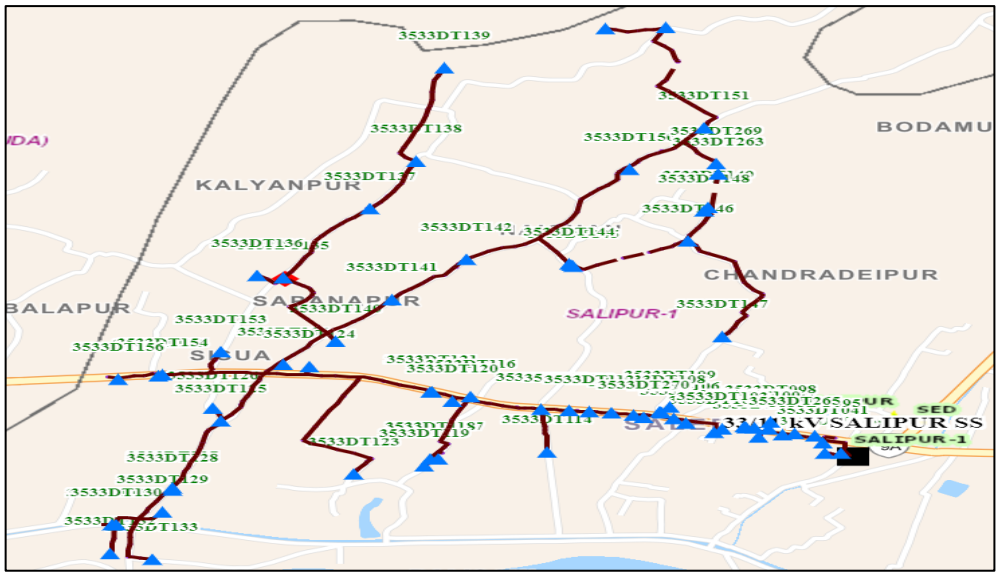
Existing Scenario:

- At present, 11kV Naiguan feeder is emanating from 33/11kV Salipur PSS. Total length of this feeder is 18.23 CKM and the peak load is 4.1 MVA.
- In the existing scenario, Conductor size of 11kV feeder is 80/55 sq.mm & the feeder is 91% loaded w.r.t the current carrying capacity of the conductor.
- Considering 6% load growth for next 2Yrs. the feeder loading will reach 102% of its capacity.
- This feeder is mainly feeding rural consumers of Salipur area, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the area, conductor augmentation proposed for overloading mitigation & reliability improvement.

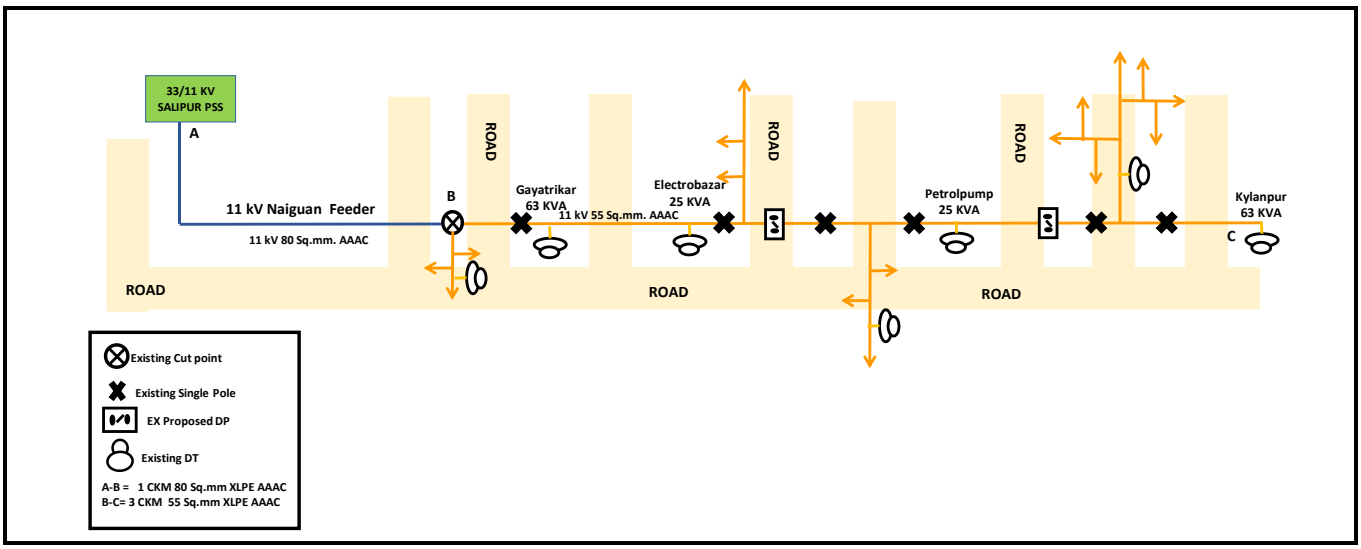
Existing Summer'26 Loading and projected load at 11kV Naiguan Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer' 28
Salipur	Naiguan	4.51	4.10	91%	Under load	4.61	102%	Over load	199.09

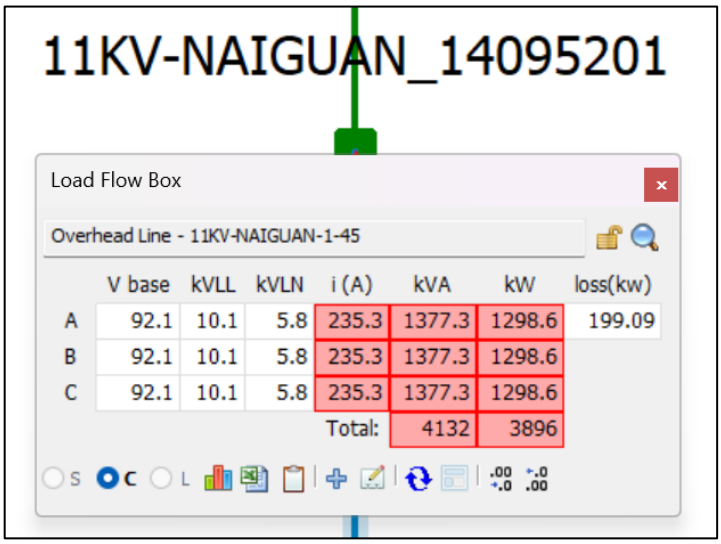
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 91% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 102%. In case the issue is not addressed, there will be load shedding of 3603 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 91% loaded w.r.t the current carrying capacity.

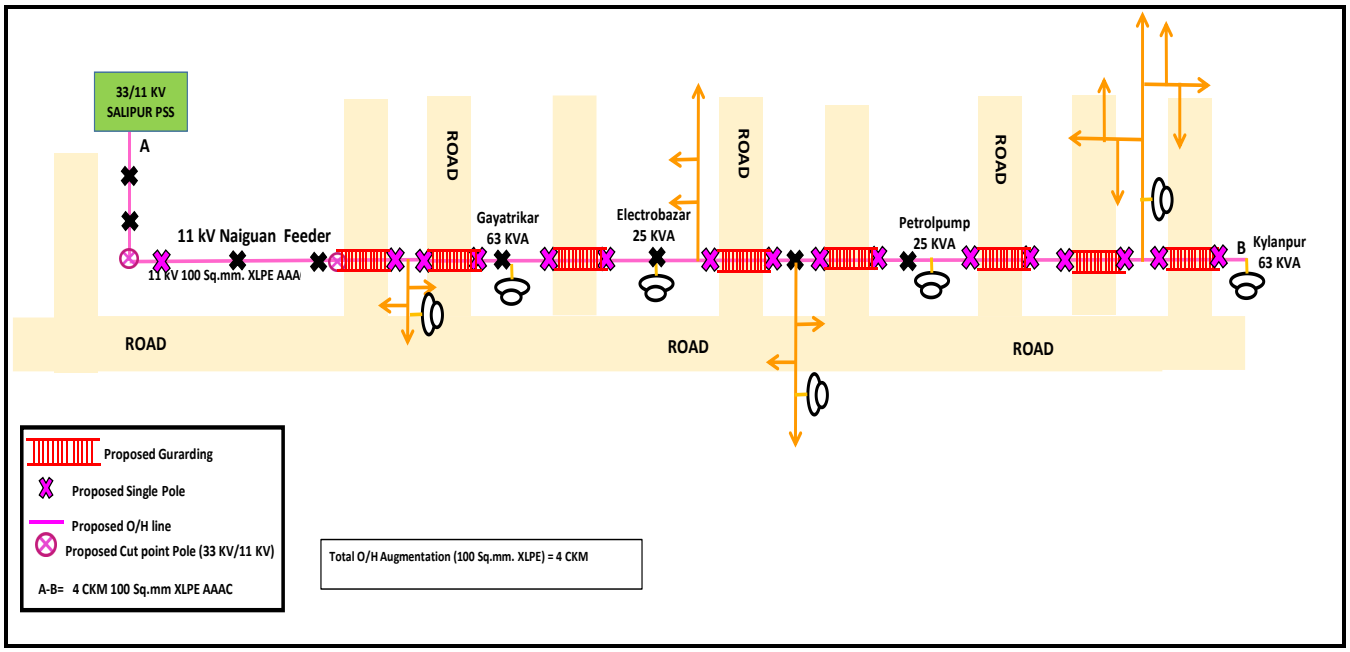
Proposed Scenario:

- Augmentation of 4 CKM 11 kV O/H line using 11 Mtr. WPB (interposing) & 100 Sq.mm. XLPE AAAC to mitigate overloading issue of 11 kV Naiguan feeder.
- Installation of 8 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each.

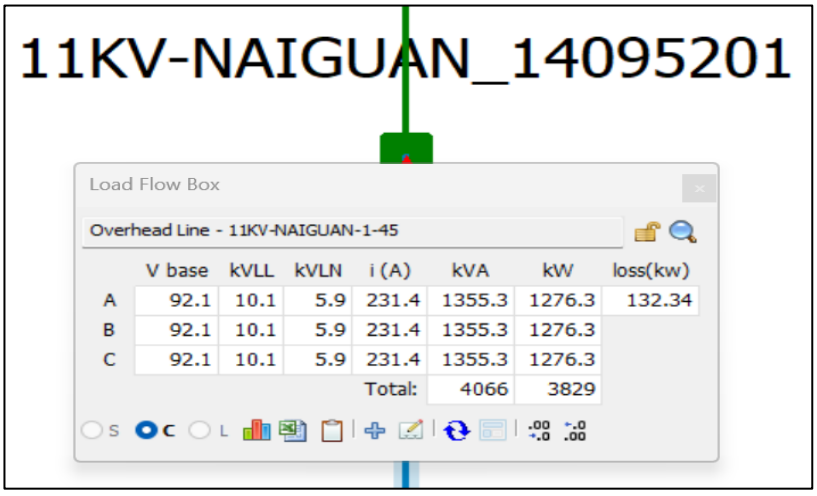
Proposed Summer'28 Loading and projected load at 11kV Naiguan Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Projected load Summer'28 (MVA)	% Loading in Summer-28	Feeder Status	Loss in kW in Summer'28
Salipur	Naiguan	5.18	4.61	89%	Under load	132.34

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC.
- Installation of 8 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.21		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	SALEPUR	
Name of the Work :-	Proposal for augmentation of of 4 CKM O/H line of 11 kV Naiguan Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD A-B)	38,17,379.50
2	PART B: Installation of 8 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	2,26,011.50
3	Part C: Dismantling	1,07,998.89
	Total Amount	**41,51,389.89**
	Total Amount (In Cr.)	**0.42**
Total estimated cost is Rs. 0.42 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.42 Crore (For detailed BoQ refer Annexure- 21.21)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF – 0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Salipur	Naiguan	3896	199	**66.75**	**17.02**	**149106.15**	**5.29**
After Proposal	Salipur	Naiguan	3829	132				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	41.51	Rs. Lac
B	Additional load due to load growth	-	506.76	kVA
C	Total kW due to load growth	B*pf(power factor)	481.42	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	421726	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	10.08	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	5.29	Rs. Lac
J	Net Revenue Collected	H+I	15.37	Rs. Lac
K	% revenue return	(J/A)*100	37.0	%
L	Pay Back Period	100/K	2.70	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of higher size conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fewer interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

22. Proposal for overloading mitigation and Reliability improvement of 11kV Sundargram Feeder:

Proposal:

Proposal for augmentation of of 2.6 CKM O/H line of 11 kV adaspur Fdr. using 100 Sq.mm AAA Conductor & 11 Mtr. WPB Pole to mitigate overloading issue.

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Sundargram Feeder.

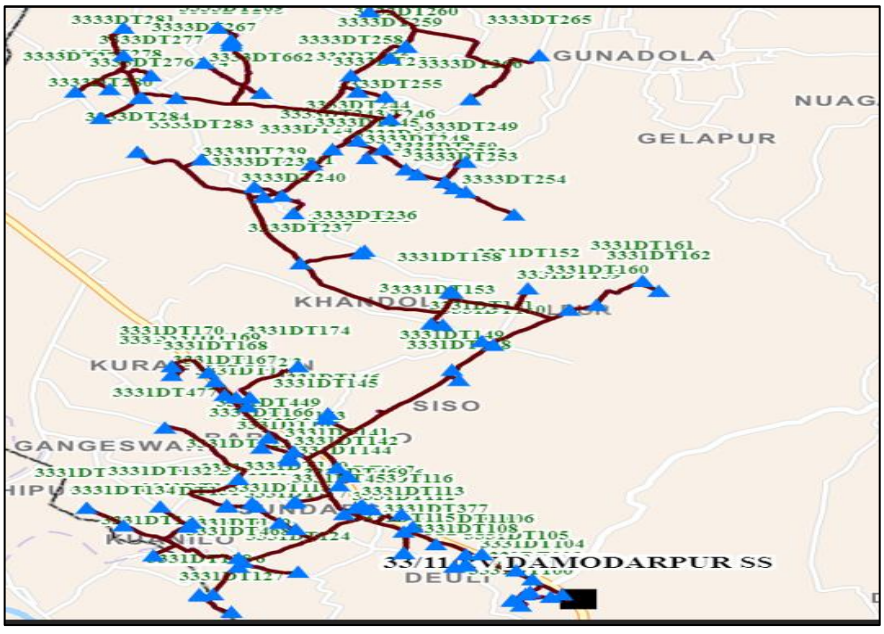
Existing Scenario:

- At present, 11kV Sundargram feeder is emanating from 33/11kV Damodarpur PSS. Total length of this feeder is 45.39 CKM and the peak load is 3.66 MVA.
- In the existing scenario, Conductor size of 11kV Sundargram feeder is 55 sq.mm & the feeder is 103% loaded w.r.t the current carrying capacity of the conductor.
- Considering 7% load growth for next 2Yrs. the feeder loading will reach 118% of its capacity.
- This feeder is mainly feeding rural consumers of Sundargram area, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the area, conductor augmentation proposed for overloading mitigation & reliability improvement.

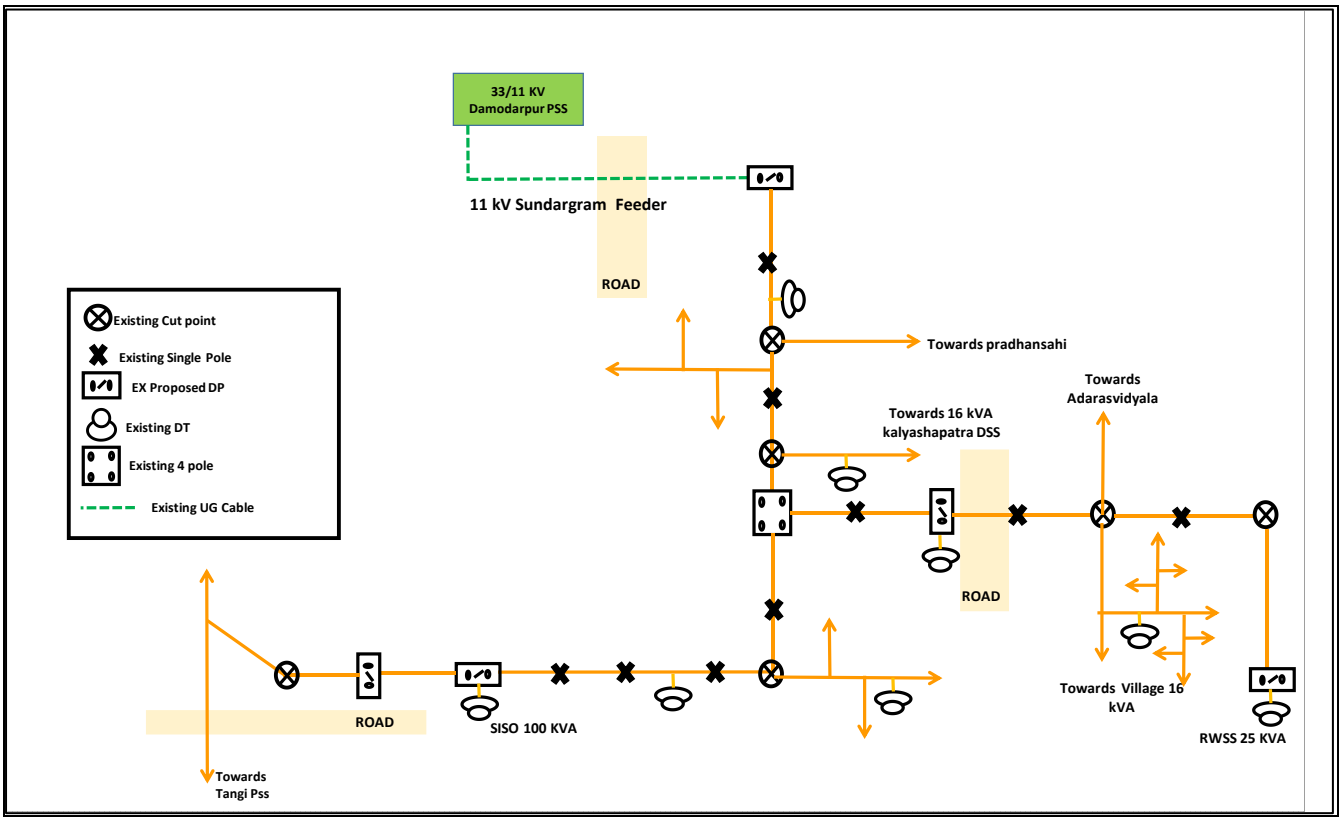
Existing Summer'26 Loading and projected load at 11kV Sundargram Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer'26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer'28
Damodarpur	Sundargram	3.54	3.66	103%	Over load	4.19	118%	Over load	288.44

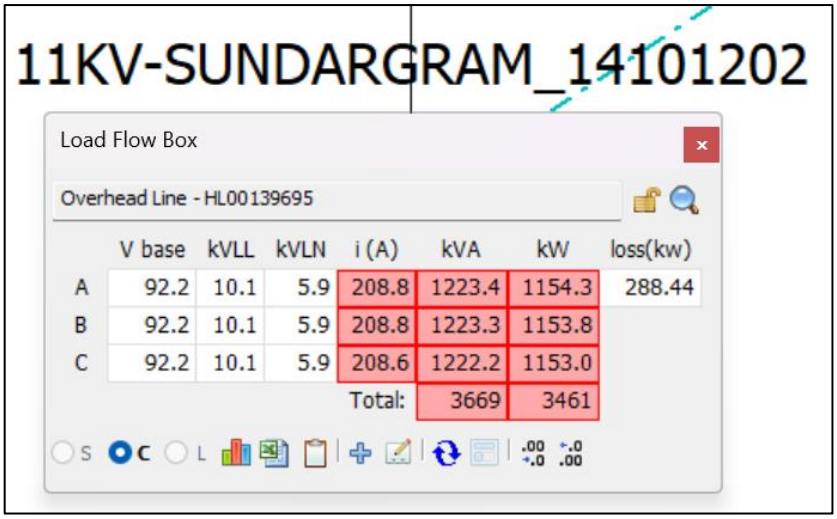
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	92.2	10.1	5.9	208.8	1223.4	1154.3	288.44
B	92.2	10.1	5.9	208.8	1223.3	1153.8	
C	92.2	10.1	5.9	208.6	1222.2	1153.0	
				Total:	3669	3461	

Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 103% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 118%. In case the issue is not addressed, there will be load shedding of 6980 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.

- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 103 % loaded w.r.t the current carrying capacity.

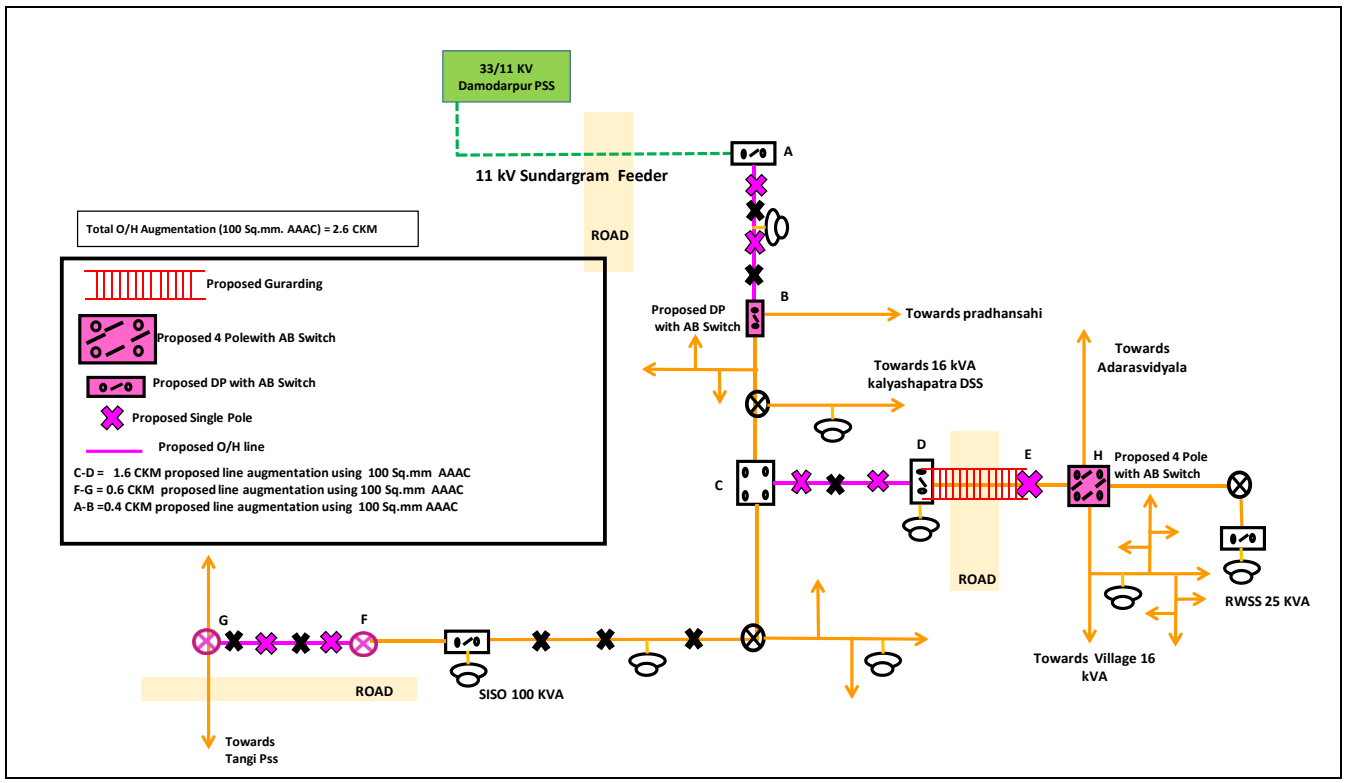
Proposed Scenario:

- Augmentation of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB (interposing) & 100 Sq.mm. AAAC to mitigate overloading issue.
- Installation of 01 No. of 4 pole with 4 Nos of Ab Switch.
- Installation of 01 No. of 11 kV line protecting guarding for road crossing.

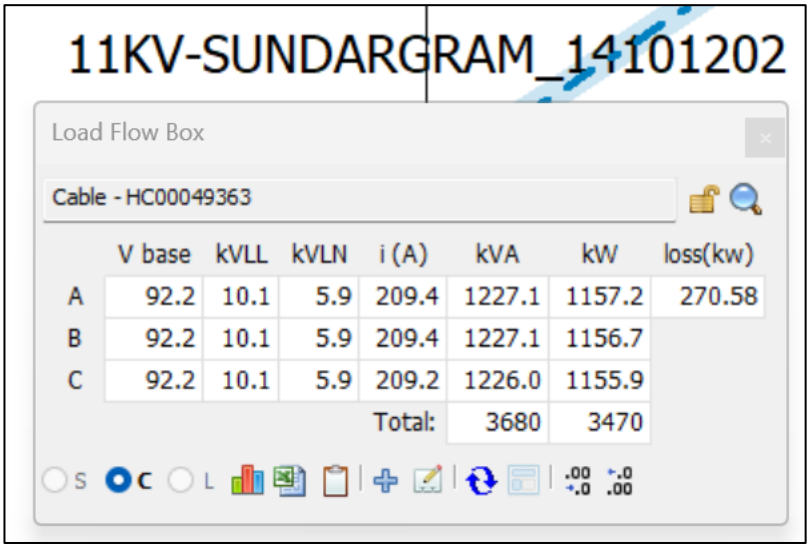
Proposed Summer'28 Loading and projected load at 11kV Sundargram Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Damodarpur	Sundargram	5.18	4.19	81%	Under load	270.58

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	92.2	10.1	5.9	209.4	1227.1	1157.2	270.58
B	92.2	10.1	5.9	209.4	1227.1	1156.7	
C	92.2	10.1	5.9	209.2	1226.0	1155.9	
				Total:	3680	3470	

Scope of Work:

- Augmentation of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD A-B,C-D,G-F).
- Installation 1 Nos of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with 4 Nos of AB Switch.
- Construction 1 No of Protecting Guarding on Double Pole for Road Crossing.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.22		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	GOPALPUR	
Name of the Section : -	ADASPUR	
Name of the Work :-	Proposal for refurbishment of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD A-B,C-D,G-F)	2,670,962.73
2	PART B: Installation 1 Nos of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with 4 Nos of AB Switch.	523,973.29
3	PART C: Construction 1 No of Protecting Guarding on Double Pole for Road Crossing (Refer PSLD)	32,271.30
4	Part D: Dismantling	65,072.28
	Total Amount	**3,292,279.59**
	Total Amount (In Cr.)	**0.33**
Total estimated cost is Rs. 0.33 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.33 Crore (For detailed BoQ refer Annexure- 21.22)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Damodarpur	Sundargram	3461	288	**17.86**	**4.55**	**39895.67**	**1.42**
After Proposal	Damodarpur	Sundargram	3470	271				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	32.92	Rs. Lac
B	Additional load due to load growth	-	530.33	kVA
C	Total kW due to load growth	B*pf(power factor)	503.82	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	441344	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	10.55	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	1.42	Rs. Lac

J	Net Revenue Collected	H+I	11.96	Rs. Lac
K	% revenue return	(J/A)*100	36.3	%
L	Pay Back Period	100/K	2.75	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation of 11 kV Sundargram feeder.
2. Improved capability of Network by use of higher size conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fewer interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

23. Proposal for overloading mitigation and Reliability improvement of 11kV Adaspur Feeder:

Proposal:

Proposal for augmentation of of 2 CKM O/H line of 11 kV adaspur Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole to mitigate overloading issue. .

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Adaspur Feeder.

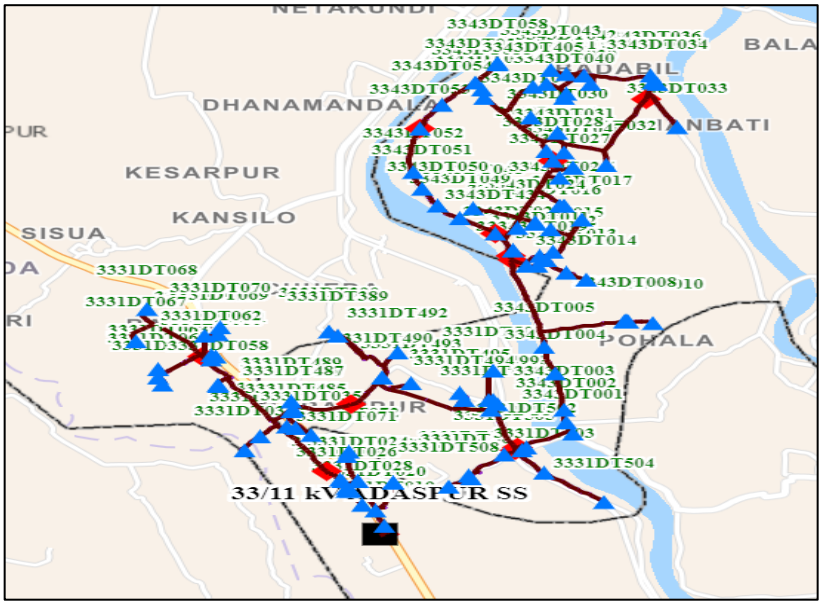
Existing Scenario:

- At present, 11kV Adaspur feeder is emanating from 33/11kV Adaspur PSS. Total length of this feeder is 31.98 CKM and the peak load is 4.16 MVA.
- In the existing scenario, Conductor size of 11kV Adaspur feeder is 55 sq.mm & the feeder is 117% loaded w.r.t the current carrying capacity of the conductor.
- Considering 7% load growth for next 2Yrs. the feeder loading will reach 134% of its capacity.
- This feeder is mainly feeding rural consumers of Adaspur area, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the area, conductor augmentation proposed for overloading mitigation & reliability improvement.

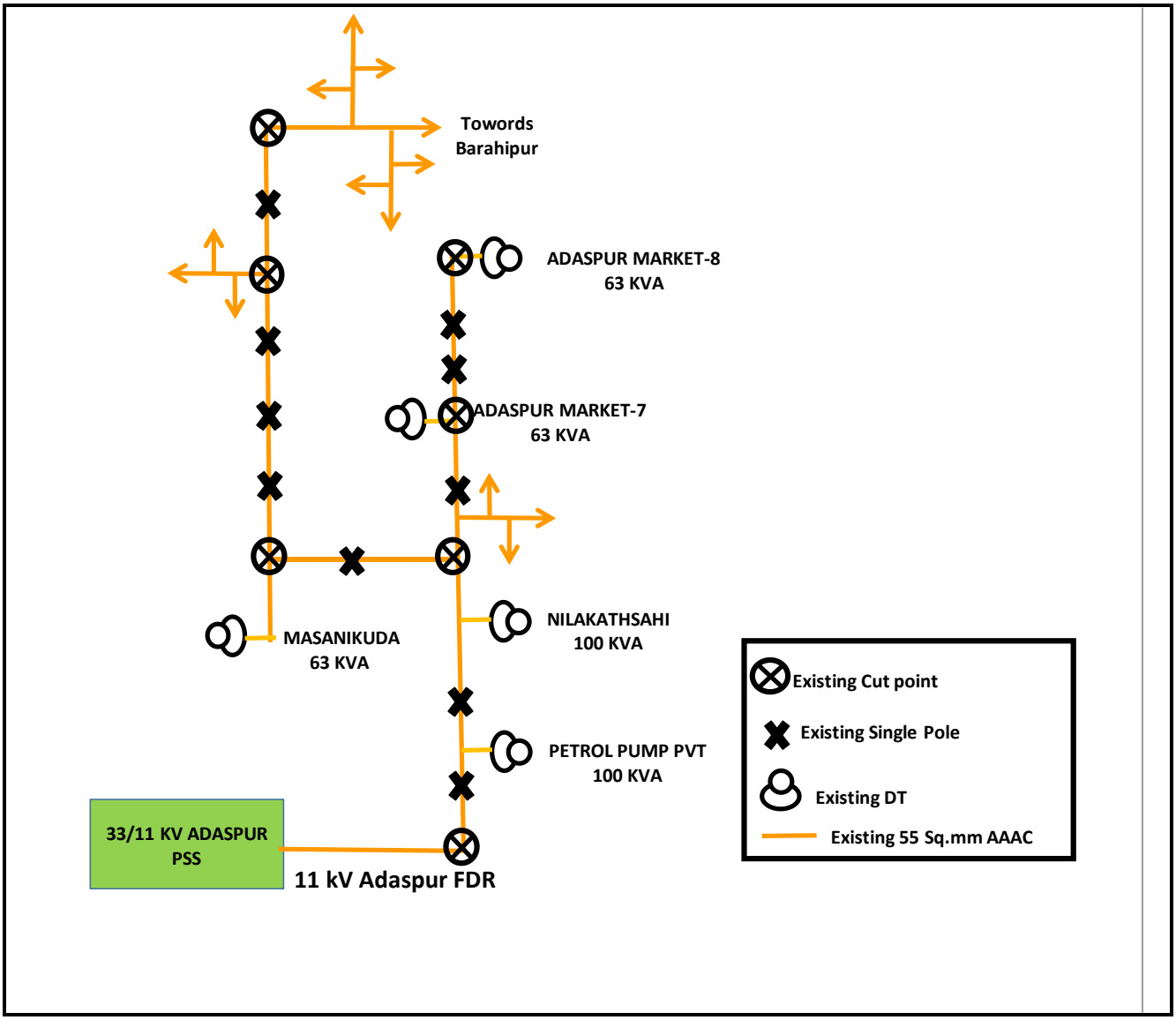
Existing Summer'26 Loading and projected load at 11kV Adaspur Feeder

Existing Scenario									
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer' 28**
Adaspur	Adaspur	3.54	4.16	117%	Over load	4.76	134%	Over load	287.09

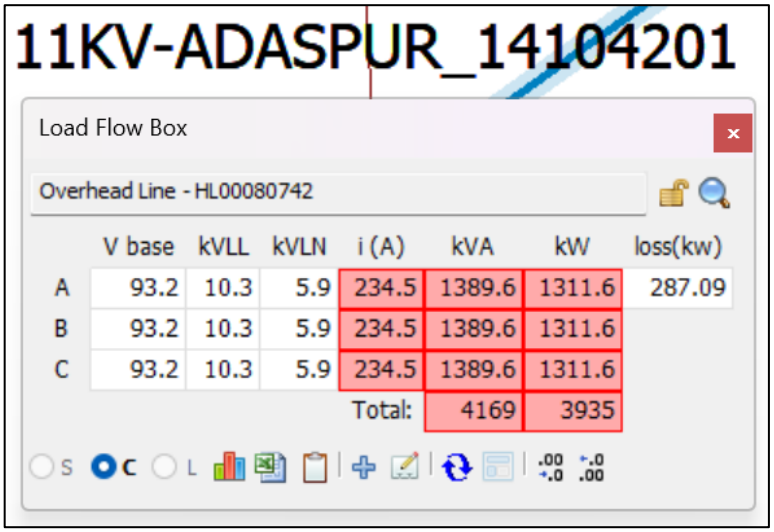
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 117% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 134%. In case the issue is not addressed, there will be load shedding of 3418 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 117 % loaded w.r.t the current carrying capacity.

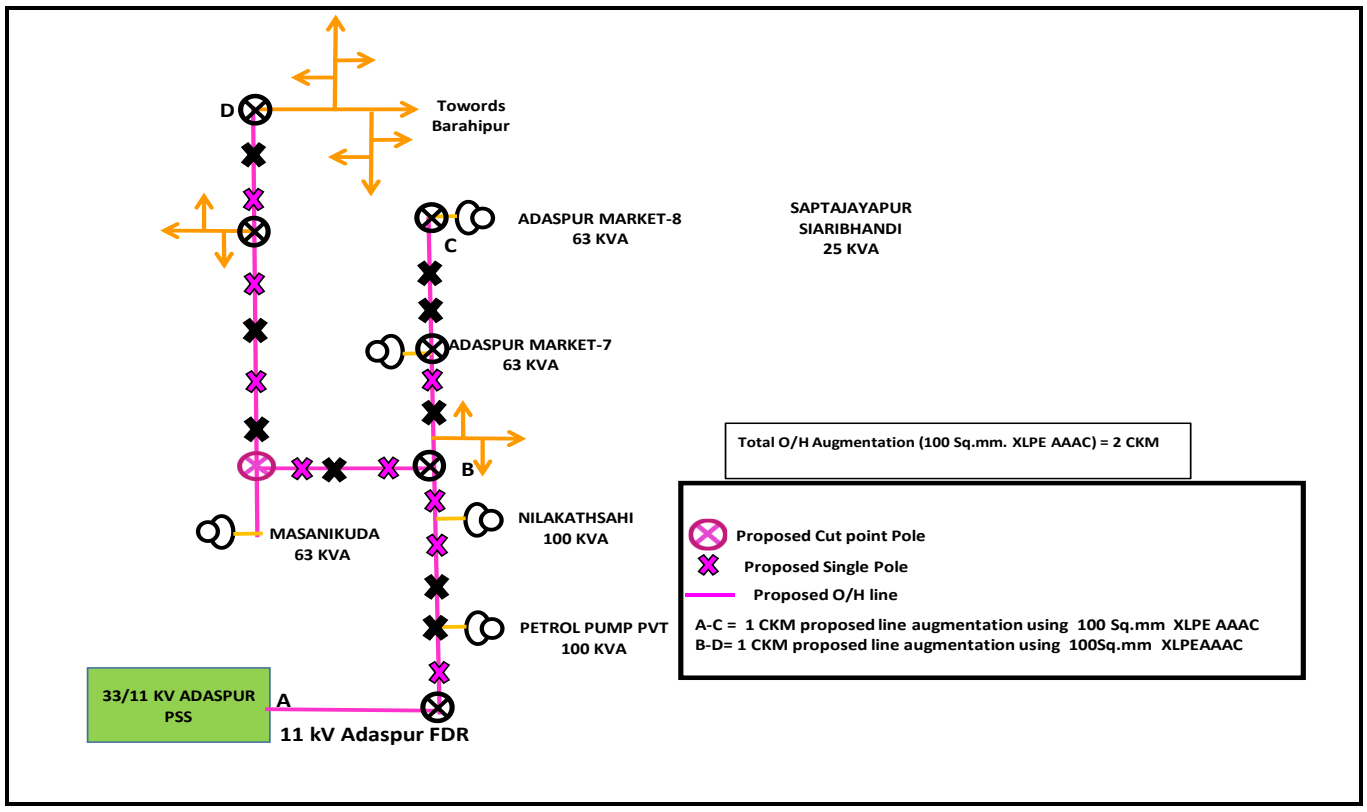
Proposed Scenario:

- Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB (interposing) & 100 Sq.mm. XLPE AAAC to mitigate overloading issue.
- Installation of 02 Nos 11 kV line protecting guarding for road crossing.

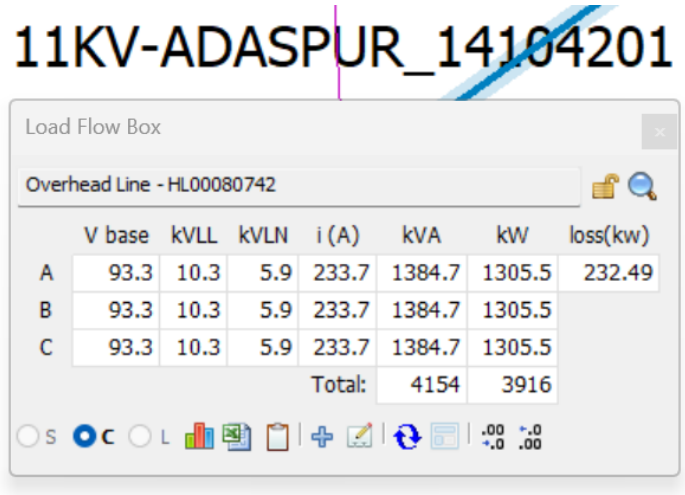
Proposed Summer'28 Loading and projected load at 11kV Adaspur Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Adaspur	Adaspur	5.18	4.76	92%	Under load	232.49

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	93.3	10.3	5.9	233.7	1384.7	1305.5	232.49
B	93.3	10.3	5.9	233.7	1384.7	1305.5	
C	93.3	10.3	5.9	233.7	1384.7	1305.5	
				Total:	4154	3916	

Scope of Work:

- Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor.
- Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.23		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	Adaspur	
Name of the Section : -	Niali	
Name of the Work :-	Proposal for augmentation of of 2 CKM O/H line of 11 kV adaspur Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)	27,36,752.08
2	PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	56,502.88
3	Part C: Dismantling	50,055.60
	Total Amount	**28,43,310.55**
	Total Amount (In Cr.)	**0.28**
Total estimated cost is Rs. 0.28 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.28 Crore (For detailed BoQ refer Annexure- 21.23)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Adaspur	Adaspur	3935	287	**54.60**	**13.92**	**121965.48**	**4.33**
After Proposal	Adaspur	Adaspur	3916	232				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	28.43	Rs. Lac
B	Additional load due to load growth	-	602.78	kVA
C	Total kW due to load growth	B*pf(power factor)	572.64	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	501637	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	11.99	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	4.33	Rs. Lac
J	Net Revenue Collected	H+I	16.32	Rs. Lac
K	% revenue return	(J/A)*100	57.4	%
L	Pay Back Period	100/K	1.74	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation of 11 kV Adaspur feeder.
2. Improved capability of Network by use of higher size conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fewer interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

24. Proposal for overloading mitigation and Reliability improvement of 11kV Mahanga Feeder:

Proposal:

Proposal for augmentation of of 2 CKM O/H line of 11 kV Mahanga Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole to mitigate overloading issue of 11 kV Mahanga feeder

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Mahanga Feeder.

Existing Scenario:

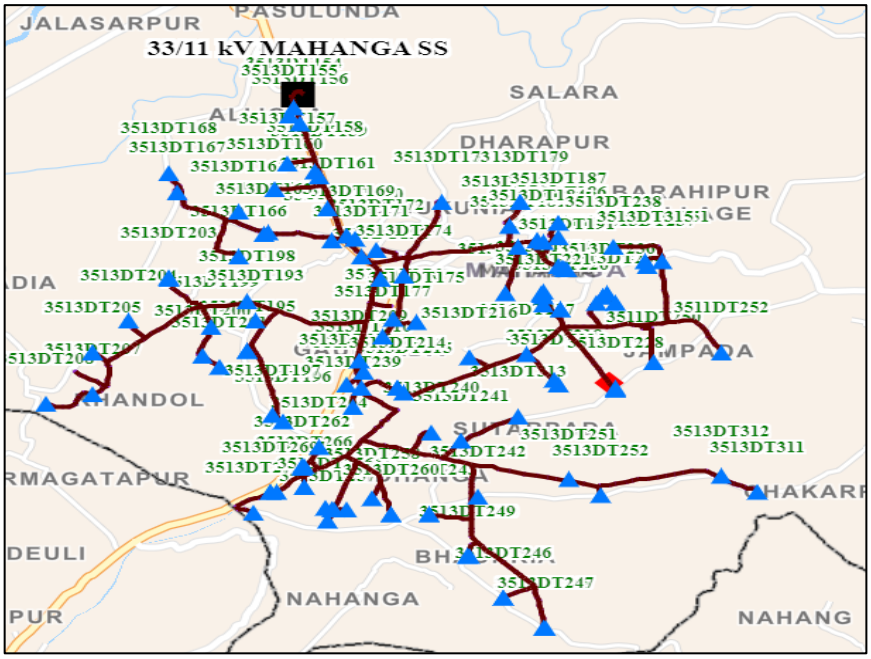
- At present, 11kV Mahanga feeder is emanating from 33/11kV Mahanga PSS. Total length of this feeder is 41.57 CKM and the peak load is 3.34 MVA.

- In the existing scenario, Conductor size of 11kV Mahanga feeder is 55 sq.mm & the feeder is 94% loaded w.r.t the current carrying capacity of the conductor.
- Considering 6% load growth for next 2Yrs. the feeder loading will reach 106% of its capacity.
- This feeder is mainly feeding rural consumers of Mahanga area, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the area, conductor augmentation proposed for overloading mitigation & reliability improvement.

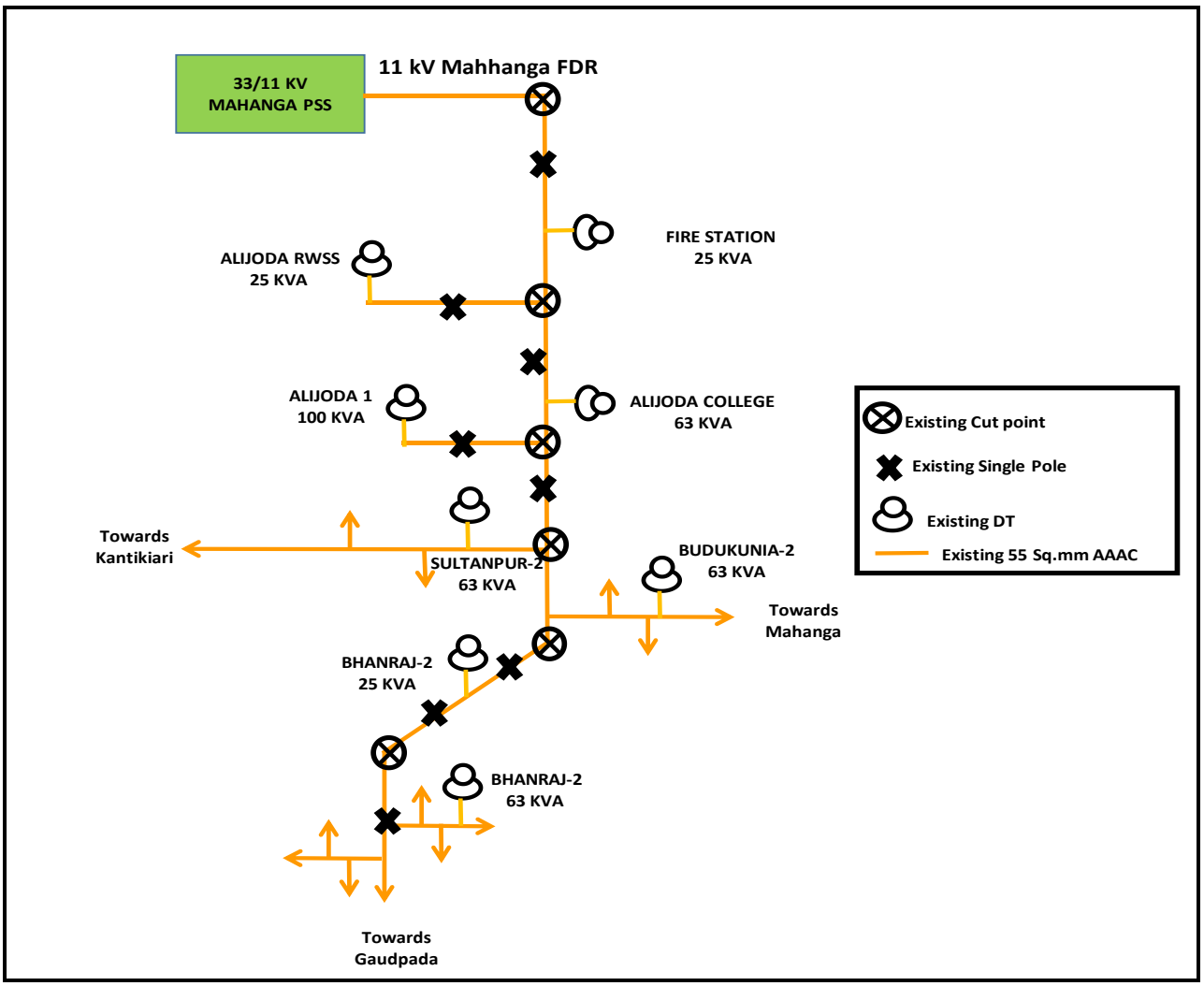
Existing Summer'26 Loading and projected load at 11kV Mahanga Feeder.

Existing Scenario									
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer '26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer '28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer '28**
Mahanga	Mahanga	3.54	3.34	94%	Under load	3.75	106%	Over load	261.34

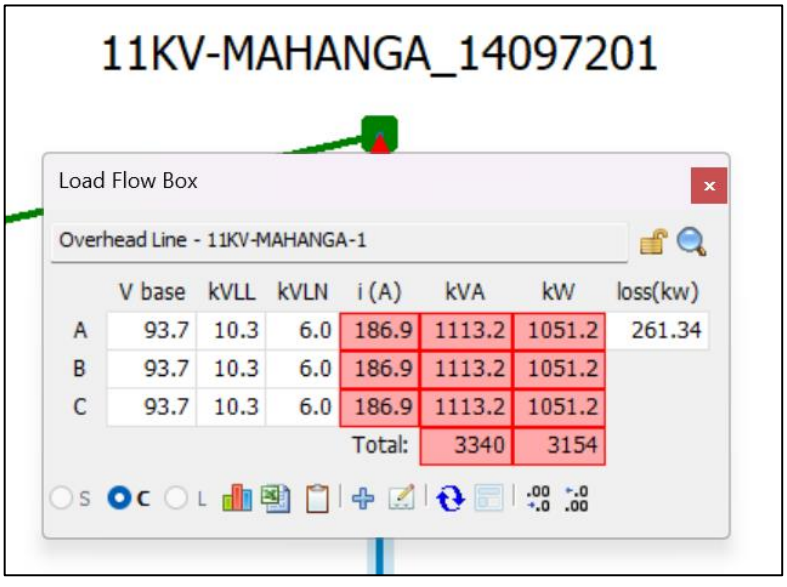
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



	V base	kVLL	kVLN	i (A)	kVA	kW	loss(kw)
A	93.7	10.3	6.0	186.9	1113.2	1051.2	261.34
B	93.7	10.3	6.0	186.9	1113.2	1051.2	
C	93.7	10.3	6.0	186.9	1113.2	1051.2	
				Total:	3340	3154	

Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 94% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 106%. In case the issue is not addressed, there will be load shedding of 5014 nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 94% loaded w.r.t the current carrying capacity.

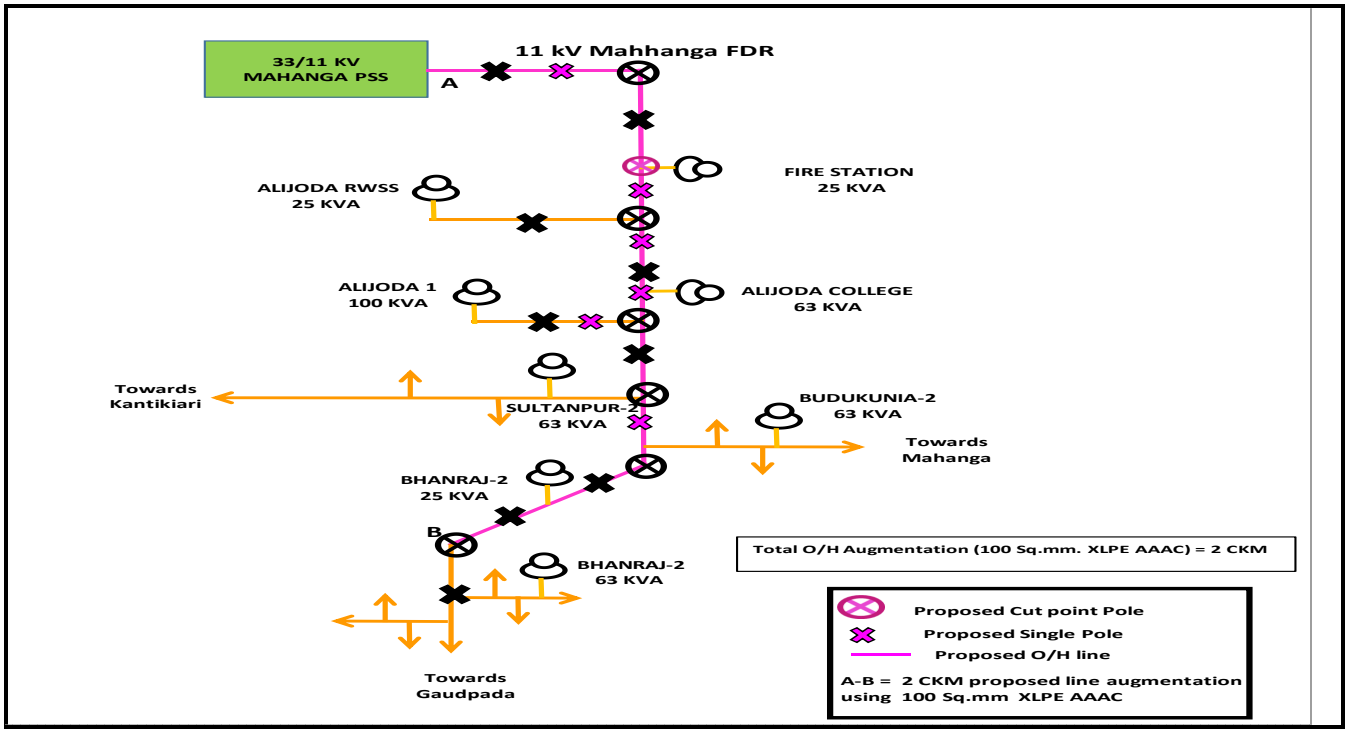
Proposed Scenario:

- Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB (interposing) & 100 Sq.mm. XLPE AAAC to mitigate overloading issue.
- Installation of 02 Nos 11 kV line protecting guarding for road crossing.

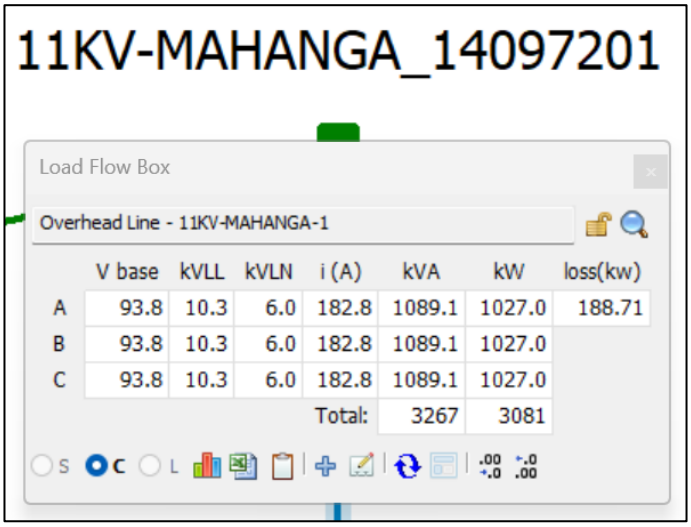
Proposed Summer'28 Loading and projected load at 11kV Mahanga Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Mahanga	Mahanga	5.18	3.75	72%	Under load	188.71

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. XLPE AAA Conductor.
- Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.24		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	Mahanga	
Name of the Section : -	Mahanga	
Name of the Work :-	Proposal for augmentation of of 2 CKM O/H line of 11 kV Mahanga Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)	27,36,752.08
2	PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	56,502.88
3	Part C: Dismantling	50,055.60
	Total Amount	**28,43,310.55**
	Total Amount (In Cr.)	**0.28**
Total estimated cost is Rs. 0.28 Crore. (On TPCODL Capex Scheme)		

Cost Estimate: ₹ 0.28 Crore (For detailed BoQ refer Annexure- 21.24)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Mahanga	Mahanga	3154	261	**72.63**	**18.52**	**162240.89**	**5.76**
After Proposal	Mahanga	Mahanga	3081	189				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	28.43	Rs. Lac
B	Additional load due to load growth	-	412.82	kVA
C	Total kW due to load growth	B*pf(power factor)	392.18	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	343552	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	8.21	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	5.76	Rs. Lac
J	Net Revenue Collected	H+I	13.97	Rs. Lac
K	% revenue return	(J/A)*100	49.1	%
L	Pay Back Period	100/K	2.04	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation of 11 kV Mahanga feeder.
2. Improved capability of Network by use of higher size conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fewer interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

25. Proposal for overloading mitigation and Reliability improvement of 11kV Hindol Feeder:

Proposal:

Proposal for Construction of 11kV New linking line Overhead from Mahidharpur Petrol Pump 25kVA to Madhia Munda 25kVA for length-1.4CKM for Overloading Mitigation purpose.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by construction of new linking line.

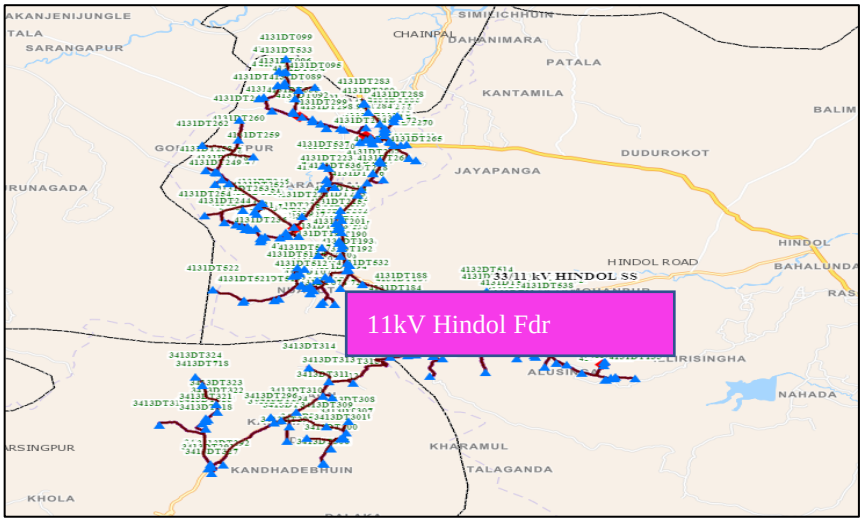
Existing Scenario:

- At present, 11kV Hindol feeder is emanating from 33/11kV Hindol PSS. The total trunk length of 11kV Hindol feeder is 121km and peak load is 3.81MVA.
- Conductor size of 11kV Hindol feeder is 55 sq.mm & the feeder is 104% loaded w.r.t the current carrying capacity of the conductor and 122% loaded considering 8% load growth for rural feeders.
- This feeder is completely feeding industrial, commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

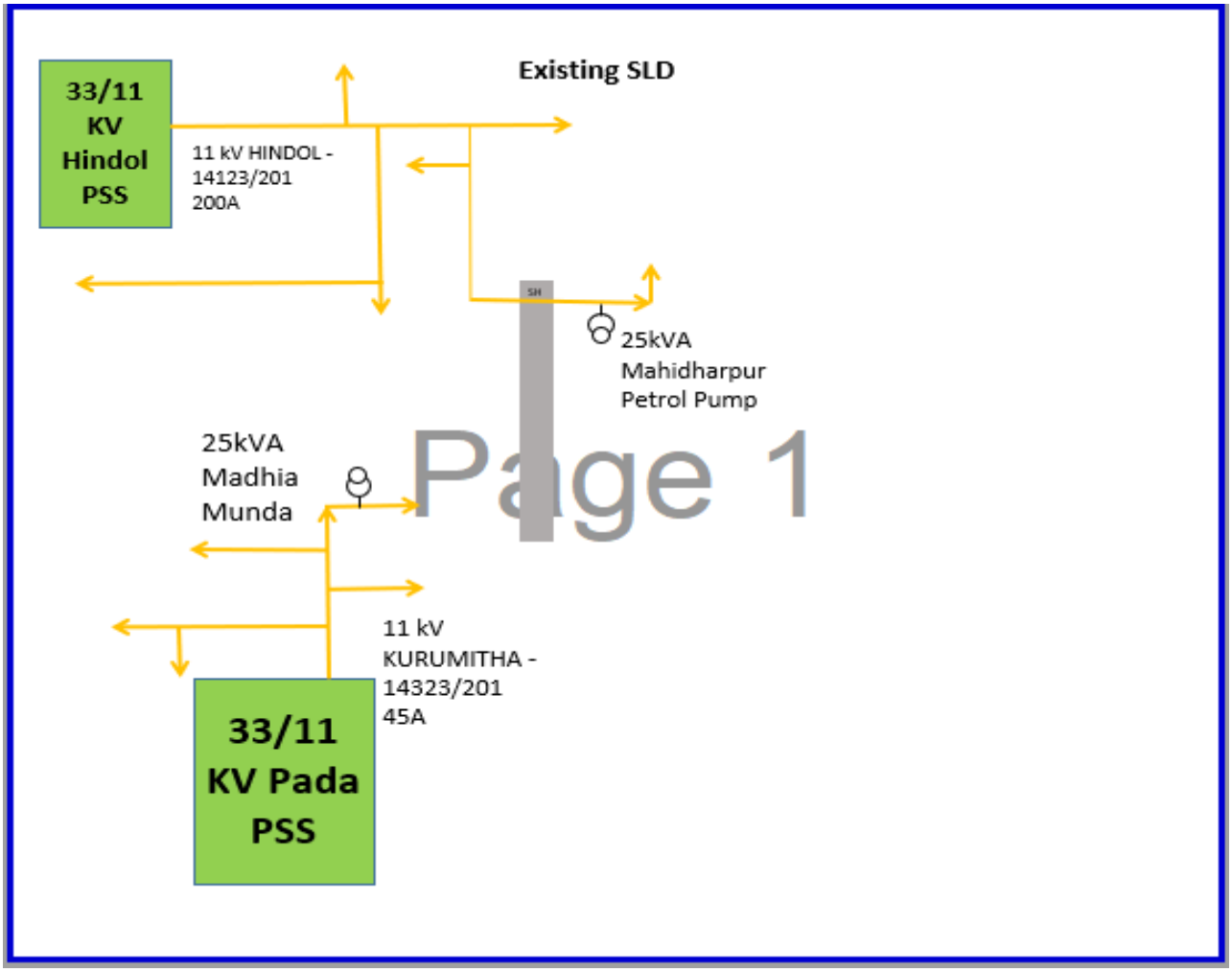
Existing Summer'26 Loading and projected load at 11kV Hindol Feeder

Existing Scenario									
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer' 28**
Hindol	Hindol	3.54	3.18	90%	Under load	3.70	105%	Over load	420
Pada	Kurumitha	3.54	1.04	29%	Under load	1.21	34%	Under load	41

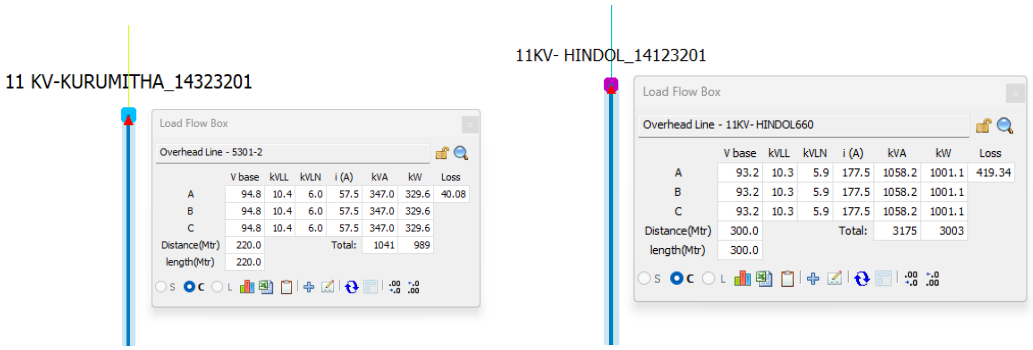
GIS Map:-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 108% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 125%. In case the issue is not addressed, there will be load shedding of 12857nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 108% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

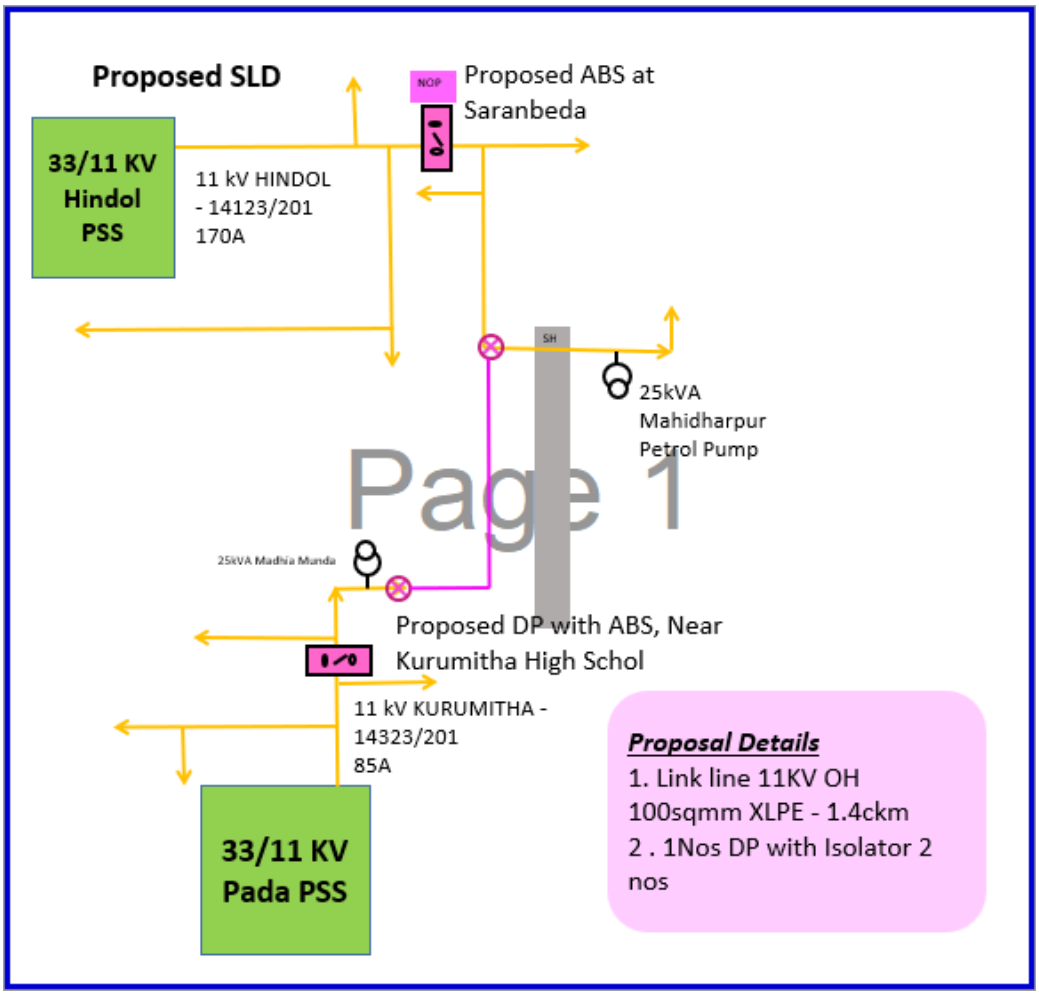
Proposed Scenario:

- Construction of 11kV New Linking line from Mahidharpur Petrol Pump 25kVA to Madhia Munda 25kVA.
- The New feeder will help for maintaining reliable power supply for smooth operation

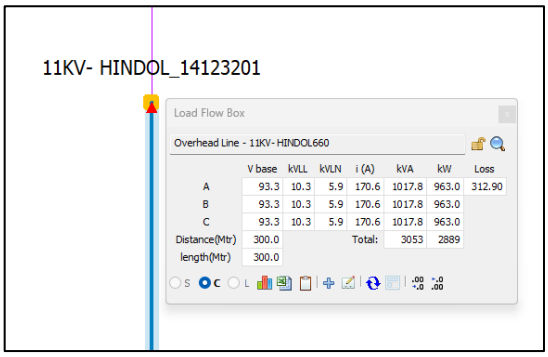
Proposed Summer'28 Loading and projected load at 11kV Hindol Feeder:

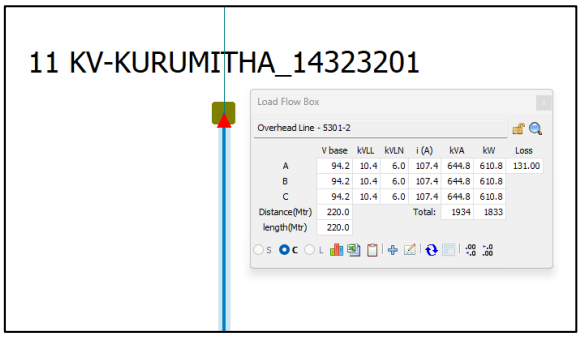
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Hindol	Hindol	3.54	3.01	85%	Under load	313.00
Danara	Kurumitha	3.54	1.93	55%	Under load	132.00

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

- Construction of 11kV New Linking line from Mahidharpur Petrol Pump 25kVA(11kV Hindol Feeder/33/11kV Hindol PSS) to Madhia Munda 25kVA(11kV Kurumitha Feeder/33/11kV Pada PSS) - 1.4CKm .

Proposed Cost with Estimate Break-up:

Annexure-21.25			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**DED**		
Name of the Work :-	***Overloading Migation of 11kV Hindol feeder by linking of 11kV Kurumitha Feeder*** Construction of New Linking from Mahidharpur Petrol Pump 25kVA to Madhia Munda 25kVA. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1. Link line 11KV OH 100sqmm XLPE - 1.4ckm 2 . 1Nos DP with Isolator 2 nos		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.4ckm	₹ 32,86,675.86
		Total Amount	**₹ 32,86,675.86**
		Total Amount (In Cr)	**₹ 0.33**

Cost Estimate: ₹ 0.33 Crore (For detailed BoQ refer Annexure- 21.25)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Hindol	Hindol	3175.00	420	**16.00**	**4.08**	**35740.80**	**1.27**
Before Proposal	Pada	Kurumitha	1041.00	41				
After Proposal	Hindol	Hindol	3010.00	313				
After Proposal	Pada	Kurumitha	1934.00	132				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	32.87	Rs. Lac
B	Additional load due to load growth	-	528.32	kVA
C	Total kW due to load growth	B*pf(power factor)	501.90	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	439668	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	10.51	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	1.27	Rs. Lac
J	Net Revenue Collected	H+I	11.78	Rs. Lac
K	% revenue return	(J/A)*100	35.8	%
L	Pay Back Period	100/K	2.79	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

26. Proposal for overloading mitigation and Reliability improvement of 11kV Gudiyanali Feeder:

Proposal:

Proposal for Construction of 11kV New linking line Overhead and UG cable from Surya Hotel 500kVA DSS to Jawahar Chowk 250kVA DSS for length-0.690CKM for Overloading Mitigation purpose.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by construction of new linking line.

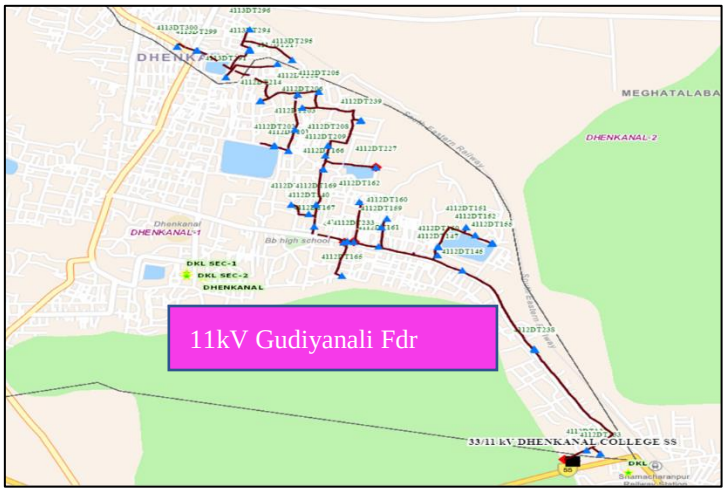
Existing Scenario:

- At present, 11kV Gudiyanali feeder is emanating from 33/11kV College PSS. The total trunk length of 11kV Gudiyanali feeder is 8km and peak load is 5.90 MVA.
- Conductor size of 11kV Gudiyanali feeder is 100 sq.mm & the feeder is 101% loaded w.r.t the current carrying capacity of the conductor and 117% loaded considering 8% load growth for rural feeders.
- This feeder is completely feeding industrial, commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

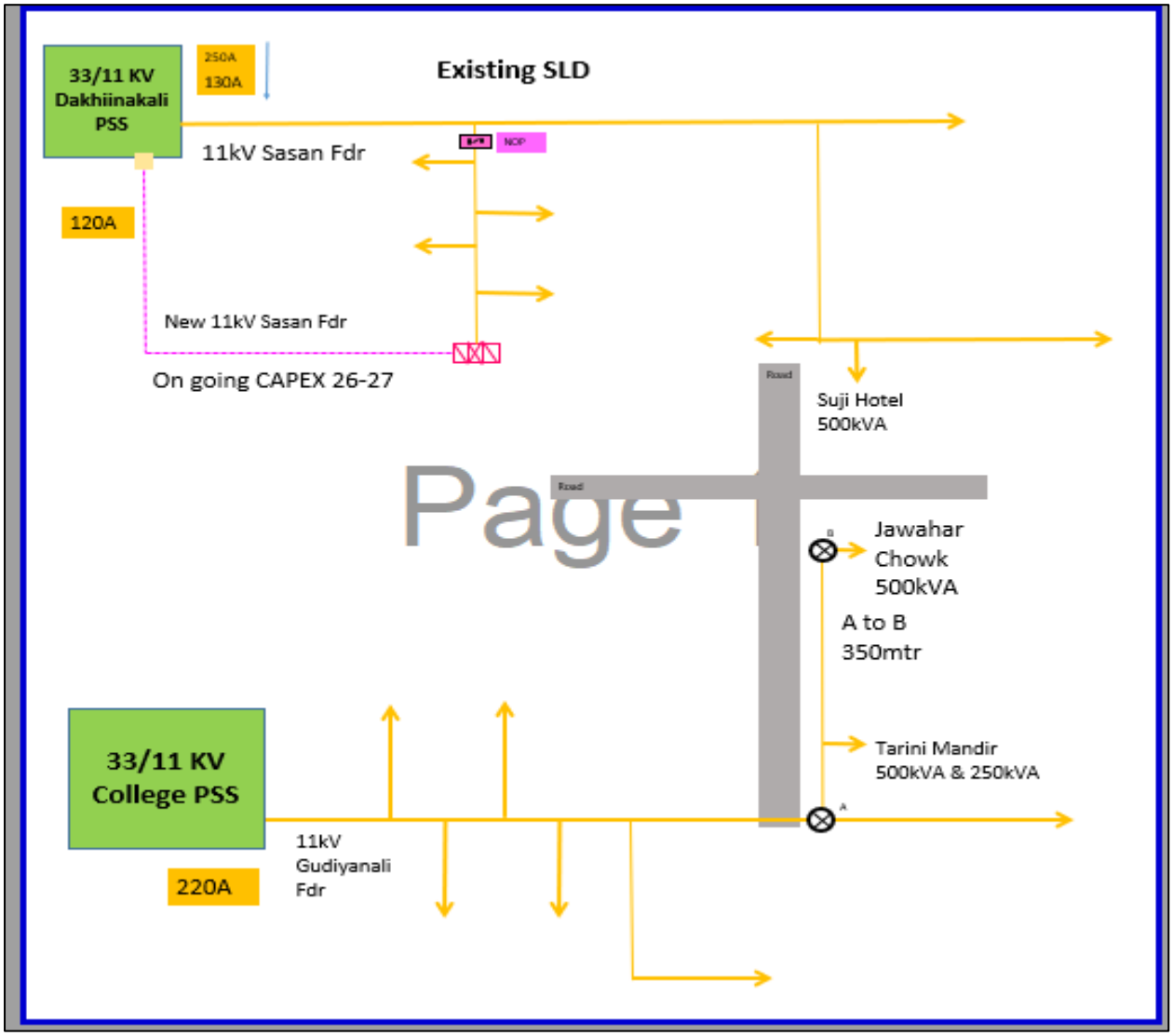
Existing Summer'26 Loading and projected load at 11kV Gudiyanali Feeder

Existing Scenario									
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer '26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer '28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer' 28)**	**Loss in kW in Summer '28**
College	Gudiyanali	5.18	6.20	120%	Over load	7.23	140%	Over load	323
Dakhinakali	Sasan	5.18	3.15	61%	Under load	3.67	71%	Under load	128

GIS Map:-

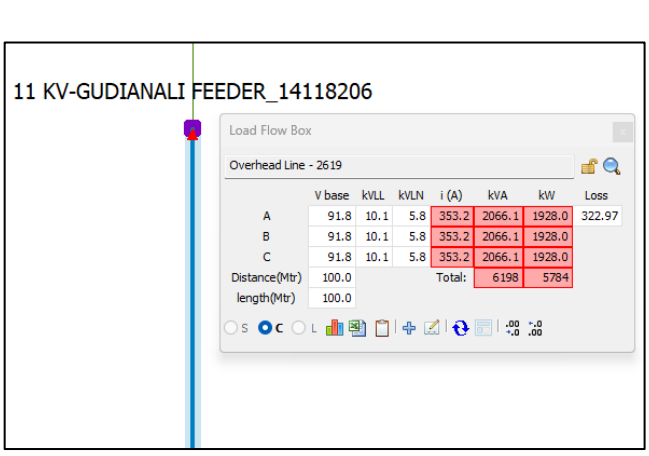


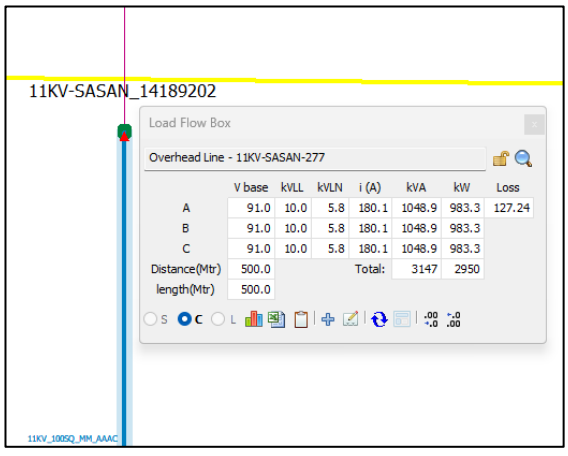
Existing SLD:



Page

Load Flow Study of existing scenario in CYME Software:-





Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 114% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 133%. In case the issue is not addressed, there will be load shedding of 4002nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 114% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

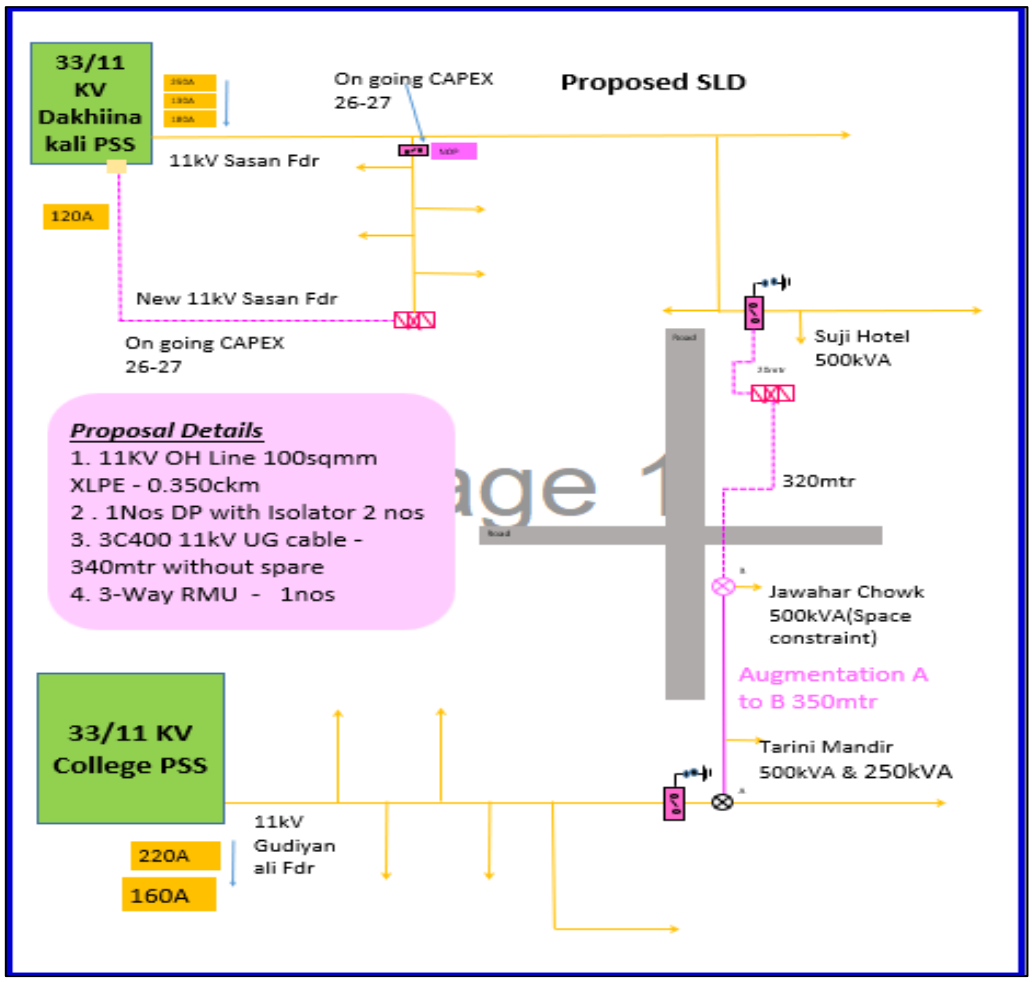
Proposed Scenario:

- Construction of 11kV New Linking line from Surya Hotel 500kVA DSS to Jawahar Chowk 250kVA DSS.
- The New feeder will help for maintaining reliable power supply for smooth operation

Proposed Summer'28 Loading and projected load at 11kV Gudiyanali Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
College	Gudiyanali	5.18	4.74	91%	Under load	175.00
Danara	Danara	5.18	4.27	82%	Under load	121.00

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	College	Gudiyanali	6198.00	323	**155.00**	**39.53**	**346239.00**	**12.29**
Before Proposal	Dakhinakali	Sasan	3147.00	128				
After Proposal	College	Gudiyanali	2300	175				
After Proposal	Dakhinakali	Danara	4200	121				

Scope of Work:

- Construction of 11kV New Linking line from Surya Hotel 500kVA DSS(11kV Sasan Feeder) to Jawahar Chowk 250kVA DSS(11kV Gudiyanali Feeder) -0.690cKm .

Proposed Cost with Estimate Break-up:

Annexure-21.26			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**DED**		
Name of the Work :-	***Overloading Mitigation of 11kV Gudiyanali feeder by linking of 11kV Sasan Feeder*** Construction of New Linking from 11kV Gudiyanali feeder by linking of 11kV sasan Feeder. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1. 11KV OH Line 100sqmm XLPE - 0.350ckm 2 . 1Nos DP with Isolator 1 nos 3. 3C400 11kV UG cable - 340mtr without spare 4. 3-Way RMU - 1nos		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Augemntation fo 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor 0.35ckm	₹ 14,09,443.92
2	B	Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.34ckm	₹ 38,15,555.91
		Total Amount	**₹ 52,24,999.83**
		Total Amount (In Cr)	**₹ 0.52**

Cost Estimate: ₹ 0.52 Crore (For detailed BoQ refer Annexure-21.26)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	College	Gudiyanali	6198.00	323	**155.00**	**39.53**	**346239.00**	**12.29**
Before Proposal	Dakhinakali	Sasan	3147.00	128				
After Proposal	College	Gudiyanali	2300	175				
After Proposal	Dakhinakali	Danara	4200	121				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	52.25	Rs. Lac
B	Additional load due to load growth	-	1031.35	kVA
C	Total kW due to load growth	B*pf(power factor)	979.78	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	858287	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	20.51	Rs. Lac

I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	12.29	Rs. Lac
J	Net Revenue Collected	H+I	32.80	Rs. Lac
K	% revenue return	(J/A)*100	62.8	%
L	Pay Back Period	100/K	1.59	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

27. Proposal for overloading mitigation and Reliability improvement of 11kV Kalamachuin Feeder:

Proposal:

Proposal for Construction of 11kV New Overhead and UG feeder from Koichiyanali to Natada Village for length-3.24CKM for Overloading Mitigation purpose.

Requirement/ Need of the proposal:

Objective: To ensure mitigation of overloading by construction of new linking line.

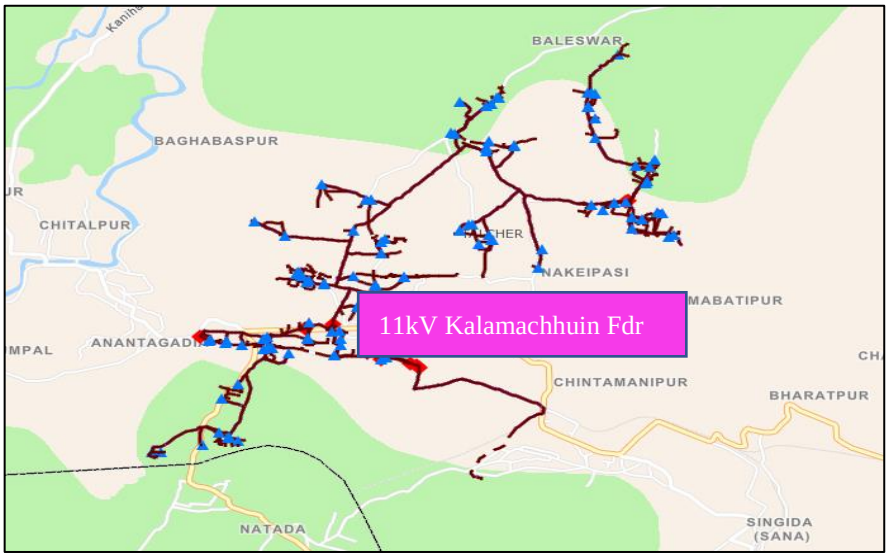
Existing Scenario:

- At present, 11kV Kalamachuin feeder is emanating from 33/11kV Danara PSS. The total trunk length of 11kV Kalamachuin feeder is 17km and peak load is 4.21 MVA.
- Conductor size of 11kV Kalamachhuin feeder is 55 sq.mm & the feeder is 119% loaded w.r.t the current carrying capacity of the conductor and 139% loaded considering 8% load growth for rural feeders.
- This feeder is completely feeding industrial, commercial & domestic consumers, several breakdowns on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the residential building, bifurcation of this feeder is proposed to mitigate overloading issue.

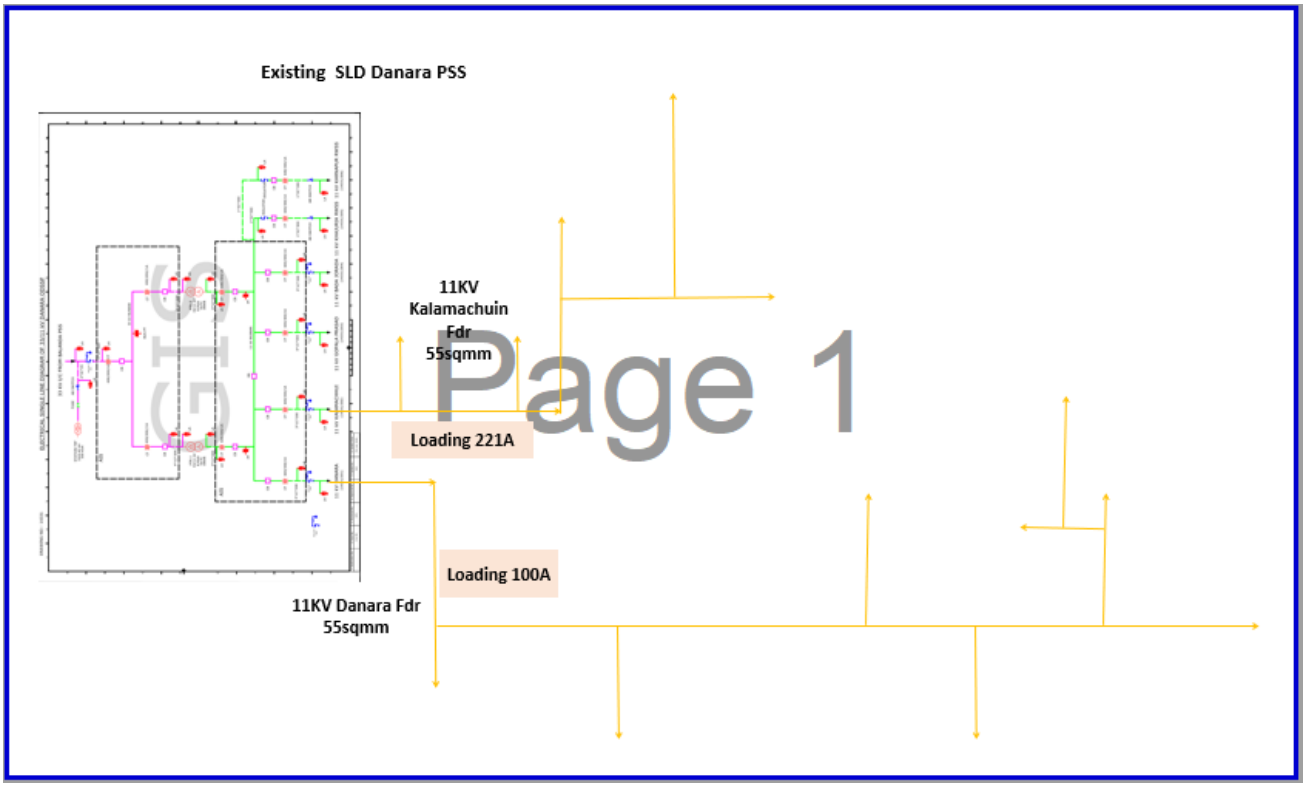
Existing Summer'26 Loading and projected load at 11kV Kalamachuin Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer '28
Danara	Kalamachuin	3.54	3.48	98%	Under load	4.05	114%	Over load	398
Danara	Danara	5.18	2.45	47%	Under load	2.86	55%	Under load	75

GIS Map:-

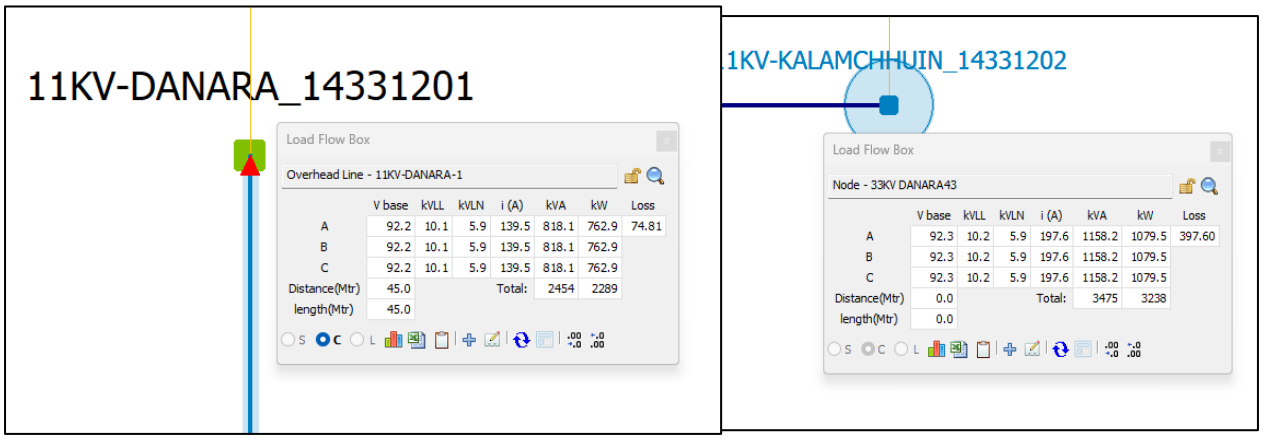


Existing SLD:



Page 1

Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 119% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 139%. In case the issue is not addressed, there will be load shedding of 2441nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 119% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

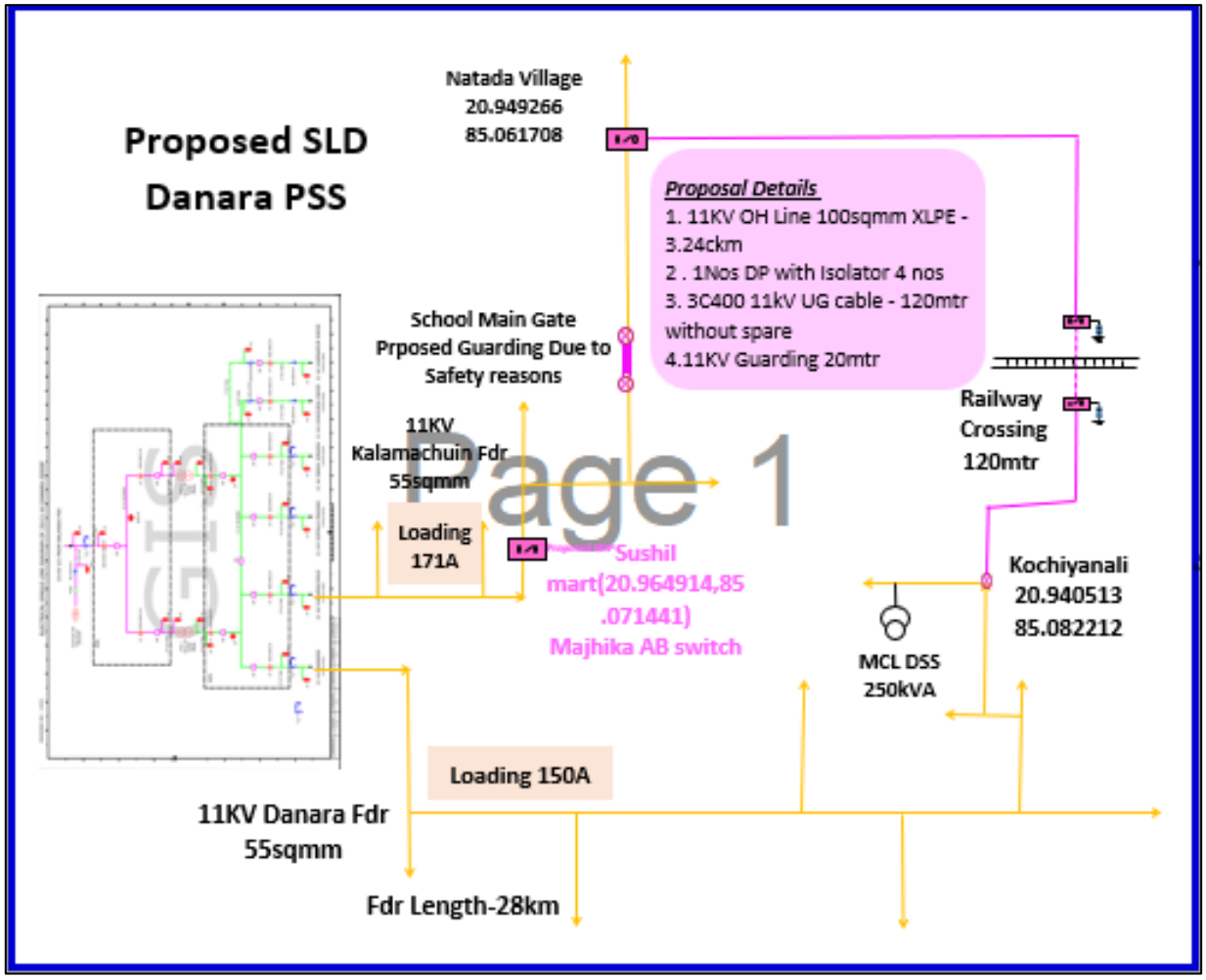
Proposed Scenario:

- Construction of 11kV New Linking line from Koichiyanali to Natada Village.
- Interlinking of 11KV Kalamachuin feeder and 11KV Danara Feeder to ensure ring connectivity.
- The New feeder will help for maintaining reliable power supply for smooth operation

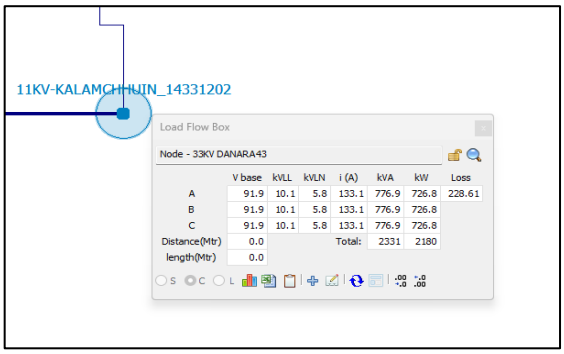
Proposed Summer'28 Loading and projected load at 11kV Kalamachhuin Feeder:

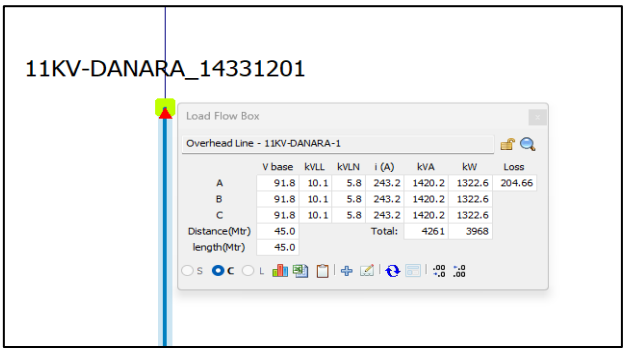
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Danara	Kalamachhuin	3.54	2.30	65%	Under load	229.00
Danara	Danara	5.18	4.20	81%	Under load	204.00

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

- Construction of 11kV New Linking line from Kochiyanali to Natada Village-3.24cKm .

Proposed Cost with Estimate Break-up:

Annexure-21.27			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**TED,Talcher**		
Name of the Work :-	***Overloading Mitigation of 11kV Kalamachuin feeder by linking of 11kV Danara Feeder*** Construction of New Linking from 11kV Kalamachuin feeder by linking of 11kV Danara Feeder. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	1. 11KV OH Line 100sqmm XLPE - 3.24ckm 2 . 1Nos DP with Isolator 4 nos 3. 3C400 11kV UG cable - 120mtr without spare 4.11kV Guarding 20mtr		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor -3.24ckm	₹ 78,70,468.01
2	B	Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable along without spare-120mtr	₹ 8,67,927.43
3	C	Part-C Construction of line Protecting Guarding on Single Pole for Road Crossing	₹ 28,251.44
		Total Amount	**₹ 87,66,646.88**
		Total Amount (In Cr)	**₹ 0.88**

Cost Estimate: ₹ 0.88 Crore (For detailed BoQ refer Annexure- 21.27)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Danara	Kalamachhuin	3480.00	398	**40.00**	**10.20**	**89352.00**	**3.17**
Before Proposal	Danara	Danara	2450.00	75				
After Proposal	Danara	Kalamachhuin	2300	229				
After Proposal	Danara	Danara	4200	204				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	87.67	Rs. Lac
B	Additional load due to load growth	-	578.24	kVA
C	Total kW due to load growth	B*pf(power factor)	549.33	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	481211	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	11.50	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	3.17	Rs. Lac
J	Net Revenue Collected	H+I	14.67	Rs. Lac
K	% revenue return	(J/A)*100	16.7	%
L	Pay Back Period	100/K	5.97	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

28. Proposal for overloading mitigation and Reliability improvement of 11kV Balher Feeder:

Proposal:

Proposal for Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction for length-1.45CKM for Overloading Mitigation purpose.

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Balher Feeder..

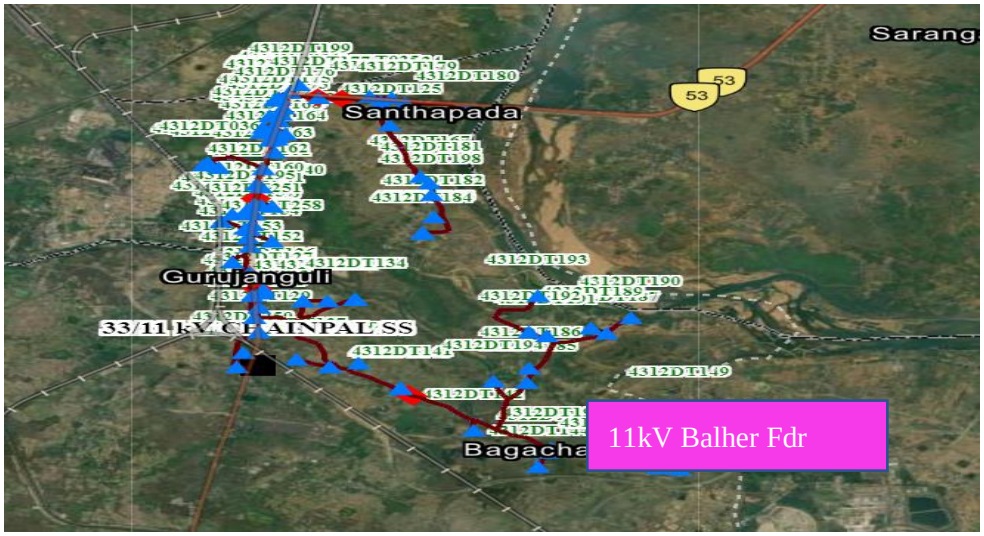
Existing Scenario:

- At present, 11kV Balher feeder is emanating from 33/11kV Chainpal PSS. The total trunk length of 11kV Balher feeder is 24km and peak load is 3.56 MVA.
- In the existing scenario, conductor size of 11kV Balher Feeder is 55 sq mm & the feeder is 100% loaded w.r.t the current carrying capacity of the conductor.
- Considering 8% load growth for next 2Yrs. the feeder loading will reach 117% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic as well as commercial consumers.
- This feeder is mainly feeding urban consumers and some rural consumers of Chainpal area, several breakdown on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the urban area, conductor augmentation proposed for overloading mitigation & to improving reliability.

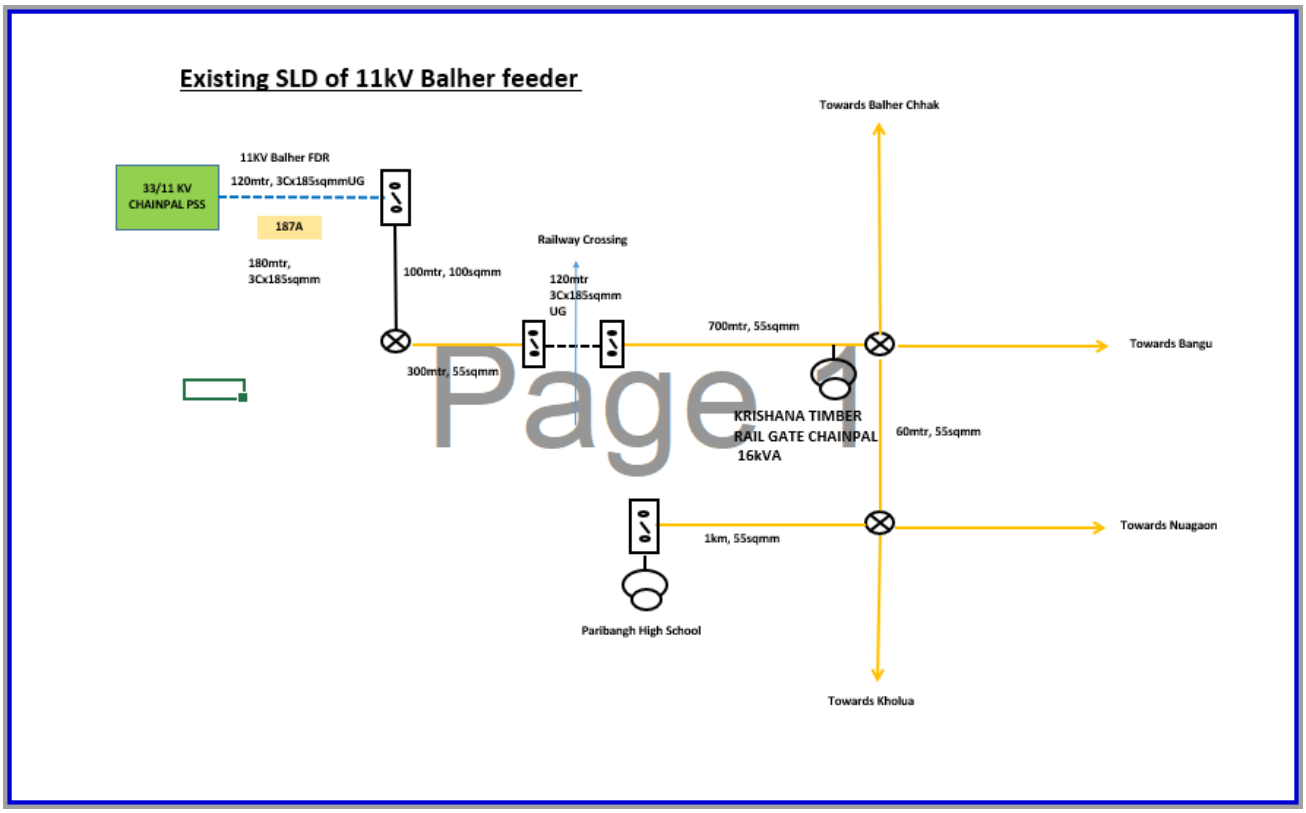
Existing Summer'26 Loading and projected load at 11kV Balher Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer' 28
Chainpal	Balher	3.54	3.54	100%	Over load	4.13	117%	Over load	213

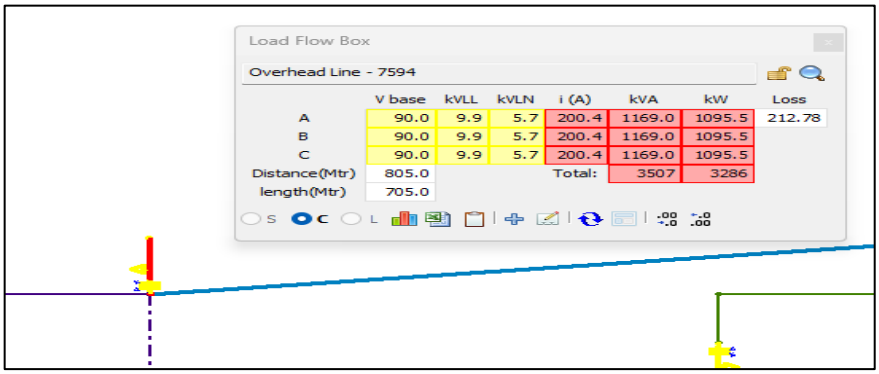
GIS Map-



Existing SLD:



Load Flow Study of existing scenario in CYME Software:-



Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 100% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 117%. In case the issue is not addressed, there will be load shedding of 3327nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 100% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

1 . 1Nos DP with Isolator 4 nos

2. 3C400 11kV UG cable - 0.250ckm without spare

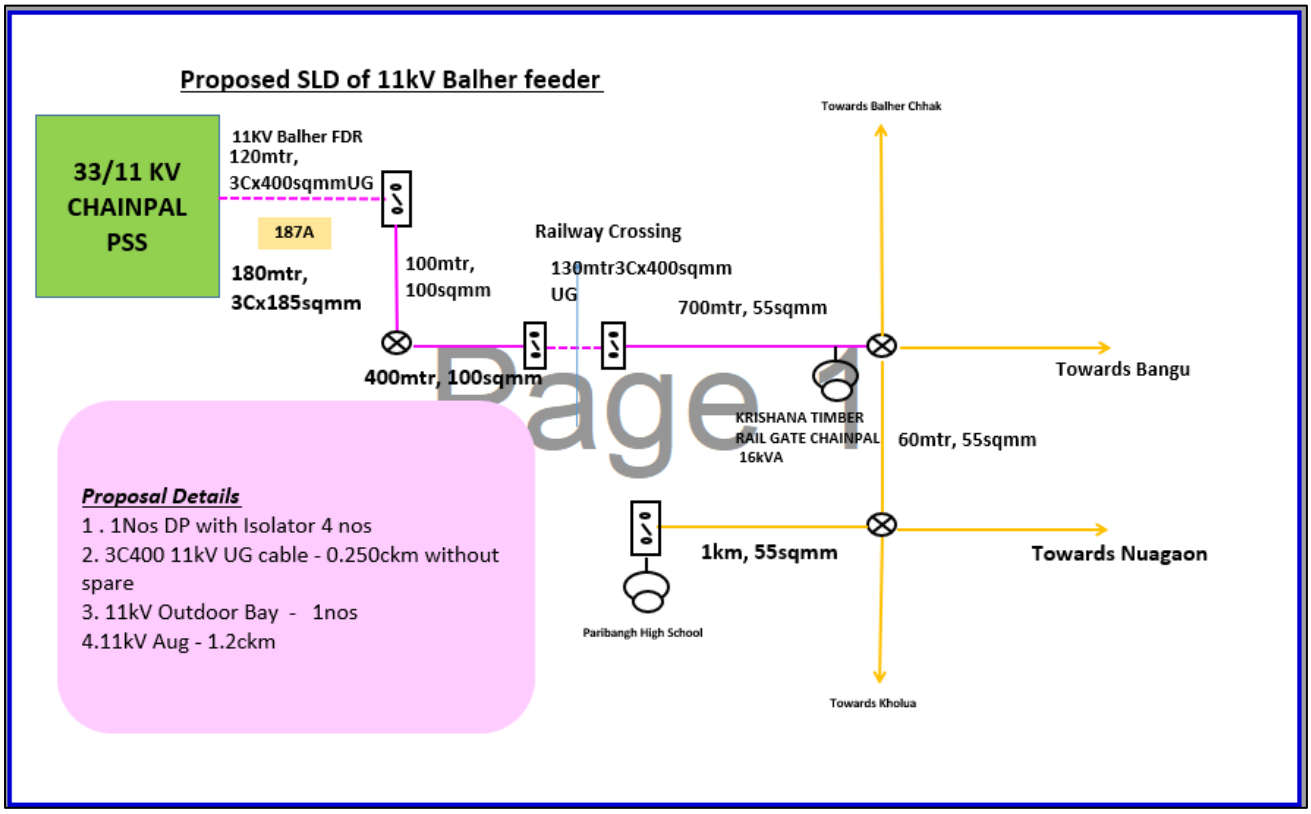
3. 11kV Outdoor Bay - 1nos

4.11kV Aug - 1.2ckm

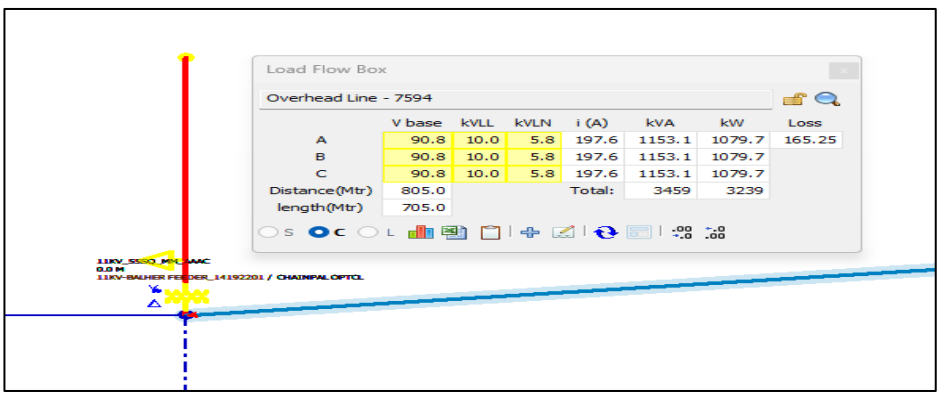
Proposed Summer'28 Loading and projected load at 11kV Balher Feeder:

Loading after Proposal (Summer'28)						
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Projected load Summer'28 (MVA)	% Loading in Summer-28	Feeder Status	Loss in kW in Summer'28
Chainpal	Balher	5.18	4.13	80%	Under load	166.00

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:



Scope of Work:

- Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction for length-1.45CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.28			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**TED**		
Name of the Work :-	***Overloading Mitigation of 11kV Balher feeder by Augmentation of Existing feeder.*** Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.250ckm without spare 3. 11kV Outdoor Bay - 1nos 4.11kV Aug - 1.2ckm		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.25ckm	₹ 18,04,460.21
2	B	Part-B Aug 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.2ckm	₹ 33,20,562.19
		Total Amount	**₹ 51,25,022.40**
		Total Amount (In Cr)	**₹ 0.51**

Cost Estimate: ₹ 0.51 Crore (For detailed BoQ refer Annexure- 21.28)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Chainpal	Balher	3286	213	**47.00**	**11.99**	**104988.60**	**3.73**
After Proposal	Chainpal	Balher	3239	166				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	51.25	Rs. Lac
B	Additional load due to load growth	-	589.53	kVA
C	Total kW due to load growth	B*pf(power factor)	560.05	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	490608	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	11.73	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	3.73	Rs. Lac
J	Net Revenue Collected	H+I	15.45	Rs. Lac
K	% revenue return	(J/A)*100	30.2	%
L	Pay Back Period	100/K	3.32	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

29. Proposal for overloading mitigation and Reliability improvement of 11kV Bantala Feeder:

Proposal:

Proposal for 1CKM Linking Line From 11KV KHINDA FEEDER (KALEIPADA AGRO 25 KVA DT) WITH KHALAGOAN AGRO-2 25 KVA DT . To improve power supply & mitigating Overloading, Reliability, Reduce feeder length and loss reduction.1.45ckm

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Bantala Feeder.

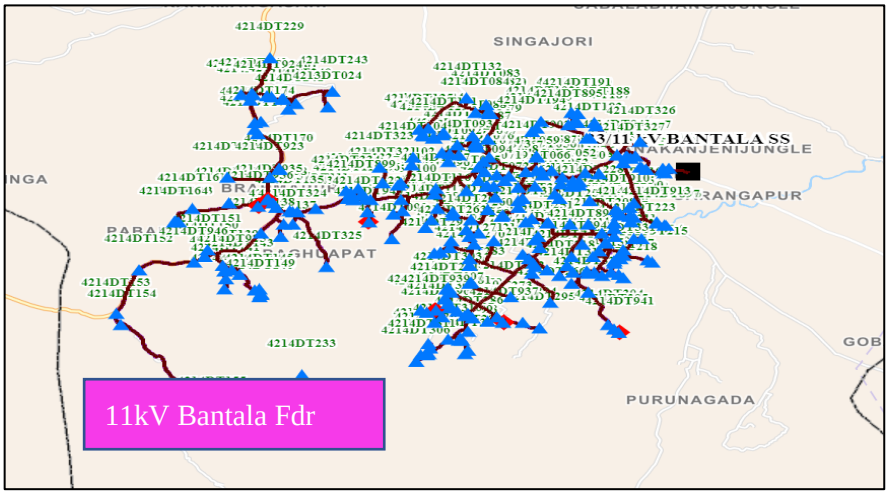
Existing Scenario:

- At present, 11kV Bantala feeder is emanating from 33/11kV Bantala PSS. The total trunk length of 11kV Bantala feeder is 121km and peak load is 3.36 MVA.
- In the existing scenario, conductor size of 11kV Bantala Feeder is 55 sq mm & the feeder is 95% loaded w.r.t the current carrying capacity of the conductor.
- Considering 10% load growth for next 2Yrs. the feeder loading will reach 115% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic as well as commercial consumers.
- This feeder is mainly feeding urban consumers and some rural consumers of Chainpal area, several breakdown on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the urban area, conductor augmentation proposed for overloading mitigation & to improving reliability.

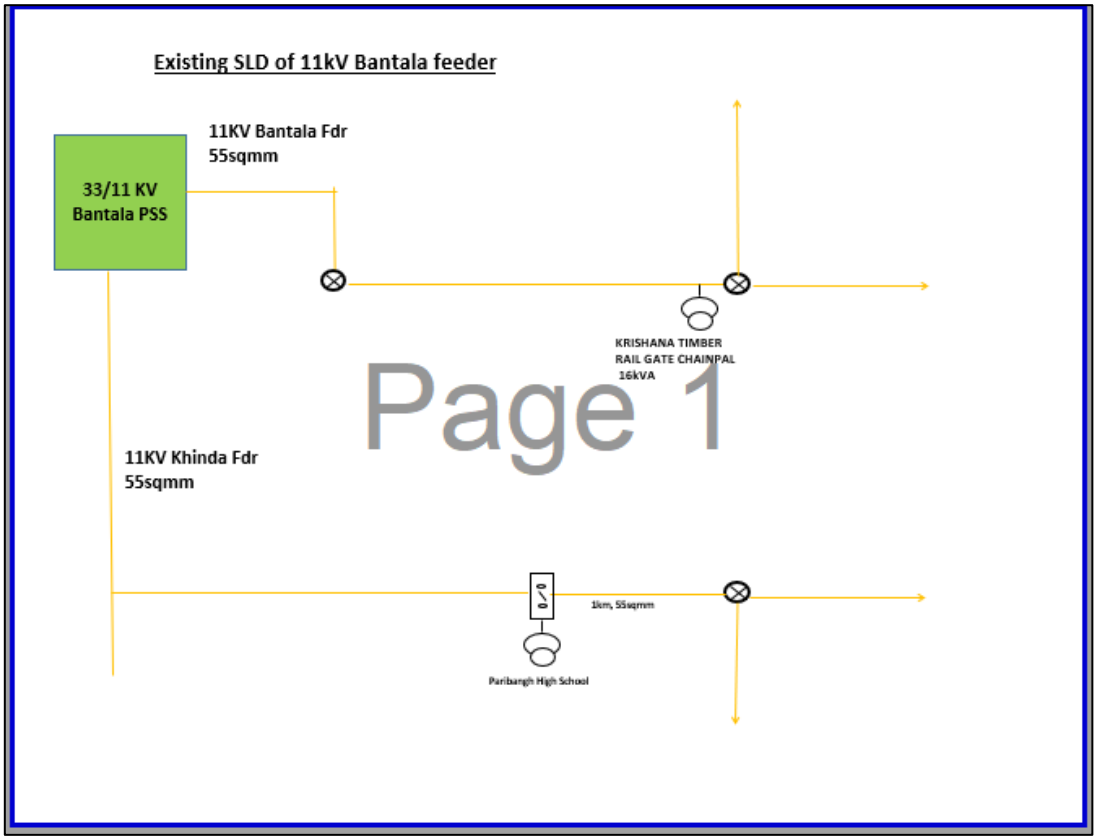
Existing Summer'26 Loading and projected load at 11kV Balher Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer' 26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer' 28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer' 28
Bantala	Bantala	3.54	3.36	95%	Under load	4.07	115%	Over load	344
Bantala	Khinda	3.54	2.48	70%	Under load	2.89	82%	Under load	245

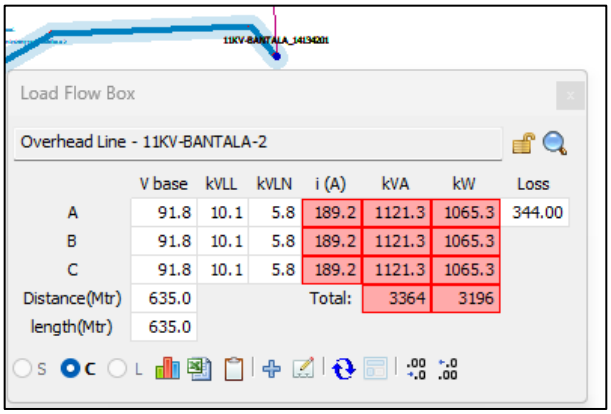
GIS Map:-

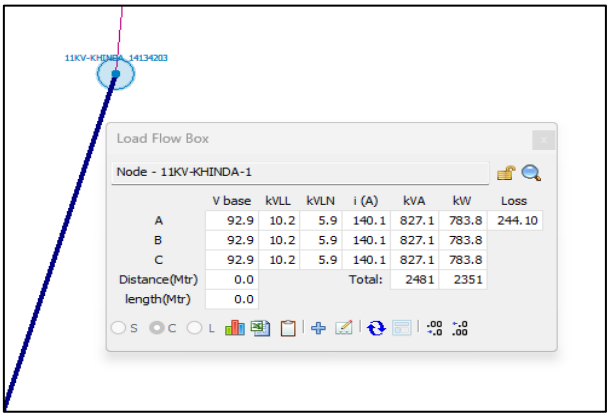


Existing SLD:



Load Flow Study of existing scenario in CYME Software:-





Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 95% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 115%. In case the issue is not addressed, there will be load shedding of 3327nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 95% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

1 . 1Nos DP with Isolator 4 nos

2. 3C400 11kV UG cable - 0.250ckm without spare

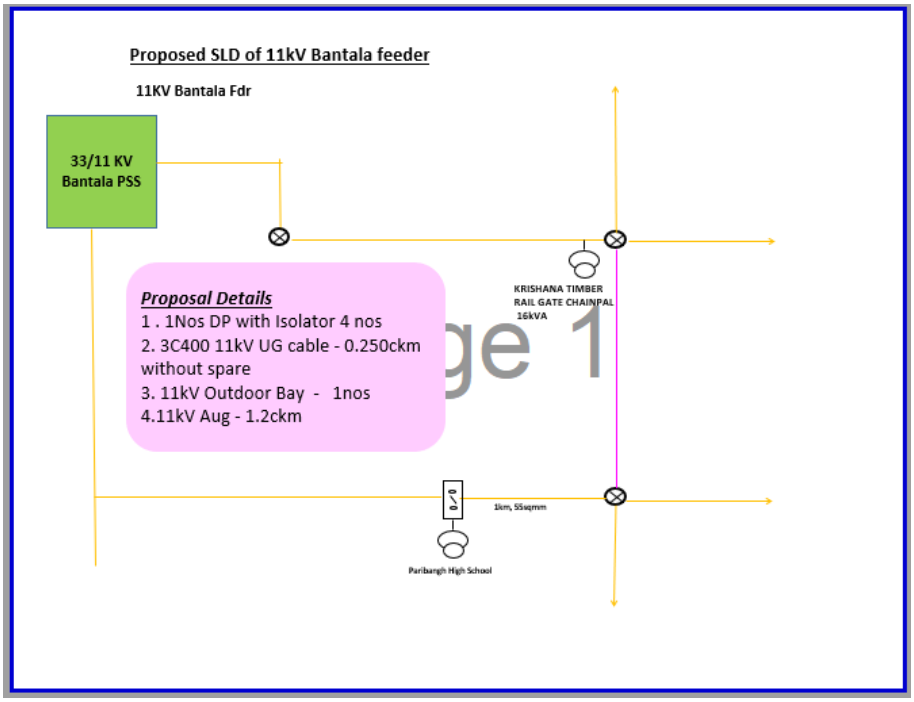
3. 11kV Outdoor Bay - 1nos

4.11kV Aug - 1.2ckm

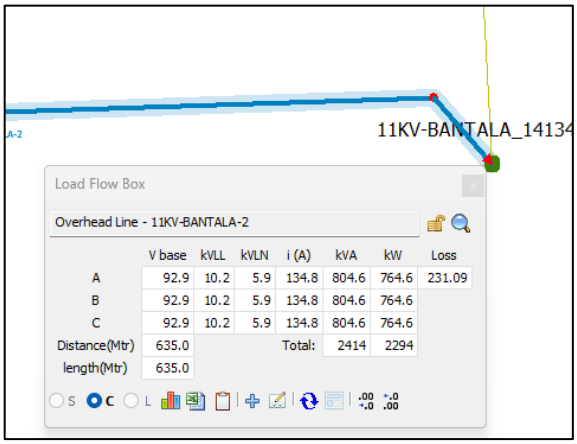
Proposed Summer'28 Loading and projected load at 11kV Bantala Feeder:

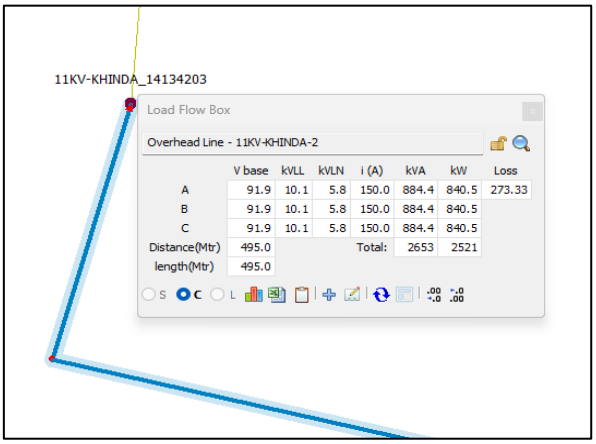
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Bantala	Bantala	3.54	2.41	68%	Under load	175.00
Bantala	Khinda	3.54	2.65	75%	Under load	121.00

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

- Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction for length-1.45CKM.

Proposed Cost with Estimate Break-up:

ANNEXURE-21.28			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**TED**		
Name of the Work :-	***Overloading Mitigation of 11kV Balher feeder by Augmentation of Existing feeder.*** Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading, Reliability, Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.250ckm without spare 3. 11kV Outdoor Bay - 1nos 4.11kV Aug - 1.2ckm		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.25ckm	₹ 18,04,460.21
2	B	Part-B Aug 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.2ckm	₹ 33,20,562.19
		Total Amount	**₹ 51,25,022.40**
		Total Amount (In Cr)	**₹ 0.51**

Cost Estimate: ₹ 0.51 Crore (For detailed BoQ refer Annexure- 21.28)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Bantala	Bantala	3364.00	344	**293.00**	**74.72**	**654503.40**	**23.23**
Before Proposal	Bantala	Khinda	2481.00	245				
After Proposal	Bantala	Bantala	2300	175				
After Proposal	Bantala	Khinda	4200	121				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	51.25	Rs. Lac
B	Additional load due to load growth	-	706.44	kVA
C	Total kW due to load growth	B*pf(power factor)	671.12	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	587899	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	14.05	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	23.23	Rs. Lac
J	Net Revenue Collected	H+I	37.29	Rs. Lac
K	% revenue return	(J/A)*100	72.8	%
L	Pay Back Period	100/K	1.37	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

30. Proposal for overloading mitigation and Reliability improvement of 11kV PTC Feeder:

Proposal:

Proposal for 0.25ckm New linking line from AB Switch at 11kv PTC Feeder near RAAZ CHAKA SIMILIPADA 500 KVA DTC4212DT089) for linking from 11KV RCMS THANA feeder near NEAR JUDGE QUARTER 10 kva DTC 4212DT163. To improve power supply & mitigating Overloading, Reliability, Reduce feeder length and loss reduction.0.25ckm

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV PTC Feeder.

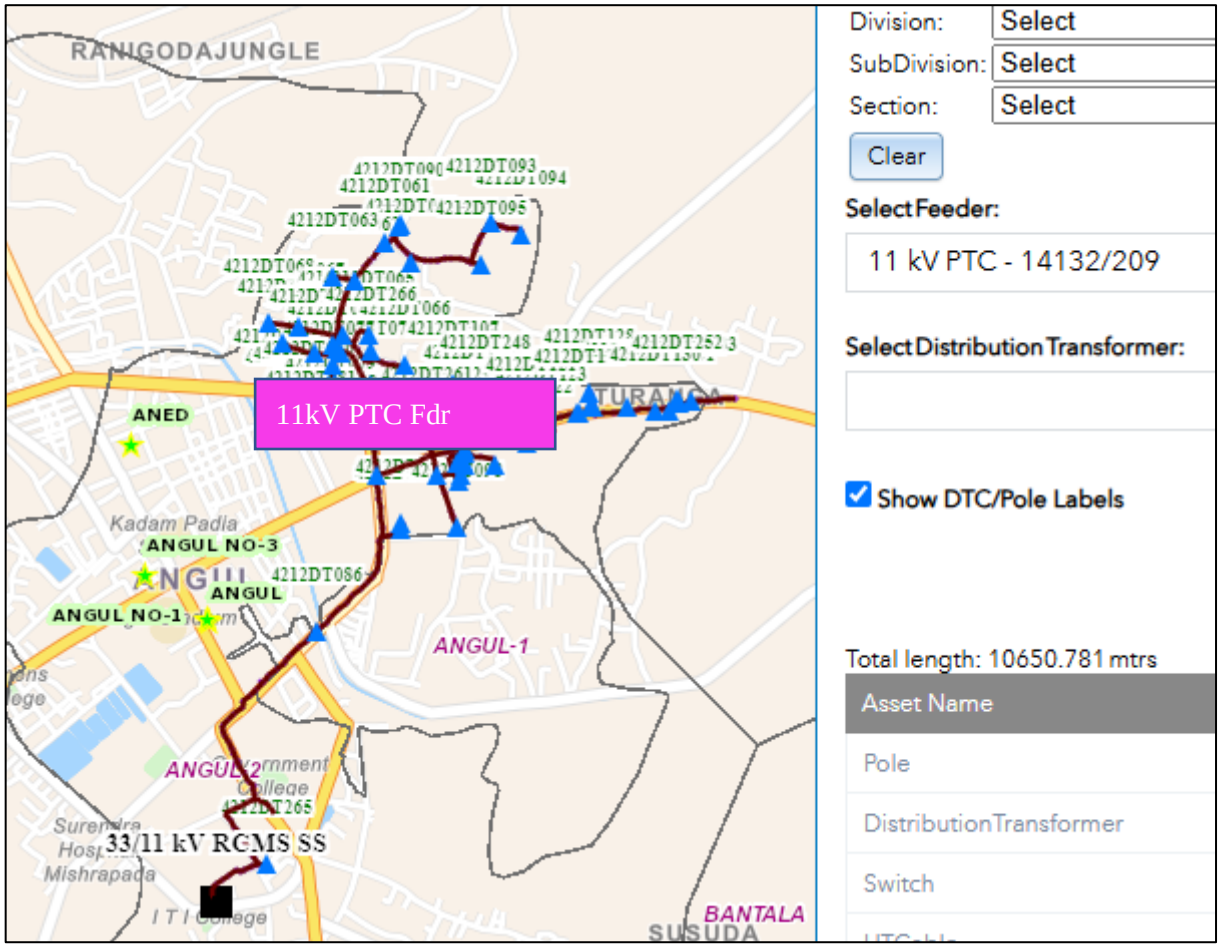
Existing Scenario:

- At present, 11kV PTC feeder is emanating from 33/11kV PTC PSS. The total trunk length of 11kV PTC feeder is 11km and peak load is 3.36 MVA.
- In the existing scenario, conductor size of 11kV PTC Feeder is 80 sq mm & the feeder is 95% loaded w.r.t the current carrying capacity of the conductor.
- Considering 10% load growth for next 2Yrs. the feeder loading will reach 115% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic as well as commercial consumers.
- This feeder is mainly feeding urban consumers and some rural consumers of Chainpal area, several breakdown on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the urban area, conductor augmentation proposed for overloading mitigation & to improving reliability.

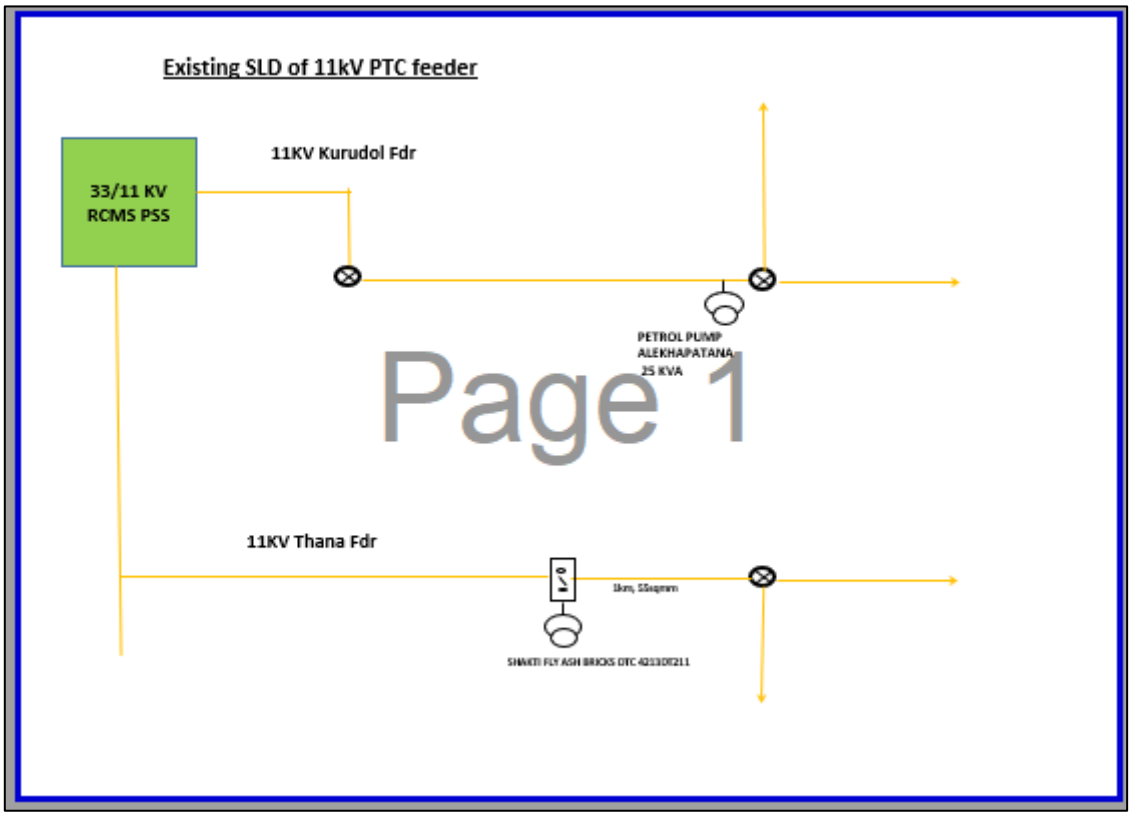
Existing Summer'26 Loading and projected load at 11kV Balher Feeder

Existing Scenario									
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Peak Loading Summer' 26 (MVA)**	**% Loading**	**Feeder Overloading Status (AS IS)**	**Projected load Summer' 28 (MVA)**	**% Loading**	**Feeder Overloading Status (Sumeer'28)**	**Loss in kW in Summer' 28**
RCMS	PTC	4.51	5.27	117%	Over load	6.38	141%	Over load	441
RCMS	Thana	5.18	1.57	30%	Under load	1.83	35%	Under load	36

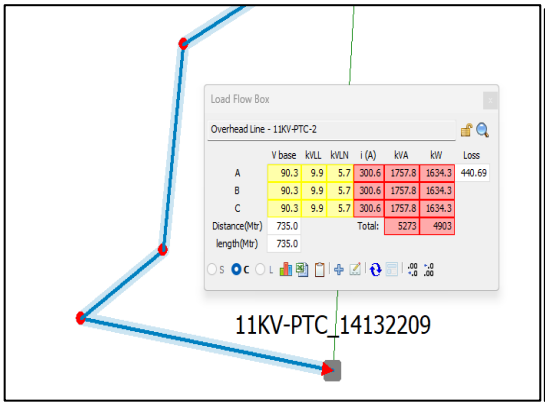
GIS Map:-

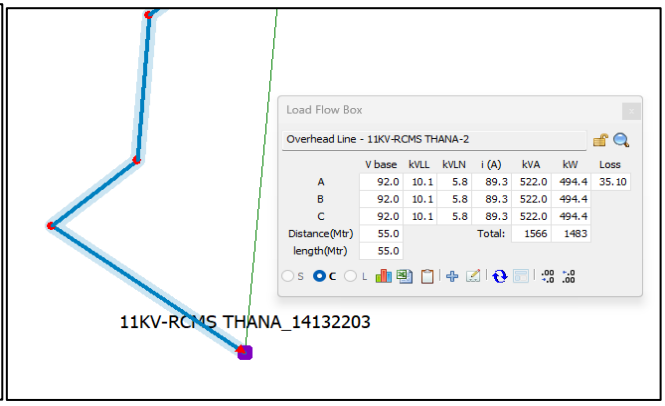


Existing SLD:



Load Flow Study of existing scenario in CYME Software:-





Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 117% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 141%. In case the issue is not addressed, there will be load shedding of 3327nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 117% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

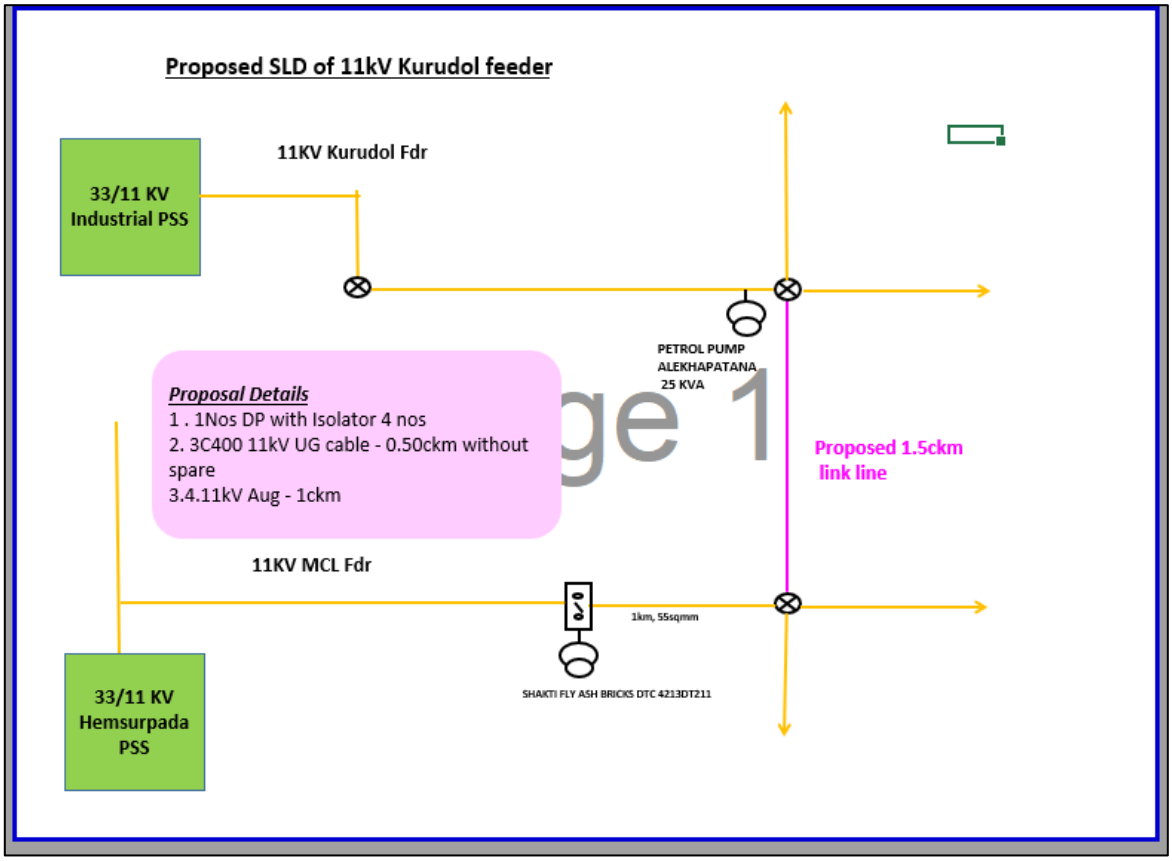
1 . 1Nos DP with Isolator 4 nos

2. 3C400 11kV UG cable - 0.250ckm without spare

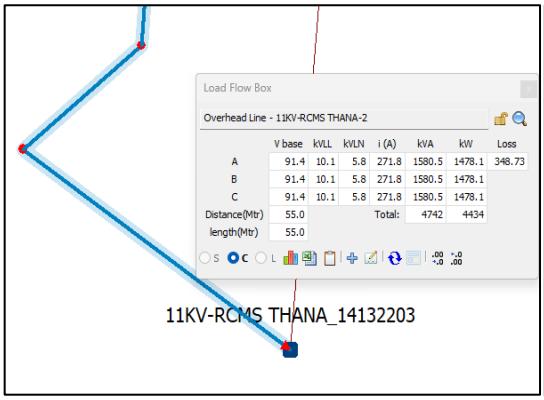
Proposed Summer'28 Loading and projected load at 11kV Bantala Feeder:

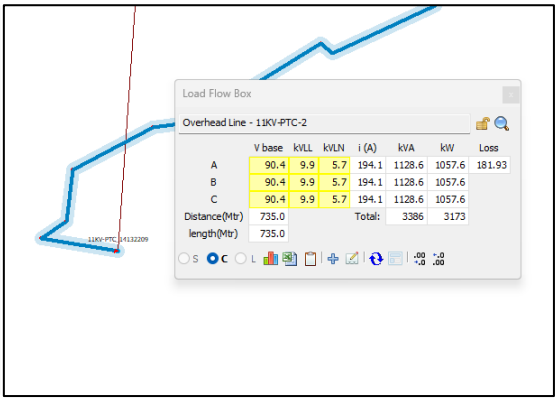
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
RCMS	PTC	4.51	3.39	75%	Under load	182.00
RCMS	Thana	5.18	4.74	92%	Under load	349.00

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

Proposal for 0.25ckm New linking line from AB Switch at 11kv PTC Feeder near RAAZ CHAKA SIMILIPADA 500 KVA DTC4212DT089) for linking from 11KV RCMS THANA feeder near NEAR JUDGE QUARTER 10 kva DTC 4212DT163. To improve power supply & mitigating Overloading, Reliability, Reduce feeder length and loss reduction.0.25ckm

Cost with Estimate Break-up:

Annexure-21.30			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**ANED**		
Name of the Work :-	***Overloading Mitigation of 11kV Balher feeder by Augmentation of Existing feeder.*** Proposal for New linking line from AB Switch at 11kv PTC Feeder near RAAZ CHAKA SIMILIPADA 500 KVA DTC4212DT089) for linking from 11KV RCMS THANA feeder near NEAR JUDGE QUARTER 10 kva DTC 4212DT163. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.250ckm without spare		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable with spare-0.25ckm	₹ 18,04,460.21
2	B	Part-B Installtion of 2Nos DP with ISO for UG cable Raising	₹ 4,63,355.06
		Total Amount	**₹ 22,67,815.27**
		Total Amount (In Cr)	**₹ 0.23**

Cost Estimate: ₹ 0.23 Crore (For detailed BoQ refer Annexure- 21.30)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF – 0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	RCMS	PTC	5273.00	441	**-54.00**	**-13.77**	**-120625.20**	**-4.28**
Before Proposal	RCMS	Thana	1566.00	36				
After Proposal	RCMS	PTC	2300	182				
After Proposal	RCMS	Thana	4200	349				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	22.68	Rs. Lac
B	Additional load due to load growth	-	1107.33	kVA
C	Total kW due to load growth	B*pf(power factor)	1051.96	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	921520	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	22.02	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	-4.28	Rs. Lac
J	Net Revenue Collected	H+I	17.74	Rs. Lac
K	% revenue return	(J/A)*100	78.2	%
L	Pay Back Period	100/K	1.28	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

31. Proposal for overloading mitigation and Reliability improvement of 11kV Kurudol Feeder:

Proposal:

Proposal for 1.5CKM Linking Line From 11KV MCL Feeder (PETROL PUMP ALEKHAPATANA 25 KVA DT) WITH 11KV KURDUL NEAR SAKOSINGHA CANAL ROAD NEAR (SHAKTI FLY ASH BRICKS DTC 4213DT211 25 KVA). To improve power supply & mitigating Overloading, Reliability, Reduce feeder length and loss reduction.1.5ckm

Requirement/ Need of the proposal:

Objective: To mitigate the overloading of the 11 kV Bantala Feeder.

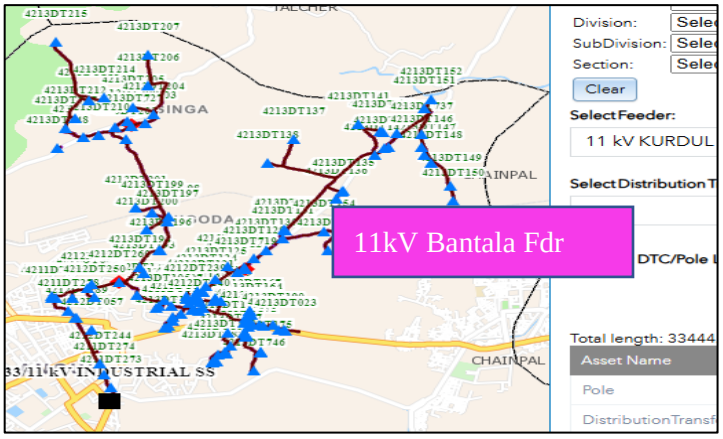
Existing Scenario:

- At present, 11kV Kurudol feeder is emanating from 33/11kV Industrial PSS. The total trunk length of 11kV Kurudol feeder is 34km and peak load is 3.36 MVA.
- In the existing scenario, conductor size of 11kV Bantala Feeder is 55 sq mm & the feeder is 116% loaded w.r.t the current carrying capacity of the conductor.
- Considering 10% load growth for next 2Yrs. the feeder loading will reach 141% of its capacity.
- This feeder is proposed to ensure safe power supply to the domestic as well as commercial consumers.
- This feeder is mainly feeding urban consumers and some rural consumers of Chainpal area, several breakdown on 11kV feeder is encountered which hampers the reliability of power supply and also considering future load growth of the urban area, conductor augmentation proposed for overloading mitigation & to improving reliability.

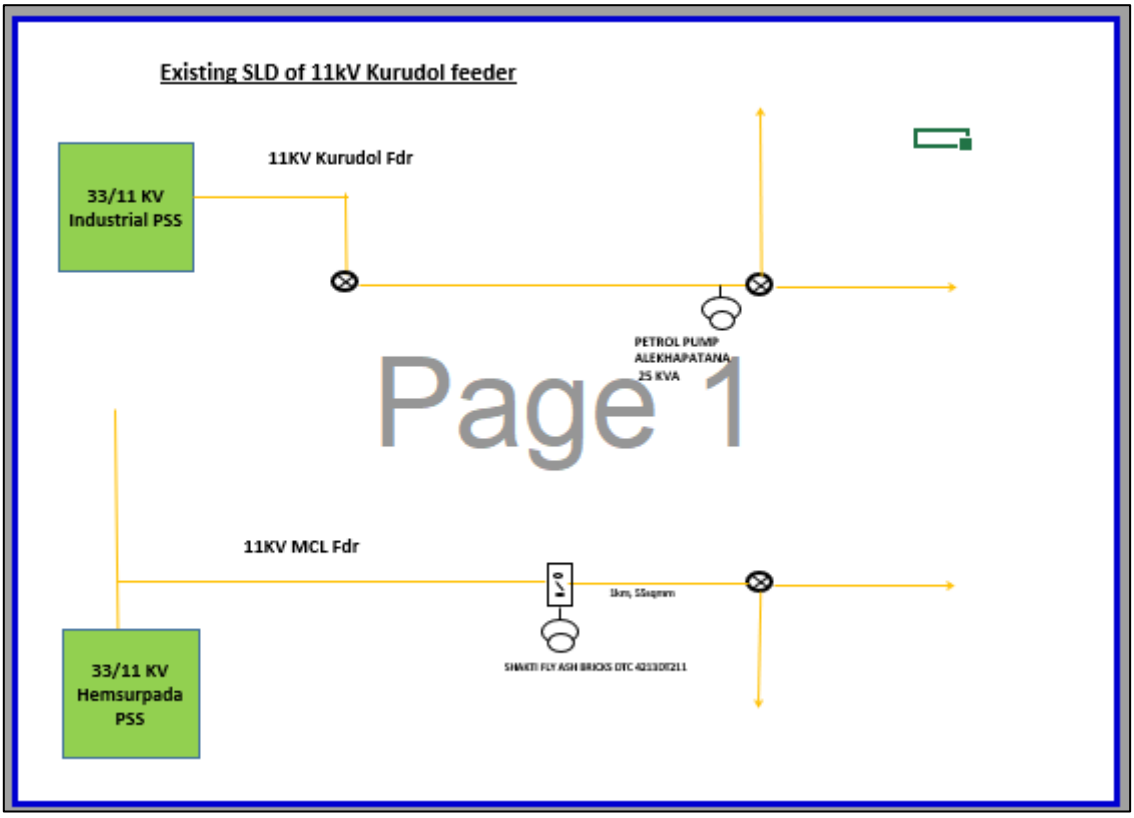
Existing Summer'26 Loading and projected load at 11kV Kurudol Feeder

Existing Scenario									
Name of the PSS	11 kV Feeder Name	Feeder Capacity (MVA)	Peak Loading Summer '26 (MVA)	% Loading	Feeder Overloading Status (AS IS)	Projected load Summer '28 (MVA)	% Loading	Feeder Overloading Status (Sumeer'28)	Loss in kW in Summer '28
Indutrial	Kurudol	4.51	5.25	116%	Over load	6.35	141%	Over load	508
Hemsurpada	MCL	5.18	4.09	79%	Under load	4.77	92%	Under load	322

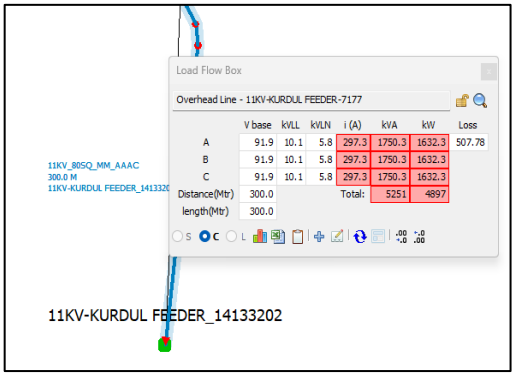
GIS Map:-

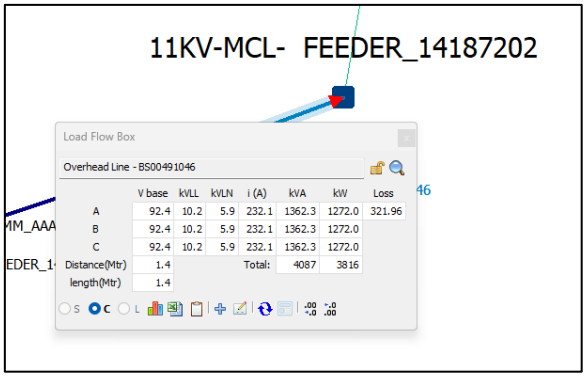


Existing SLD:



Load Flow Study of existing scenario in CYME Software:-





Priority and Timeline of the Project:

Priority: Since the feeder loading has reached 116% loading in ASIS scenario, with load growth In Summer'28, the feeder loading will reach 115%. In case the issue is not addressed, there will be load shedding of 3327nos. consumers for prolonged period.

Technical Justification

- The current carrying capacity as per CEA Distribution Planning Manual for recommended current carrying capacity. As per IS:398-4 (1994) or OEM recommendation for AAAC conductors.
- As per clause no. 4.5 of CEA Distribution Planning Manual recommendation, feeder loaded more than 70% without N-1 condition is required for augmentation / new feeder.
- In AS IS scenario, the feeder is 95% loaded w.r.t the current carrying capacity. The feeder loading is not N-1 complaint.

Proposed Scenario:

1 . 1Nos DP with Isolator 4 nos

2. 3C400 11kV UG cable - 0.50ckm without spare

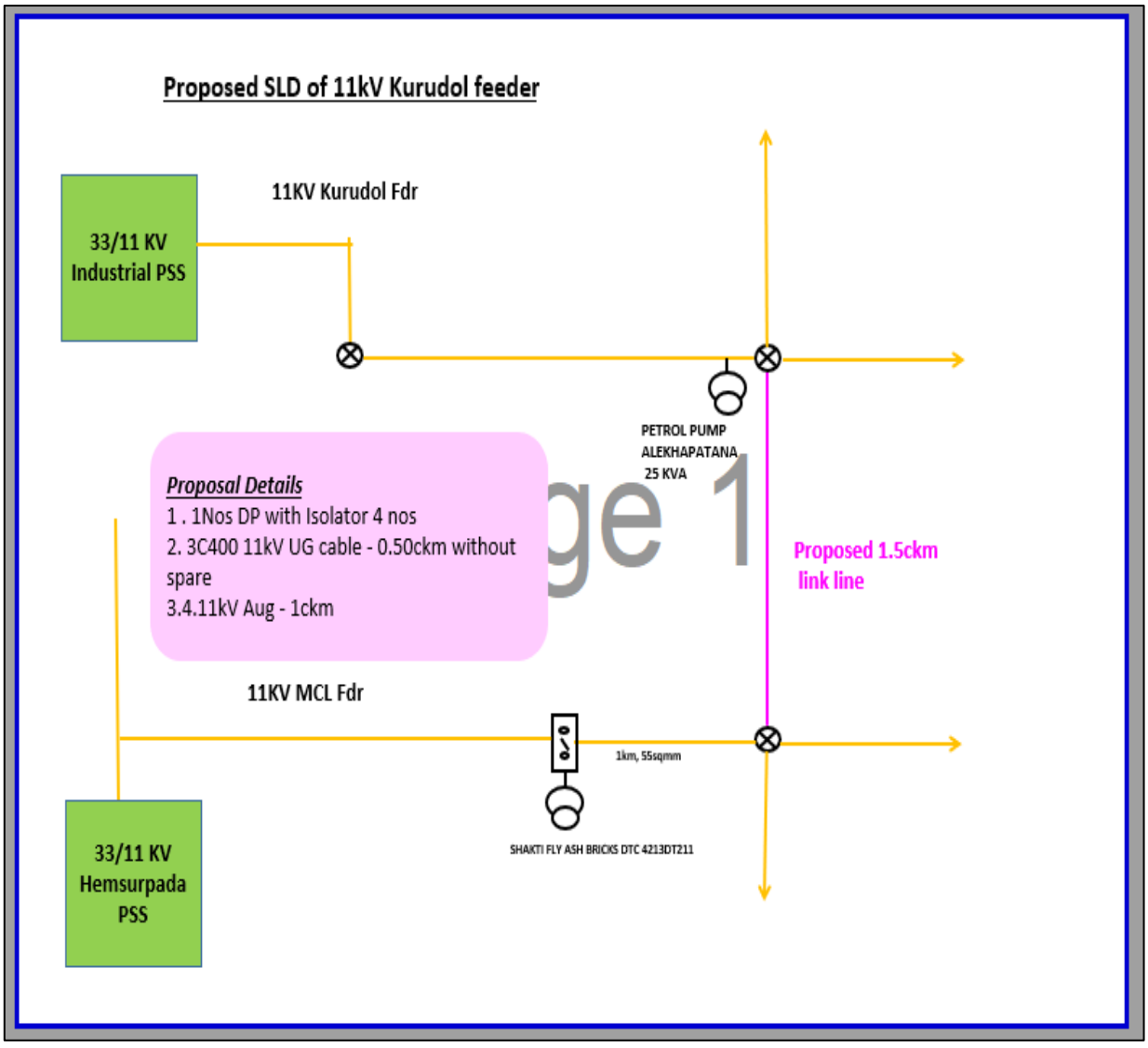
3. 11kV Outdoor Bay - 1nos

4.11kV Aug - 1ckm

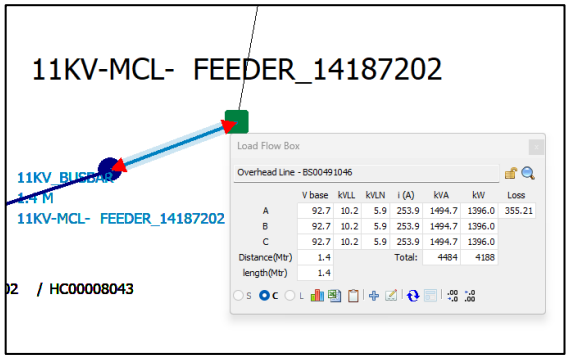
Proposed Summer'28 Loading and projected load at 11kV Kurudol Feeder:

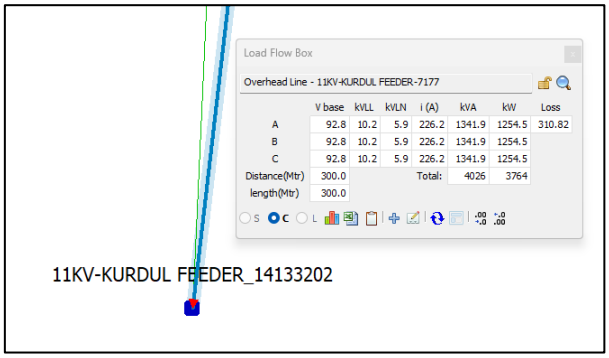
Loading after Proposal (Summer'28)						
Name of the PSS	**11 kV Feeder Name**	**Feeder Capacity (MVA)**	**Projected load Summer'28 (MVA)**	**% Loading in Summer-28**	**Feeder Status**	**Loss in kW in Summer'28**
Industrial	Kurudol	4.51	4.03	89%	Under load	311.00
Hemsurpada	MCL	5.18	4.48	87%	Under load	356.00

Proposed SLD:



Load Flow Study of proposed scenario in Cyme Software:





Scope of Work:

Proposal for 1.5CKM Linking Line From 11KV MCL Feeder (PETROL PUMP ALEKHAPATANA 25 KVA DT) WITH 11KV KURDUL NEAR SAKOSINGHA CANAL ROAD NEAR (SHAKTI FLY ASH BRICKS DTC 4213DT211 25 KVA). To improve power supply & mitigating Overloading, Reliability, Reduce feeder length and loss reduction.1.5ckm

Proposed Cost with Estimate Break-up:

Annexure-21.31			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**ANED**		
Name of the Work :-	***Overloading Mitigation of 11kV Kurudol feeder by Linking of 11kV MCL Feeder.*** Proposal for 1.5 CKM Linking Line From 11KV MCL Feeder (PETROL PUMP ALEKHAPATANA 25 KVA DT) WITH 11KV KURDUL NEAR SAKOSINGHA CANAL ROAD NEAR (SHAKTI FLY ASH BRICKS DTC 4213DT211 25 KVA). To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.5ckm without spare 3. 11kV Outdoor Bay - 1nos 4.11kV Aug - 1ckm		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.5ckm	₹ 35,89,797.56
2	B	Part-B Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1ckm	₹ 30,60,382.15
		Total Amount	**₹ 66,50,179.71**
		Total Amount (In Cr)	**₹ 0.67**

Cost Estimate: ₹ 0.67 Crore (For detailed BoQ refer Annexure- 21.31)

i. All rates considered in the estimate as per the Cost Data Book (CDB) approved by Energy Department (GoO), dt: 05.05.2026

ii. For items which are not covered under approved CDB, material supply, civil and erection rate have been considered as per latest Rate Contract (RC) after competitive bidding or based on Budgetary Quotations from OEMs.

Statutory and Safety Requirements:

The proposal has been made to maintain essential compliances with statutory safety regulations

a) Compliance with electrical safety regulation for distribution system.

b) Reduction of electrocution risk and public safety hazards.

c) Safe operation and isolation of the feeder.

d) Protection of electrical assets against lightening and surge related failure.

e) Improvement in operational safety for maintenance personnel and public.

Cost Benefit Analysis:

Stage	PSS	Feeder	Peak Loading (kW)	Losses at peak loading (kW)	Loss Saving in KW	Avg.Loss Saving with LLF (kW) (LLF –0.255)	Unit saved annually (kWH)	Annual saving (Rs Lacs) (Rs 3.55/Unit)
Before Proposal	Indutrial	Kurudol	5251.00	508	**163.00**	**41.57**	**364109.40**	**12.93**
Before Proposal	Hemsurpada	MCL	4087.00	322				
After Proposal	Indutrial	Kurudol	2300	311				
After Proposal	Hemsurpada	MCL	4200	356				

Revenue Return Sheet				
Sr. No.	**Description**	**Formula**	**Value**	**UoM**
A	Total cost of scheme	-	66.50	Rs. Lac
B	Additional load due to load growth	-	1102.71	kVA
C	Total kW due to load growth	B*pf(power factor)	1047.57	kW
D	Total units consumed yearly (Load x days x Hrs x load factor)	C*365*24*LF	917675	kWH
E	Power Purchase cost per unit	-	3.55	Rs.
F	Avg. Power Sale cost per unit	-	5.94	Rs.
G	Diff. (Sale-purchase)	F-E	2.39	Rs.
H	Revenue owing to serving additional load	G/(D*10^5)	21.93	Rs. Lac
I	Revenue owing to tech. loss reduction	Refer Technical Loss Calculation	12.93	Rs. Lac
J	Net Revenue Collected	H+I	34.86	Rs. Lac
K	% revenue return	(J/A)*100	52.4	%
L	Pay Back Period	100/K	1.91	Years

Benefit to the system and consumers:

1. Improved Reliability thereby overloading mitigation.
2. Improved capability of Network by use of covered conductor, resulting into reduction in tripping on the feeder.
3. Reduction in tripping will ultimately improve improved useful life of Power-transformer upstream.
4. Consumers will get Quality & Reliable power supply with fever interruptions thereby improving their overall capability to use stable, quality & reliable power supply.
5. The above arrangement will help to release power supply to upcoming potential consumers.

ANNEXURE- 21.1		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BED
Name of the Sub-Division : -		TEMPLE
Name of the Section : -		UTTARA
Name of the Feeder: -		11kV KAUSHALYAGANGA Feeder
Name of the Work :-		Proposal for Construction of 2.5KM U/G line for Bifurcation of Kaushalyaganga Feeder due to Overloading.
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A :- Construction of One No. 11 kV Indoor Bay at Siula PSS.	30,11,803.97
2	PART-B:- Constrction of 3nos of 11KV pole with LA for cable raising purpose near proposed 4Way RMU .	3,29,740.61
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Siula PSS.	3,63,345.44
4	PART-D:- 1.Supply and laying 3CX400Sq.mm U/G cable for 3KM without spare run from PSS to near Alareswara Temple branch. 2. Installation of 1 nos of 4 way RMU(LVVV) near band of baroda Gudiapokhari /Near Alareswara Branch for Bifurcation of Kaushalyaganga Feeder.	2,77,13,452.93
5	**Total Gross**	**3,14,18,342.96**
Total estimated cost is Rs. 3.14 Crore. (On TPCODL CAPEX Scheme)		

PART-A :-
Construction of One No. 11 kV Indoor Bay at Siula PSS.

No. of Bay requirement (Indoor)	1

MATERIALS OF 11 kV Bay

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
2	GI Flat	KG	78.00	70.8	5,522.40
3	Supply of 11 kV extension Panel (O/G Feeder) as per the existing drawing (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	18,00,000.00	1	18,00,000.00
4	SMART ENERGY METER, 3P4W, 11 KV/110V-/5A	EA	7,389.11	1	7,389.11
A1				**Total Cost of materials**	**18,15,511.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,26,792.07**
A				**Total landed Cost (A=A1 + A2)**	**21,42,303.58**
B				Stock, Storage & Insurance i.e 3% of A	64,269.11
C				**Sub Total (A+B)**	**22,06,572.69**
D				Contigency @ 3% of C	66,197.18
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	44,068.25
F				Transportation @ 7.5% of C	1,65,492.95
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,09,386.00
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,20,341.26
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**28,12,058.34**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
2	**RCC Cable Trench :**	Qty			
2.i	Earth work in excavation in ordinary soil,soft/weathered rock by mechanical (Hydraulic excavator) /manual means in foundation, trenches or drains including dressing of sides and ramming of bottoms, lift upto 1.5 m, including vegetation removal, getting out the excavated soil, back filling layer of 230-300 mm in depth, compacting and disposal of surplus excavated soil as directed, within a lead of 50 mas per direction of Engineer-in-charge.	Cum	232.00	17.25	4,002.00
2.ii	Supplying and filling in plinth with River sand under floors including, watering, ramming, consolidating and dressing complete.	Cum	1,480.00	1.15	1,702.00
2.iii	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering- All work upto plinth level: 1:3:6 (1 cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	5,030.00	1.15	5,784.50
2.iv	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	2.3	17,250.00
2.v	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering and reinforcement- All work upto plinth level 1:1.5:3 (1 cement: 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size) as directed by EIC.	Cum	7,500.00	2.1	15,750.00
2.vi	Centring and shuttering including struttting , propping etc.and removal of form with proper finishing for : Walls (any thickness) including attached plaster, buttresses, plinth and string courses etc as directed by EIC.	M2	270.00	28	7,560.00
2.vii	Steel reinforcement for R.C.C. work including Shifting, straightening, cutting, bending, placing in position and binding all complete upto plinth level. Cold twisted bars / Thermo-Mechanically Treated bars of approved make as directed by EIC.	Kg	102.00	495.7	50,561.40
2.viii	Providing and fixing precast reinforced concrete cable trench covers, drain covers, fencing post, etc. of class M25 concrete w/c 0.5 (max) leaving cut-outs/ pockets, placing of inserts/ embedments,etc.,complete all as per drawing including shuttering, vibrating, machine mixing, providing lifting arrangements, placing inserts curing handling, transporting, etc. complete but excluding the cost of providing reinforcement, inserts / embedments, with 30 mm downgraded aggregates as directed by EIC. (Cement consumption 7.9 Bag/M3)	Cum	7,950.00	0.6	4,770.00
2.ix	Structural steel work in single section, fixed with or without connecting plate including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	104.00	265.1	27,570.40
K1				**Total Civil & Services**	**1,42,519.76**
K2				**Applicable Taxes to make it Landed Cost @18%**	**25,653.56**
K				**Total landed Cost (K=K1+ K2)**	**1,68,173.32**
L				**Total (J+K)**	**29,80,231.66**
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub-Total (L+M)**	**29,80,231.66**
O				CESS 1% of (N)	29,802.32
P				**Total (N+O)**	30,10,033.97
Q				Inspection Fee of VCB - Rs. 1500/ VCB	1,500.00
R				GST @ 18% on Total Inspection Fees (Q)	270.00
S				Total Inspection Fees including GST (Q+R)	1,770.00
T				**Gross Total Material, Services and Inspection Fees (P+S)**	**30,11,803.97**

PART-B:-

Constrction of 3nos of 11KV pole with LA for cable raising purpose near proposed 4Way RMU .

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**2,02,036.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,366.59**
A				**Total landed Cost (A=A1 + A2)**	**2,38,403.20**
B				Stock, Storage & Insurance i.e 3% of A	7,152.10
C				**Sub Total (A+B)**	**2,45,555.29**
D				Contigency @ 3% of C	7,366.66
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,482.90
F				Transportation @ 7.5% of C	18,416.65
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,900.66
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,92,979.07**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,26,475.85**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**3,26,475.85**
O				CESS 1% of N	3,264.76
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**3,29,740.61**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	3,29,740.61
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	-
Q	**Gross Total Material +Services**	**3,29,740.61**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**-**
V	GST @ 18% on Total Inspection Fees (U)	-
W	Total Inspection Fees including GST (U+V)	-
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**3,29,740.61**

PART-C:-

Installation of 1no of DP with Isolator with Earth Switch at Siula PSS.

No. of 11 KV DP required With AB Switch for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8045)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	347.947	27,139.87
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
14	11 KV pin insulator polymer	EA	140.00	3	420.00
15	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
16	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12	1,572.00
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	12	9,744.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.468	922.63
A1				**Total Cost of materials**	**2,06,031.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,085.67**
A				**Total landed Cost (A=A1 + A2)**	**2,43,117.17**
B				Stock, Storage & Insurance i.e 3% of A	7,293.52
C				**Sub Total (A+B)**	**2,50,410.68**
D				Contigency @ 3% of C	7,512.32
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,422.68
F				Transportation @ 7.5% of C	18,780.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,104.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,99,735.29**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	2,100.00	12.00	25,200.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**50,858.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,154.48**
K				**Total landed Cost (K=K1+ K2)**	**60,012.67**
L				**Total (J+K)**	**3,59,747.97**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**3,59,747.97**
O				CESS 1% of N	3,597.48
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,63,345.44**

PART-D:-
1.Supply and laying 3CX400Sq.mm U/G cable for 3KM without spare run from PSS to near Alareswara Temple branch.
2. Installation of 1 nos of 4 way RMU(LVVV) near band of baroda Gudiapokhari /Near Alareswara Branch for Bifurcation of Kaushalyaganga Feeder.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***2000***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***500***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2500	2,375.00	59,37,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	10	15,950.00	1,59,500.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	3	2,900.00	8,700.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	2000.00	812.00	16,24,000.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**90,37,276.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2500	110.00	2,75,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	18	2,000.00	36,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	500	2,970.00	14,85,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2000.00	195.00	3,90,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**22,01,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1976		
1.1.a	Earth work excavation of **soil**	M3	1659.84	716.03	11,88,495.24
1.1.b	Earth work excavation of **hard rock**	M3	711.36	1,759.39	12,51,559.67
1.2	Back filling with excavated soil outside and above the trench	M3	2371.2	220.00	5,21,664.00
1.3	Road Repair and restoration charges	KM	0.8	92,94,727.82	74,35,782.26
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		

4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	83	1,035.17	85,919.11
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.5	10,470.00	26,175.00
	Sub Total (Civil Portion) (in Rs.)				**1,07,64,237.03**
A1	**Sub Total (Supply Portion)**				**90,37,276.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**16,26,709.79**
A	**Total Landed Cost (A=A1 + A2)**				**1,06,63,986.39**
B	Stock, Storage & Insurance @ 3 % of A				3,19,919.59
C	**Sub Total (A+B)**				**1,09,83,905.98**
D	Contingency @ 3 % of C				3,29,517.18
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				8,23,792.95
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**1,21,37,366.27**
I1	Sub Total (Erection Portion + Civil Portion)				1,29,65,237.03
I2	**Applicable Taxes to make it Landed Cost @18%**				**23,33,742.67**
I	**Total landed Cost (I=I1+ I2)**				**1,52,98,979.70**
J	**Total Cost (H+I)**				**2,74,36,345.97**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,74,36,345.97**
M	CESS 1% of L				2,74,363.46
N	**Grand Total (L+M)**				**2,77,10,709.43**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				450.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**2,325.00**
T	GST @ 18% on Total Inspection Fees (S)				418.50
U	Total Inspection Fees including GST (S+T)				2,743.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,77,13,452.93**

ANNEXURE- 21.2		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BED
Name of the Sub-Division : -		RASULGARH
Name of the Section : -		LAXMISAGAR
Name of the Feeder: -		11kV Kesura Village Feeder (Kesura PSS)
Name of the Work :-		Proposal for Construction of 2 KM new line from Kesura PSS to near Boys Hostel-1(Nadibandha Area) using 11kV 3C, 400sqmm UG Cable with 1nos of 11kV RMU(LVVV) along with 3CKM augmentation due to dense tree areas .
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A:- Construction of 2 KM new line from Kesura PSS to near Boys Hostel-1(Nadibandha Area) using 11kV 3C, 400sqmm UG Cable along with 1nos of 11kV RMU(LVVV).	2,45,29,914.54
2	PART-B :- 1. Installation of 1 nos of DP with Isolator with earth switch arrangment .	3,14,531.15
3	PART-C:- 1. Augmentation of 55Sq.mm conductor to 100Sq.mm AAAC XLPE covered conductor for 3CKM due to damaged condition. 2. Installation of 1 nos of DP with AB switch arrangment & installation of 2 nos of pole with LA.	34,78,147.90
4	PART-D:- Dismantling of Materials	90,576.80
5	**Total Gross**	**2,84,13,170.38**
Total estimated cost is Rs. 2.84 Crore. (On TPCODL CAPEX Scheme)		

PART A:-

Construction of 2 KM new line from Kesura PSS to near Boys Hostel-1(Nadibandha Area) using 11kV 3C, 400sqmm UG Cable along with 1nos of 11kV RMU(LVVV).

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1800***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***200***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2000	2,375.00	47,50,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	8	15,950.00	1,27,600.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	2,900.00	14,500.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1800.00	812.00	14,61,600.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**76,61,276.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2000	110.00	2,20,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	18	2,000.00	36,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	200	2,970.00	5,94,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1800.00	195.00	3,51,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**12,16,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1600		
1.1.a	Earth work excavation of **soil**	M3	1344	716.03	9,62,344.32
1.1.b	Earth work excavation of **hard rock**	M3	576	1,759.39	10,13,408.64
1.2	Back filling with excavated soil outside and above the trench	M3	1920	220.00	4,22,400.00
1.3	Road Repair and restoration charges	KM	0.85	92,94,727.82	79,00,518.65
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		

b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	67	1,035.17	69,356.39
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2	10,470.00	20,940.00
	Sub Total (Civil Portion) (in Rs.)				**1,06,43,609.76**
A1	**Sub Total (Supply Portion)**				**76,61,276.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**13,79,029.79**
A	**Total Landed Cost (A=A1 + A2)**				**90,40,306.39**
B	Stock, Storage & Insurance @ 3 % of A				2,71,209.19
C	**Sub Total (A+B)**				**93,11,515.58**
D	Contingency @ 3 % of C				2,79,345.47
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				6,98,363.67
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**1,02,89,374.88**
I1	Sub Total (Erection Portion + Civil Portion)				1,18,59,609.76
I2	**Applicable Taxes to make it Landed Cost @18%**				**21,34,729.76**
I	**Total landed Cost (I=I1+ I2)**				**1,39,94,339.51**
J	**Total Cost (H+I)**				**2,42,83,714.39**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,42,83,714.39**
M	CESS 1% of L				2,42,837.14
N	**Grand Total (L+M)**				**2,45,26,551.54**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,850.00**
T	GST @ 18% on Total Inspection Fees (S)				513.00
U	Total Inspection Fees including GST (S+T)				3,363.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,45,29,914.54**

PART-B :-

1. Installation of 1 nos of DP with Isolator with earth switch arrangment .

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	EA	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,92,587.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**34,665.77**
A				**Total landed Cost (A=A1 + A2)**	**2,27,253.38**
B				Stock, Storage & Insurance i.e 3% of A	6,817.60
C				**Sub Total (A+B)**	**2,34,070.99**
D				Contigency @ 3% of C	7,022.13
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,332.75
F				Transportation @ 7.5% of C	17,555.32
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,654.52
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,81,140.31**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**3,11,416.98**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**3,11,416.98**
O				CESS 1% of N	3,114.17
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,14,531.15**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	3,14,531.15
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	-
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	-
Q	**Gross Total Material +Services**	**3,14,531.15**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**-**
V	GST @ 18% on Total Inspection Fees (U)	-

W	Total Inspection Fees including GST (U+V)	-
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**3,14,531.15**

PART-C:-

1. Augmentation of 55Sq.mm conductor to 100Sq.mm AAAC XLPE covered conductor for 3CKM due to damaged condition.

2. Installation of 1 nos of DP with AB switch arrangment & installation of 2 nos of pole with LA.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	4

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	143.2	11,173.34
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00

8	GI barbed wire anticlimbing device	KG	74.00	12	888.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
15	Earthing of Support (Coil Type)	EA	164.00	4	656.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
A1				**Total Cost of materials**	**2,23,280.16**
A2				**Applicable Taxes to make it Landed Cost @18%**	**40,190.43**
A				**Total landed Cost (A=A1 + A2)**	**2,63,470.59**
B				Stock, Storage & Insurance i.e 3% of A	7,904.12
C				**Sub Total (A+B)**	**2,71,374.71**
D				Contigency @ 3% of C	8,141.24
E				Tools & Plants @ 2% of C	5,142.02
F				Transportation @ 7.5% of C	20,353.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				11,691.68
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,23,711.96**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**28,643.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,155.81**
K				**Total landed Cost (K=K1+ K2)**	**33,799.18**
L				**Total (J+K)**	**3,57,511.14**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**3,57,511.14**
O				CESS 1% of N	3,575.11
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**3,61,086.26**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,07,327.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,318.98**
A				**Total landed Cost (A=A1 + A2)**	**3,62,646.66**
B				Stock, Storage & Insurance i.e 3% of A	10,879.40
C				**Sub Total (A+B)**	**3,73,526.06**
D				Contigency @ 3% of C	11,205.78
E				Tools & Plants @ 2% of C (Except HT Stay Set)	6,756.84
F				Transportation @ 7.5% of C	28,014.45
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,261.16
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,44,525.81**

Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,00,353.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,00,353.79**
O				CESS 1% of N	5,003.54
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**5,05,357.32**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		3			
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	11 KV V cross Arm(GI)	EA	851.00	10	8,510.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	10	810.00
4	Danger Plate	EA	180.00	10	1,800.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	15.40	1,201.20
6	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
7	11 KV pin insulator polymer	EA	140.00	30	4,200.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	30	3,300.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
10	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	13.72	1,015.28
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	9270.00	12,14,370.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	9	4,050.00
A1				**Total Cost of materials**	**15,31,466.48**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,75,663.97**
A				**Total landed Cost (A=A1 + A2)**	**18,07,130.45**
B				Stock, Storage & Insurance i.e 3% of A	54,213.91
C				**Sub Total (A+B)**	**18,61,344.36**
D				Contigency @ 3% of C	55,840.33
E				Tools & Plants @ 2% of C	37,226.89
F				Transportation @ 7.5% of C	1,39,600.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				17,523.03
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,51,088.38
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**22,62,623.81**
Civil & Services					
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**80,003.18**
K2				**Applicable Taxes to make it Landed Cost @18%**	**14,400.57**
K				**Total landed Cost (K=K1+ K2)**	**94,403.75**
L				**Total Material+Services (J+K)**	23,57,027.57
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**23,57,027.57**
O				CESS 1% of N	23,570.28
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**23,80,597.84**
Gross Total Summary					
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				2,30,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				3,61,086.26
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,05,357.32
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				23,80,597.84
Q				**Gross Total Material +Services**	**34,77,174.40**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				450.00
T	Inspection Fee of Drawing Checking and Approval				

U	**Total Inspection Fees (R+S+T)**	**825.00**
V	GST @ 18% on Total Inspection Fees (U)	148.50
W	Total Inspection Fees including GST (U+V)	973.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**34,78,147.90**

ANNEXURE- 21.3

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	Laxmisagar
Name of the Feeder: -	11kV Laxmisagar U/G Feeder
Name of the Work :-	Proposal for Construction of 3.5KM of 3CX400SQMM UG Cable New line from Laxmisagar PSS to near 4 Pole and augmentation of 1.3km O/H line
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A: - Construction of 3.5KM new line from Laxmisagar PSS to 4pole near Jagannath Avenue using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	3,66,67,918.63
2	PART-B:- 1. Installation of 1no. of Line DP with AB Switch 2. Augmentation of 1.3Kms O/H line due to dense vegetation area and damagaed conductor	17,86,530.11
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Laxmisagar PSS.	3,63,345.44
4	PART-D:- Dismantling	40,282.84
5	**Total Gross**	**3,88,58,077.03**

Total estimated cost is Rs. 3.89Cr.(On TPCODL CAPEX Scheme)

PART-A: -
Construction of 3.5KM new line from Laxmisagar PSS to 4pole near Jagannath Avenue using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***3300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***500***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	3800	2,375.00	90,25,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	14	15,950.00	2,23,300.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	8,260.00	49,560.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	3200.00	812.00	25,98,400.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**1,31,74,136.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	3800	110.00	4,18,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	24	2,000.00	48,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	1000	2,970.00	29,70,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	3200.00	195.00	6,24,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**40,75,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	2000		
1.1.a	Earth work excavation of **soil**	M3	1680	716.03	12,02,930.40
1.1.b	Earth work excavation of **hard rock**	M3	720	1,759.39	12,66,760.80
1.2	Back filling with excavated soil outside and above the trench	M3	2400	220.00	5,28,000.00
1.3	Road Repair and restoration charges	KM	0.8	92,94,727.82	74,35,782.26
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**50**	16,703.11	8,35,155.74
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		

4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	127	1,035.17	1,31,466.59
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	3.8	10,470.00	39,786.00
	Sub Total (Civil Portion) (in Rs.)				**1,16,94,523.54**
A1	**Sub Total (Supply Portion)**				**1,31,74,136.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**23,71,344.59**
A	**Total Landed Cost (A=A1 + A2)**				**1,55,45,481.19**
B	Stock, Storage & Insurance @ 3 % of A				4,66,364.44
C	**Sub Total (A+B)**				**1,60,11,845.62**
D	Contingency @ 3 % of C				4,80,355.37
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				12,00,888.42
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**1,76,93,239.58**
I1	Sub Total (Erection Portion + Civil Portion)				1,57,69,523.54
I2	**Applicable Taxes to make it Landed Cost @18%**				**28,38,514.24**
I	**Total landed Cost (I=I1+ I2)**				**1,86,08,037.78**
J	**Total Cost (H+I)**				**3,63,01,277.36**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**3,63,01,277.36**
M	CESS 1% of L				3,63,012.77
N	**Grand Total (L+M)**				**3,66,64,290.13**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				450.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**3,075.00**
T	GST @ 18% on Total Inspection Fees (S)				553.50
U	Total Inspection Fees including GST (S+T)				3,628.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**3,66,67,918.63**

PART-B:-

1. Installation of 1no. of Line DP with AB Switch

2. Augmentation of 1.3Kms O/H line due to dense vegetation area and damagaed conductor

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,67,460.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,142.82**
A				**Total landed Cost (A=A1 + A2)**	**1,97,602.94**
B				Stock, Storage & Insurance i.e 3% of A	5,928.09
C				**Sub Total (A+B)**	**2,03,531.03**
D				Contigency @ 3% of C	6,105.93
E				Tools & Plants @ 2% of C	3,856.52
F				Transportation @ 7.5% of C	15,264.83
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,768.76
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,42,783.97**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,68,133.36**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,68,133.36**
O				CESS 1% of N	2,681.33
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**2,70,814.69**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		2		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,34,691.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,244.39**
A				**Total landed Cost (A=A1 + A2)**	**1,58,935.46**
B				Stock, Storage & Insurance i.e 3% of A	4,768.06
C				**Sub Total (A+B)**	**1,63,703.53**
D				Contigency @ 3% of C	4,911.11
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,988.60
F				Transportation @ 7.5% of C	12,277.76
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,933.78
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,95,319.38**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,17,650.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,17,650.57**
O				CESS 1% of N	2,176.51
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,19,827.07**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		1.3		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	11 KV V cross Arm(GI)	EA	851.00	5	4,255.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	5	405.00
4	Danger Plate	EA	180.00	5	900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	7.70	600.60
6	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
7	11 KV pin insulator polymer	EA	140.00	15	2,100.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
10	Earthing of Support (Coil Type)	EA	164.00	5	820.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	6.86	507.64
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4017.00	5,26,227.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**6,84,100.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,23,138.04**
A				**Total landed Cost (A=A1 + A2)**	**8,07,238.28**
B				Stock, Storage & Insurance i.e 3% of A	24,217.15
C				**Sub Total (A+B)**	**8,31,455.43**
D				Contigency @ 3% of C	24,943.66
E				Tools & Plants @ 2% of C	16,629.11
F				Transportation @ 7.5% of C	62,359.16
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				65,622.51
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**10,09,771.39**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91

2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.3	13,611.00
K1				**Total Civil & Services**	**37,907.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,823.37**
K				**Total landed Cost (K=K1+ K2)**	**44,730.96**
L				**Total Material+Services (J+K)**	10,54,502.35
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**10,54,502.35**
O				CESS 1% of N	10,545.02
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**10,65,047.37**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				2,30,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,70,814.69
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,19,827.07
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				10,65,047.37
Q				**Gross Total Material +Services**	**17,85,822.11**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				225.00
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**600.00**
V	GST @ 18% on Total Inspection Fees (U)				108.00
W	Total Inspection Fees including GST (U+V)				708.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**17,86,530.11**

PART-C:-
Installation of 1no of DP with Isolator with Earth Switch at Laxmisagar PSS.

No. of 11 KV DP required With AB Switch for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8045)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	347.947	27,139.87
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
14	11 KV pin insulator polymer	EA	140.00	3	420.00
15	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
16	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12	1,572.00
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	12	9,744.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.468	922.63
A1				**Total Cost of materials**	**2,06,031.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,085.67**
A				**Total landed Cost (A=A1 + A2)**	**2,43,117.17**
B				Stock, Storage & Insurance i.e 3% of A	7,293.52
C				**Sub Total (A+B)**	**2,50,410.68**
D				Contigency @ 3% of C	7,512.32
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,422.68
F				Transportation @ 7.5% of C	18,780.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,104.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,99,735.29**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	2,100.00	12.00	25,200.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**50,858.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,154.48**
K				**Total landed Cost (K=K1+ K2)**	**60,012.67**
L				**Total (J+K)**	**3,59,747.97**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**3,59,747.97**
O				CESS 1% of N	3,597.48
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,63,345.44**

PART-D:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	5	1,300.00	6,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3900	7.00	27,300.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**33,800.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**6,084.00**
A				**Total landed Cost (A=A1+ A2)**	**39,884.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	39,884.00
D				**CESS @ 1% of C**	398.84
E				**Grand Total (C+D)**	40,282.84

ANNEXURE- 21.4

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	RASULGARH S/O
Name of the Feeder: -	11kV PANDRA VILLAGE Feeder
Name of the Work :-	Proposal for Construction of 1.8 KM new line from Pandra Viillage PSS to Near Jyoti flyash bricks using 11kV 3C, 400sqmm UG Cable along with 2nos of 11kV RMU(LVVV) along with 4CKM augmentation due to damaged condutor.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A:- Construction of 1.8 KM new line from Pandra Viillage PSS to Near Jyoti flyash bricks using 11kV 3C, 400sqmm UG Cable along with 2nos of 11kV RMU(LVVV).	2,73,87,415.30
2	PART-B:- 1. Augmentation of 55Sq.mm conductor to 100Sq.mm AAAC XLPE covered conductor for 4CKM due to damaged condition. 2. Installation of 1 nos of pole with LA arrangment & installation of 3 nos of LA on extisting pole.	42,14,382.42
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Pandra PSS.	3,63,345.44
4	PART-D:- Dismantling of Materials	1,03,090.70
5	**Total Gross**	**3,20,68,233.86**

Total estimated cost is Rs. 3.21 Crore. (On TPCODL CAPEX Scheme)

PART A:-

Construction of 1.8 KM new line from Pandra Viillage PSS to Near Jyoti flyash bricks using 11kV 3C, 400sqmm UG Cable along with 2nos of 11kV RMU(LVVV).

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***500***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1800	2,375.00	42,75,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	8	15,950.00	1,27,600.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	8,260.00	66,080.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1300.00	812.00	10,55,600.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**80,68,433.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1800	110.00	1,98,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	20	2,000.00	40,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	500	2,970.00	14,85,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1300.00	195.00	2,53,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**20,06,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1268		
1.1.a	Earth work excavation of **soil**	M3	1065.12	716.03	7,62,657.87
1.1.b	Earth work excavation of **hard rock**	M3	456.48	1,759.39	8,03,126.35
1.2	Back filling with excavated soil outside and above the trench	M3	1521.6	220.00	3,34,752.00
1.3	Road Repair and restoration charges	KM	1	92,94,727.82	92,94,727.82
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		

b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	60	1,035.17	62,110.20
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.8	10,470.00	18,846.00
	Sub Total (Civil Portion) (in Rs.)				**1,17,85,503.76**
A1	**Sub Total (Supply Portion)**				**80,68,433.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**14,52,317.98**
A	**Total Landed Cost (A=A1 + A2)**				**95,20,751.18**
B	Stock, Storage & Insurance @ 3 % of A				2,85,622.54
C	**Sub Total (A+B)**				**98,06,373.71**
D	Contingency @ 3 % of C				2,94,191.21
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				7,35,478.03
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**1,08,36,343.28**
I1	Sub Total (Erection Portion + Civil Portion)				1,37,92,003.76
I2	**Applicable Taxes to make it Landed Cost @18%**				**24,82,560.68**
I	**Total landed Cost (I=I1+ I2)**				**1,62,74,564.44**
J	**Total Cost (H+I)**				**2,71,10,907.72**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,71,10,907.72**
M	CESS 1% of L				2,71,109.08
N	**Grand Total (L+M)**				**2,73,82,016.80**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				450.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,575.00**
T	GST @ 18% on Total Inspection Fees (S)				823.50
U	Total Inspection Fees including GST (S+T)				5,398.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,73,87,415.30**

PART-B:-

1. Augmentation of 55Sq.mm conductor to 100Sq.mm AAAC XLPE covered conductor for 4CKM due to damaged condition.

2. Installation of 1 nos of pole with LA arrangment & installation of 3 nos of LA on extisting pole.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,36,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**
A				**Total landed Cost (A=A1 + A2)**	**1,61,025.88**
B				Stock, Storage & Insurance i.e 3% of A	4,830.78
C				**Sub Total (A+B)**	**1,65,856.66**
D				Contigency @ 3% of C	4,975.70
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F				Transportation @ 7.5% of C	12,439.25
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,97,577.76**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,27,854.43**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,27,854.43**
O				CESS 1% of N	2,278.54
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,30,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00

9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
A1				**Total Cost of materials**	**1,67,460.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,142.82**
A				**Total landed Cost (A=A1 + A2)**	**1,97,602.94**
B				Stock, Storage & Insurance i.e 3% of A	5,928.09
C				**Sub Total (A+B)**	**2,03,531.03**
D				Contigency @ 3% of C	6,105.93
E				Tools & Plants @ 2% of C	3,856.52
F				Transportation @ 7.5% of C	15,264.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				8,768.76
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,42,783.97**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**2,68,133.36**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**2,68,133.36**
O				CESS 1% of N	2,681.33
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**2,70,814.69**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	7

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	7	2,01,845.00
2	GI Channel, angle & flat of different size	KG	78.00	471.408	36,769.82
3	Danger Plate	EA	180.00	7	1,260.00
4	GI barbed wire anticlimbing device	KG	74.00	21	1,554.00
5	11 KV pin insulator polymer	EA	140.00	28	3,920.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	28	3,080.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	42	23,100.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	42	1,05,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	42	6,300.00
11	Earthing of Support (Coil Type)	EA	164.00	7	1,148.00
12	H.T. Stay clamp	EA	260.00	14	3,640.00
13	H.T. Stay set (Complete)	SET	1,434.00	14	20,076.00
14	H.T. Stay Insulator Type-C	EA	87.00	14	1,218.00
15	7/10 SWG Stay Wire	KG	77.00	210	16,170.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	69.972	5,177.93
A1				**Total Cost of materials**	**4,30,258.75**
A2				**Applicable Taxes to make it Landed Cost @18%**	**77,446.58**
A				**Total landed Cost (A=A1 + A2)**	**5,07,705.33**
B				Stock, Storage & Insurance i.e 3% of A	15,231.16
C				**Sub Total (A+B)**	**5,22,936.49**
D				Contigency @ 3% of C	15,688.09
E				Tools & Plants @ 2% of C (Except HT Stay Set)	9,459.57
F				Transportation @ 7.5% of C	39,220.24
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				12,266.12
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				22,765.63
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**6,22,336.14**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	14	32,221.35
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.2	20,943.88
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.8	5,235.97
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	7.00	5,852.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	7.00	1,983.38
K1				**Total Civil & Services**	**66,236.58**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,922.58**
K				**Total landed Cost (K=K1+ K2)**	**78,159.16**
L				**Total (J+K)**	**7,00,495.30**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**7,00,495.30**
O				CESS 1% of N	7,004.95
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**7,07,500.25**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		4		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	11 KV V cross Arm(GI)	EA	851.00	10	8,510.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	10	810.00
4	Danger Plate	EA	180.00	10	1,800.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	15.40	1,201.20
6	GI barbed wire anticlimbing device	KG	74.00	30.00	2,220.00
7	11 KV pin insulator polymer	EA	140.00	30	4,200.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	30	3,300.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
10	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	13.72	1,015.28
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12360.00	16,19,160.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	12	5,400.00
A1				**Total Cost of materials**	**19,37,606.48**
A2				**Applicable Taxes to make it Landed Cost @18%**	**3,48,769.17**
A				**Total landed Cost (A=A1 + A2)**	**22,86,375.65**
B				Stock, Storage & Insurance i.e 3% of A	68,591.27
C				**Sub Total (A+B)**	**23,54,966.92**
D				Contigency @ 3% of C	70,649.01
E				Tools & Plants @ 2% of C	47,099.34
F				Transportation @ 7.5% of C	1,76,622.52
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				17,523.03
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,00,450.63
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**28,67,311.44**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.50	29,919.83
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.13	7,479.96
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	10	8,360.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10	2,833.40
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4	41,880.00
K1				**Total Civil & Services**	**90,473.18**
K2				**Applicable Taxes to make it Landed Cost @18%**	**16,285.17**
K				**Total landed Cost (K=K1+ K2)**	**1,06,758.35**
L				**Total Material+Services (J+K)**	29,74,069.80
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**29,74,069.80**
O				CESS 1% of N	29,740.70
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**30,03,810.49**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				2,30,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				2,70,814.69
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				7,07,500.25
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				30,03,810.49
Q				**Gross Total Material +Services**	**42,12,258.42**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				675.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,800.00**

V	GST @ 18% on Total Inspection Fees (U)	324.00
W	Total Inspection Fees including GST (U+V)	2,124.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**42,14,382.42**

PART-C:-

Installation of 1no of DP with Isolator with Earth Switch at Pandra PSS.

No. of 11 KV DP required With AB Switch for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8045)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	347.947	27,139.87
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
14	11 KV pin insulator polymer	EA	140.00	3	420.00
15	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
16	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12	1,572.00
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	12	9,744.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.468	922.63
A1				**Total Cost of materials**	**2,06,031.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,085.67**
A				**Total landed Cost (A=A1 + A2)**	**2,43,117.17**
B				Stock, Storage & Insurance i.e 3% of A	7,293.52
C				**Sub Total (A+B)**	**2,50,410.68**
D				Contigency @ 3% of C	7,512.32
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,422.68
F				Transportation @ 7.5% of C	18,780.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,104.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,99,735.29**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	2,100.00	12.00	25,200.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**50,858.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,154.48**
K				**Total landed Cost (K=K1+ K2)**	**60,012.67**
L				**Total (J+K)**	**3,59,747.97**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**3,59,747.97**
O				CESS 1% of N	3,597.48
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,63,345.44**

ANNEXURE- 21.5

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	BED
Name of the Sub-Division : -	RASULGARH
Name of the Section : -	RASULHARH
Name of the Feeder: -	11kV Prachi Vihar Feeder
Name of the Work :-	Proposal for Construction of 1.8KM of 3CX400SQMM UG Cable New line from Pandra PSS to near Local Dhaba and augmentation of 2.4km O/H line
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART-A: - Construction of 1.8KM new line from Pandra PSS to near Local Dhaba using 11kV 3C, 400sqmm UG Cable along with 11kV RMU	2,12,65,471.57
2	PART-B:- 1. Installation of 2 nos. of Line DP with AB Switch 2. Augmentation of 2.4Kms O/H line due to dense vegetation area and damagaed conductor	41,53,244.32
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Pandra PSS.	3,63,345.44
4	PART-D:- Dismantling	87,012.30
5	**Total Gross**	**2,58,69,073.65**

Total estimated cost is Rs. 2.59 Crore. (On TPCODL CAPEX Scheme)

PART-A: -
Construction of 1.8KM new line from Pandra PSS to near Local Dhaba using 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1500***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***300***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1800	2,375.00	42,75,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	6	15,950.00	95,700.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	2,900.00	14,500.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1500.00	812.00	12,18,000.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**69,10,776.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1800	110.00	1,98,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	16	2,000.00	32,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	300	2,970.00	8,91,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1500.00	195.00	2,92,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**14,28,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1200		
1.1.a	Earth work excavation of **soil**	M3	1008	716.03	7,21,758.24
1.1.b	Earth work excavation of **hard rock**	M3	432	1,759.39	7,60,056.48
1.2	Back filling with excavated soil outside and above the trench	M3	1440	220.00	3,16,800.00
1.3	Road Repair and restoration charges	KM	0.6	92,94,727.82	55,76,836.69
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**50**	16,703.11	8,35,155.74
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		

4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	60	1,035.17	62,110.20
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.8	10,470.00	18,846.00
	Sub Total (Civil Portion) (in Rs.)				**85,46,205.11**
A1	**Sub Total (Supply Portion)**				**69,10,776.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**12,43,939.79**
A	**Total Landed Cost (A=A1 + A2)**				**81,54,716.39**
B	Stock, Storage & Insurance @ 3 % of A				2,44,641.49
C	**Sub Total (A+B)**				**83,99,357.88**
D	Contingency @ 3 % of C				2,51,980.74
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				6,29,951.84
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**92,81,440.62**
I1	Sub Total (Erection Portion + Civil Portion)				99,74,705.11
I2	**Applicable Taxes to make it Landed Cost @18%**				**17,95,446.92**
I	**Total landed Cost (I=I1+ I2)**				**1,17,70,152.03**
J	**Total Cost (H+I)**				**2,10,51,592.65**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,10,51,592.65**
M	CESS 1% of L				2,10,515.93
N	**Grand Total (L+M)**				**2,12,62,108.57**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,850.00**
T	GST @ 18% on Total Inspection Fees (S)				513.00
U	Total Inspection Fees including GST (S+T)				3,363.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,12,65,471.57**

PART-B:-

1. Installation of 2 nos. of Line DP with AB Switch

2. Augmentation of 2.4Kms O/H line due to dense vegetation area and damagaed conductor

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,72,925.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,126.54**
A				**Total landed Cost (A=A1 + A2)**	**3,22,051.77**
B				Stock, Storage & Insurance i.e 3% of A	9,661.55
C				**Sub Total (A+B)**	**3,31,713.32**
D				Contigency @ 3% of C	9,951.40
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,936.92
F				Transportation @ 7.5% of C	24,878.50
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,666.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,95,155.52**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,55,708.86**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**4,55,708.86**
O				CESS 1% of N	4,557.09
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,60,265.95**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	5

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**2,79,100.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**50,238.04**
A				**Total landed Cost (A=A1 + A2)**	**3,29,338.24**
B				Stock, Storage & Insurance i.e 3% of A	9,880.15
C				**Sub Total (A+B)**	**3,39,218.38**
D				Contigency @ 3% of C	10,176.55
E				Tools & Plants @ 2% of C	6,427.53
F				Transportation @ 7.5% of C	25,441.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				14,614.60

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,04,639.96**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**35,804.22**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,444.76**
K				**Total landed Cost (K=K1+ K2)**	**42,248.97**
L				**Total (J+K)**	**4,46,888.93**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**4,46,888.93**
O				CESS 1% of N	4,468.89
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**4,51,357.82**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	8

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	538.752	42,022.66
3	Danger Plate	EA	180.00	8	1,440.00
4	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
5	11 KV pin insulator polymer	EA	140.00	32	4,480.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	32	3,520.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	48	26,400.00
8	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	48	1,20,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	48	7,200.00
11	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
12	H.T. Stay clamp	EA	260.00	16	4,160.00
13	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
14	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
15	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
A1				**Total Cost of materials**	**5,09,364.29**
A2				**Applicable Taxes to make it Landed Cost @18%**	**91,685.57**
A				**Total landed Cost (A=A1 + A2)**	**6,01,049.86**
B				Stock, Storage & Insurance i.e 3% of A	18,031.50
C				**Sub Total (A+B)**	**6,19,081.36**
D				Contigency @ 3% of C	18,572.44
E				Tools & Plants @ 2% of C (Except HT Stay Set)	11,239.73
F				Transportation @ 7.5% of C	46,431.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,018.42
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				28,161.83
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**7,37,504.88**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8.00	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**75,698.95**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,625.81**
K				**Total landed Cost (K=K1+ K2)**	**89,324.76**
L				**Total (J+K)**	**8,26,829.64**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**8,26,829.64**
O				CESS 1% of N	8,268.30
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**8,35,097.93**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2.2

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	20	5,76,700.00
2	11 KV V cross Arm(GI)	EA	851.00	20	17,020.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	20	1,620.00
4	Danger Plate	EA	180.00	20	3,600.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	30.80	2,402.40
6	GI barbed wire anticlimbing device	KG	74.00	60.00	4,440.00
7	11 KV pin insulator polymer	EA	140.00	60	8,400.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	60	6,600.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	40	8,800.00
10	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	27.44	2,030.56
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6798.00	8,90,538.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**15,28,130.96**

A2	**Applicable Taxes to make it Landed Cost @18%**				**2,75,063.57**
A	**Total landed Cost (A=A1 + A2)**				**18,03,194.53**
B	Stock, Storage & Insurance i.e 3% of A				54,095.84
C	**Sub Total (A+B)**				**18,57,290.37**
D	Contigency @ 3% of C				55,718.71
E	Tools & Plants @ 2% of C				37,145.81
F	Transportation @ 7.5% of C				1,39,296.78
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				35,046.06
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,15,636.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**22,40,134.64**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.00	59,839.65
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.2	23,034.00
K1	**Total Civil & Services**				**1,20,220.36**
K2	**Applicable Taxes to make it Landed Cost @18%**				**21,639.67**
K	**Total landed Cost (K=K1+ K2)**				**1,41,860.03**
L	**Total Material+Services (J+K)**				23,81,994.67
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**23,81,994.67**
O	CESS 1% of N				23,819.95
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**24,05,814.62**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,60,265.95
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				4,51,357.82
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				8,35,097.93
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				24,05,814.62
Q	**Gross Total Material +Services**				**41,52,536.32**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				225.00
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**600.00**
V	GST @ 18% on Total Inspection Fees (U)				108.00
W	Total Inspection Fees including GST (U+V)				708.00
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**41,53,244.32**

PART-C:-
Installation of 1no of DP with Isolator with Earth Switch at Pandra PSS.

No. of 11 KV DP required With AB Switch for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8045)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	347.947	27,139.87
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
14	11 KV pin insulator polymer	EA	140.00	3	420.00
15	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
16	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12	1,572.00
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	12	9,744.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.468	922.63
A1				**Total Cost of materials**	**2,06,031.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,085.67**
A				**Total landed Cost (A=A1 + A2)**	**2,43,117.17**
B				Stock, Storage & Insurance i.e 3% of A	7,293.52
C				**Sub Total (A+B)**	**2,50,410.68**
D				Contigency @ 3% of C	7,512.32
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,422.68
F				Transportation @ 7.5% of C	18,780.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,104.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,99,735.29**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	2,100.00	12.00	25,200.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**50,858.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,154.48**
K				**Total landed Cost (K=K1+ K2)**	**60,012.67**
L				**Total (J+K)**	**3,59,747.97**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**3,59,747.97**
O				CESS 1% of N	3,597.48
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,63,345.44**

PART-D:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	10	1,300.00	13,000.00
2	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	10	1,380.92	13,809.15
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	6600	7.00	46,200.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**73,009.15**
A2				**Applicable Taxes to make it Landed Cost @18%**	**13,141.65**
A				**Total landed Cost (A=A1+ A2)**	**86,150.80**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	86,150.80
D				**CESS @ 1% of C**	861.51
E				**Grand Total (C+D)**	87,012.30

ANNEXURE- 21.6		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BED
Name of the Sub-Division : -		RASULGARH
Name of the Section : -		Laxmisagar
Name of the Feeder: -		11kV Laxmisagar O/H Feeder
Name of the Work :-		Proposal for Construction of 2.5KM of 3CX400SQMM UG Cable New line from Laxmisagar PSS to near Jharpada Village and augmentation of 2km O/H line
Names of Schemes: -		**CAPEX 27-28**
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART-A: - Construction of 2.5KM new line from Laxmisagar PSS to near Jharpada Village using 11kV 3C, 400sqmm UG Cable along 2nos of RMU 11kV RMU	2,70,59,271.78
2	PART-B:- 1. Installation of 1no. of Line DP with AB Switch 2. Augmentation of 2Kms O/H line due to dense vegetation area and damagaed conductor	26,23,644.98
3	PART-C:- Installation of 1no of DP with Isolator with Earth Switch at Laxmisagar PSS.	3,63,345.44
4	PART-D:- Dismantling	37,422.52
5	**Total Gross**	**3,00,83,684.73**
Total estimated cost is Rs. 3.01 Crore. (On TPCODL CAPEX Scheme)		

PART-A: -

Construction of 2.5KM new line from Laxmisagar PSS to near Jharpada Village using 11kV 3C, 400sqmm UG Cable along 2nos of RMU 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***2100***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***400***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	2500	2,375.00	59,37,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	13	15,950.00	2,07,350.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	8,260.00	66,080.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	2,900.00	23,200.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	2100.00	812.00	17,05,200.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**1,04,71,883.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	2500	110.00	2,75,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	29	2,000.00	58,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	400	2,970.00	11,88,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	2100.00	195.00	4,09,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**19,60,500.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1800		
1.1.a	Earth work excavation of **soil**	M3	1512	716.03	10,82,637.36
1.1.b	Earth work excavation of **hard rock**	M3	648	1,759.39	11,40,084.72
1.2	Back filling with excavated soil outside and above the trench	M3	2160	220.00	4,75,200.00
1.3	Road Repair and restoration charges	KM	0.52	92,94,727.82	48,33,258.47
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**40**	16,703.11	6,68,124.59
3	**RMU Civil works**				

3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	83	1,035.17	85,919.11
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	2.5	10,470.00	26,175.00
	Sub Total (Civil Portion) (in Rs.)				**88,20,682.76**
A1	**Sub Total (Supply Portion)**				**1,04,71,883.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**18,84,938.98**
A	**Total Landed Cost (A=A1 + A2)**				**1,23,56,822.18**
B	Stock, Storage & Insurance @ 3 % of A				3,70,704.67
C	**Sub Total (A+B)**				**1,27,27,526.84**
D	Contingency @ 3 % of C				3,81,825.81
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				9,54,564.51
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**1,40,64,217.49**
I1	Sub Total (Erection Portion + Civil Portion)				1,07,81,182.76
I2	**Applicable Taxes to make it Landed Cost @18%**				**19,40,612.90**
I	**Total landed Cost (I=I1+ I2)**				**1,27,21,795.66**
J	**Total Cost (H+I)**				**2,67,86,013.15**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**2,67,86,013.15**
M	CESS 1% of L				2,67,860.13
N	**Grand Total (L+M)**				**2,70,53,873.28**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				450.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,575.00**
T	GST @ 18% on Total Inspection Fees (S)				823.50
U	Total Inspection Fees including GST (S+T)				5,398.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**2,70,59,271.78**

PART-B:-

1. Installation of 1no. of Line DP with AB Switch

2. Augmentation of 2Kms O/H line due to dense vegetation area and damagaed conductor

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,72,925.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,126.54**
A				**Total landed Cost (A=A1 + A2)**	**3,22,051.77**
B				Stock, Storage & Insurance i.e 3% of A	9,661.55
C				**Sub Total (A+B)**	**3,31,713.32**
D				Contigency @ 3% of C	9,951.40
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,936.92
F				Transportation @ 7.5% of C	24,878.50
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,666.17
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,95,155.52**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,55,708.86**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,55,708.86**
O				CESS 1% of N	4,557.09
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,60,265.95**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,11,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**1,31,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06
C				**Sub Total (A+B)**	**1,35,687.35**
D				Contigency @ 3% of C	4,070.62
E				Tools & Plants @ 2% of C	2,571.01
F				Transportation @ 7.5% of C	10,176.55
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61

H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,61,855.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**1,78,755.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**1,78,755.57**
O	CESS 1% of N				1,787.56
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**1,80,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	8

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	538.752	42,022.66
3	Danger Plate	EA	180.00	8	1,440.00
4	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
5	11 KV pin insulator polymer	EA	140.00	32	4,480.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	32	3,520.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	48	26,400.00
8	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	48	1,20,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	48	7,200.00
11	Earthing of Support (Coil Type)	EA	164.00	8	1,312.00
12	H.T. Stay clamp	EA	260.00	16	4,160.00
13	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
14	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
15	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.968	5,917.63
A1	**Total Cost of materials**				**5,15,244.29**
A2	**Applicable Taxes to make it Landed Cost @18%**				**92,743.97**
A	**Total landed Cost (A=A1 + A2)**				**6,07,988.26**
B	Stock, Storage & Insurance i.e 3% of A				18,239.65
C	**Sub Total (A+B)**				**6,26,227.91**
D	Contigency @ 3% of C				18,786.84
E	Tools & Plants @ 2% of C (Except HT Stay Set)				11,382.67
F	Transportation @ 7.5% of C				46,967.09
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				14,018.42
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				28,876.48
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**7,46,259.41**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.6	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	8.00	6,688.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1	**Total Civil & Services**				**75,698.95**
K2	**Applicable Taxes to make it Landed Cost @18%**				**13,625.81**
K	**Total landed Cost (K=K1+ K2)**				**89,324.76**
L	**Total (J+K)**				**8,35,584.16**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**8,35,584.16**
O	CESS 1% of N				8,355.84
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**8,43,940.00**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	11 KV V cross Arm(GI)	EA	851.00	4	3,404.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	4	324.00
4	Danger Plate	EA	180.00	4	720.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	6.16	480.48
6	GI barbed wire anticlimbing device	KG	74.00	12.00	888.00
7	11 KV pin insulator polymer	EA	140.00	12	1,680.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00		-
10	Earthing of Support (Coil Type)	EA	164.00	4	656.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	5.49	406.11
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4635.00	6,07,185.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00

A1				**Total Cost of materials**	**7,33,753.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,32,075.65**
A				**Total landed Cost (A=A1 + A2)**	**8,65,829.24**
B				Stock, Storage & Insurance i.e 3% of A	25,974.88
C				**Sub Total (A+B)**	**8,91,804.12**
D				Contigency @ 3% of C	26,754.12
E				Tools & Plants @ 2% of C	17,836.08
F				Transportation @ 7.5% of C	66,885.31
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				75,161.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**10,85,450.83**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	4	3,344.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.5	15,705.00
K1				**Total Civil & Services**	**35,142.27**
K2				**Applicable Taxes to make it Landed Cost @18%**	**6,325.61**
K				**Total landed Cost (K=K1+ K2)**	**41,467.88**
L				**Total Material+Services (J+K)**	11,26,918.71
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**11,26,918.71**
O				CESS 1% of N	11,269.19
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**11,38,187.90**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,60,265.95
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				1,80,543.13
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				8,43,940.00
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				11,38,187.90
Q				**Gross Total Material +Services**	**26,22,936.98**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				225.00
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**600.00**
V				GST @ 18% on Total Inspection Fees (U)	108.00
W				Total Inspection Fees including GST (U+V)	708.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**26,23,644.98**

PART-C:-

Installation of 1no of DP with Isolator with Earth Switch at Laxmisagar PSS.

No. of 11 KV DP required With AB Switch for U/G Cable Raising (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8045)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	347.947	27,139.87
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
14	11 KV pin insulator polymer	EA	140.00	3	420.00
15	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
16	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12	1,572.00
19	HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	812.00	12	9,744.00
20	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.468	922.63
A1				**Total Cost of materials**	**2,06,031.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**37,085.67**
A				**Total landed Cost (A=A1 + A2)**	**2,43,117.17**
B				Stock, Storage & Insurance i.e 3% of A	7,293.52
C				**Sub Total (A+B)**	**2,50,410.68**
D				Contigency @ 3% of C	7,512.32
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,422.68
F				Transportation @ 7.5% of C	18,780.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,104.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,99,735.29**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	Laying of HDPE Pipe 200 mm Dia, PE 80 PN-8 for U/G acble raising	M	2,100.00	12.00	25,200.00
6	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
7	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**50,858.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,154.48**
K				**Total landed Cost (K=K1+ K2)**	**60,012.67**
L				**Total (J+K)**	**3,59,747.97**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**3,59,747.97**
O				CESS 1% of N	3,597.48
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**3,63,345.44**

PART-D:-
Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	8	1,300.00	10,400.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3000	7.00	21,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**31,400.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,652.00**
A				**Total landed Cost (A=A1+ A2)**	**37,052.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	37,052.00
D				**CESS @ 1% of C**	370.52
E				**Grand Total (C+D)**	37,422.52

ANNEXURE- 21.7		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Unit-6
Name of the Feeder: -		11kV BM RMU-15
Name of the Work :-		Proposal for load diversion of 11kV BMRMU-15 through Linking line for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 0.52 KM using 3Cx400mm2 XLPE UG cable from BM CSS-11 t0 SE RMU 04. 2. Installation of 2 Nos. of RMU in 11kV BM RMU-19 & 11kV BM RMU-15.	93,90,294.74
2	Part-B:-Augmentation of 11kV BM RMU-15 Feeder of length 0.7 CKM.	12,02,724.09
3	Part-C Dismantling.	33,538.44
4	**Total Gross**	**1,06,26,557.27**
Total estimated cost is Rs. 1.06 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length- 0.52 KM using 3Cx400mm2 XLPE UG cable from BM CSS-11 t0 SE RMU 04.

2. Installation of 2 Nos. of RMU in 11kV BM RMU-19 & 11kV BM RMU-15.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***300***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***220***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	520	2,375.00	12,35,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	1	15,950.00	15,950.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	10	8,260.00	82,600.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA		2,900.00	-
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	300.00	812.00	2,43,600.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**41,09,703.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	520	110.00	57,200.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	11	2,000.00	22,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	220	2,970.00	6,53,400.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	300.00	195.00	58,500.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**8,21,100.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	300		
1.1.a	Earth work excavation of **soil**	M3	252	716.03	1,80,439.56
1.1.b	Earth work excavation of **hard rock**	M3	108	1,759.39	1,90,014.12
1.2	Back filling with excavated soil outside and above the trench	M3	360	220.00	79,200.00
1.3	Road Repair and restoration charges	KM	0.15	92,94,727.82	13,94,209.17
2	**Civil works for U/G Cable laying in Trench**				

2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	17	1,035.17	17,597.89
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.52	10,470.00	5,444.40
	Sub Total (Civil Portion) (in Rs.)				**23,76,188.66**
A1	**Sub Total (Supply Portion)**				**41,09,703.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**7,39,746.58**
A	**Total Landed Cost (A=A1 + A2)**				**48,49,449.78**
B	Stock, Storage & Insurance @ 3 % of A				1,45,483.49
C	**Sub Total (A+B)**				**49,94,933.27**
D	Contingency @ 3 % of C				1,49,848.00
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				3,74,620.00
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**55,19,701.59**
I1	Sub Total (Erection Portion + Civil Portion)				31,97,288.66
I2	**Applicable Taxes to make it Landed Cost @18%**				**5,75,511.96**
I	**Total landed Cost (I=I1+ I2)**				**37,72,800.62**
J	**Total Cost (H+I)**				**92,92,502.21**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**92,92,502.21**
M	CESS 1% of L				92,925.02
N	**Grand Total (L+M)**				**93,85,427.24**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,125.00**
T	GST @ 18% on Total Inspection Fees (S)				742.50
U	Total Inspection Fees including GST (S+T)				4,867.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**93,90,294.74**

Part-B:-Augmentation of 11kV BM RMU-15 Feeder of length 0.7 CKM.

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,09,527.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,714.98**
A				**Total landed Cost (A=A1 + A2)**	**3,65,242.66**
B				Stock, Storage & Insurance i.e 3% of A	10,957.28
C				**Sub Total (A+B)**	**3,76,199.94**
D				Contigency @ 3% of C	11,286.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	6,810.32
F				Transportation @ 7.5% of C	28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,03,629.29**
O				CESS 1% of N	5,036.29
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**5,08,665.58**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	0.7

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	11 KV V cross Arm(GI)	EA	851.00	5	4,255.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	5	405.00
4	Danger Plate	EA	180.00	5	900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	7.70	600.60
6	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
7	11 KV pin insulator polymer	EA	140.00	15	2,100.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
10	Earthing of Support (Coil Type)	EA	164.00	5	820.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	6.86	507.64
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	2163.00	2,83,353.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	0	-
A1				**Total Cost of materials**	**4,42,076.24**
A2				**Applicable Taxes to make it Landed Cost @18%**	**79,573.72**
A				**Total landed Cost (A=A1 + A2)**	**5,21,649.96**
B				Stock, Storage & Insurance i.e 3% of A	15,649.50
C				**Sub Total (A+B)**	**5,37,299.46**
D				Contigency @ 3% of C	16,118.98
E				Tools & Plants @ 2% of C	10,745.99
F				Transportation @ 7.5% of C	40,297.46
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				36,206.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**6,49,430.33**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00

4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.7	7,329.00
K1	**Total Civil & Services**				**31,625.59**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,692.61**
K	**Total landed Cost (K=K1+ K2)**				**37,318.20**
L	**Total Material+Services (J+K)**				6,86,748.52
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**6,86,748.52**
O	CESS 1% of N				6,867.49
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**6,93,616.01**
	Gross Total Summary				
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				6,93,616.01
Q	**Gross Total Material +Services**				**12,02,281.59**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**375.00**
V	GST @ 18% on Total Inspection Fees (U)				67.50
W	Total Inspection Fees including GST (U+V)				442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**12,02,724.09**

Part-C Dismantling.

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	10	1,300.00	13,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	2163	7.00	15,141.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**28,141.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**5,065.38**
A				**Total landed Cost (A=A1+ A2)**	**33,206.38**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	33,206.38
D				**CESS @ 1% of C**	332.06
E				**Grand Total (C+D)**	33,538.44

ANNEXURE-21.8		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Unit-6
Name of the Feeder: -		11kV JP RMU-34
Name of the Work :-		Proposal for Load Diversion through linking line 11kV JP RMU-34 Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 1.15 CKM using 3Cx400mm2 XLPE UG cable from Airport PSS to Gitanjali Enclave. 2. Installation of 3 Nos. of RMU in 11kV JPRMU-34 Feeder.	1,48,96,648.41
2	Part-B:-Augmentation of 11kV JP RMU-34 Feeder of length 1.15 CKM.	21,05,417.82
3	Part-C Dismantling.	52,885.53
4	**Total Gross**	**1,70,54,951.76**
Total estimated cost is Rs. 1.71 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length- 1.15 CKM using 3Cx400mm2 XLPE UG cable from Airport PSS to Gitanjali Enclave.

2. Installation of 3 Nos. of RMU in 11kV JPRMU-34 Feeder.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***800***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***170***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	970	2,375.00	23,03,750.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	15,950.00	31,900.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	12	8,260.00	99,120.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	7	2,900.00	20,300.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	800.00	812.00	6,49,600.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***3***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	3	12,62,647.00	37,87,941.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	39.60	78.00	3,088.80
3.2	Pipe Earthing 40mm. GI Pipe	EA	6	1,300.00	7,800.00
	Sub Total (Supply Portion) (in Rs.)				**69,03,499.80**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	970	110.00	1,06,700.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	21	2,000.00	42,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	170	2,970.00	5,04,900.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	800.00	195.00	1,56,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	3	15,000.00	45,000.00
	Sub Total (Erection Portion) (in Rs.)				**8,54,600.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	744		
1.1.a	Earth work excavation of **soil**	M3	624.96	716.03	4,47,490.11
1.1.b	Earth work excavation of **hard rock**	M3	267.84	1,759.39	4,71,235.02
1.2	Back filling with excavated soil outside and above the trench	M3	892.8	220.00	1,96,416.00
1.3	Road Repair and restoration charges	KM	0.2	92,94,727.82	18,58,945.56

2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	3	1,71,056.00	5,13,168.00
4	**Fencing**				
a	**GI Chain link**	EA	**3**		
4.1	GI chain link fencing for RMU	RM	54	4,167.57	2,25,048.90
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	6	3,784.73	22,708.38
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	32	1,035.17	33,125.44
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	3	1,000.00	3,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.97	10,470.00	10,155.90
	Sub Total (Civil Portion) (in Rs.)				**37,81,293.31**
A1	**Sub Total (Supply Portion)**				**69,03,499.80**
A2	**Applicable Taxes to make it Landed Cost @18%**				**12,42,629.96**
A	**Total Landed Cost (A=A1 + A2)**				**81,46,129.76**
B	Stock, Storage & Insurance @ 3 % of A				2,44,383.89
C	**Sub Total (A+B)**				**83,90,513.66**
D	Contingency @ 3 % of C				2,51,715.41
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				75.08
F	Transportation @ 7.5% of C				6,29,288.52
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				375.41
H	**Total (C+D+E+F+G)**				**92,71,968.09**
I1	Sub Total (Erection Portion + Civil Portion)				46,35,893.31
I2	**Applicable Taxes to make it Landed Cost @18%**				**8,34,460.80**
I	**Total landed Cost (I=I1+ I2)**				**54,70,354.10**
J	**Total Cost (H+I)**				**1,47,42,322.19**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,47,42,322.19**
M	CESS 1% of L				1,47,423.22
N	**Grand Total (L+M)**				**1,48,89,745.41**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				4,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**5,850.00**
T	GST @ 18% on Total Inspection Fees (S)				1,053.00
U	Total Inspection Fees including GST (S+T)				6,903.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,48,96,648.41**

Part-B:-Augmentation of 11kV JP RMU-34 Feeder of length 1.15 CKM.

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,09,527.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,714.98**
A				**Total landed Cost (A=A1 + A2)**	**3,65,242.66**
B				Stock, Storage & Insurance i.e 3% of A	10,957.28
C				**Sub Total (A+B)**	**3,76,199.94**
D				Contigency @ 3% of C	11,286.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	6,810.32
F				Transportation @ 7.5% of C	28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1				**Total Civil & Services**	**47,311.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**8,516.13**
K				**Total landed Cost (K=K1+ K2)**	**55,827.97**
L				**Total (J+K)**	**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**5,03,629.29**
O				CESS 1% of N	5,036.29
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**5,08,665.58**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.15

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	17	4,90,195.00
2	11 KV V cross Arm(GI)	EA	851.00	17	14,467.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	17	1,377.00
4	Danger Plate	EA	180.00	17	3,060.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	26.18	2,042.04
6	GI barbed wire anticlimbing device	KG	74.00	51.00	3,774.00
7	11 KV pin insulator polymer	EA	140.00	51	7,140.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	51	5,610.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	34	7,480.00
10	Earthing of Support (Coil Type)	EA	164.00	17	2,788.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.32	1,725.98
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3553.50	4,65,508.50
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**10,06,517.52**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,81,173.15**
A				**Total landed Cost (A=A1 + A2)**	**11,87,690.67**
B				Stock, Storage & Insurance i.e 3% of A	35,630.72
C				**Sub Total (A+B)**	**12,23,321.39**
D				Contigency @ 3% of C	36,699.64
E				Tools & Plants @ 2% of C	24,466.43
F				Transportation @ 7.5% of C	91,749.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				29,789.15
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				62,753.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**14,68,779.55**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	7.65	50,863.70
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.91	12,715.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	17	14,212.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	17	4,816.78
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.15	12,040.50

K1	**Total Civil & Services**	**94,648.91**
K2	**Applicable Taxes to make it Landed Cost @18%**	**17,036.80**
K	**Total landed Cost (K=K1+ K2)**	**1,11,685.71**
L	**Total Material+Services (J+K)**	15,80,465.26
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**15,80,465.26**
O	CESS 1% of N	15,804.65
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**15,96,269.92**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	-
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	15,96,269.92
Q	**Gross Total Material +Services**	**21,04,935.50**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	33.75
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**408.75**
V	GST @ 18% on Total Inspection Fees (U)	73.58
W	Total Inspection Fees including GST (U+V)	482.33
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**21,05,417.82**

Part-C Dismantling.

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	15	1,300.00	19,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3553.5	7.00	24,874.50
A1				**Sub Total (Civil Portion) (in Rs.)**	**44,374.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,987.41**
A				**Total landed Cost (A=A1+ A2)**	**52,361.91**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	52,361.91
D				**CESS @ 1% of C**	523.62
E				**Grand Total (C+D)**	52,885.53

ANNEXURE-21.9		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Unit-6
Name of the Feeder: -		11kV Telephone Bhawan feeder
Name of the Work :-		Proposal for Bifurcation of 11kV Telephone Bhawan Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 1.2 CKM using 3Cx400mm2 XLPE UG cable from Kharvel nagar PSS to Telephone Bhawan feeder near Assembly. 2. Installation of 1no. of RMU near BM RMU-10.	1,34,45,366.93
2	**Total Gross**	**1,34,45,366.93**
Total estimated cost is Rs. 1.34 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length- 1.2 CKM using 3Cx400mm2 XLPE UG cable from Kharvel nagar PSS to Telephone Bhawan feeder near Assembly.

2. Installation of 1no. of RMU near BM RMU-10.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***1000***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***200***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	1200	2,375.00	28,50,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	4	15,950.00	63,800.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	8,260.00	41,300.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA		2,900.00	-
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	1000.00	812.00	8,12,000.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**50,33,376.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	1200	110.00	1,32,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	9	2,000.00	18,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	200	2,970.00	5,94,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	1000.00	195.00	1,95,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**9,54,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	1000		
1.1.a	Earth work excavation of **soil**	M3	840	716.03	6,01,465.20
1.1.b	Earth work excavation of **hard rock**	M3	360	1,759.39	6,33,380.40
1.2	Back filling with excavated soil outside and above the trench	M3	1200	220.00	2,64,000.00
1.3	Road Repair and restoration charges	KM	0.3	92,94,727.82	27,88,418.35
2	**Civil works for U/G Cable laying in Trench**				

2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	40	1,035.17	41,406.80
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	1.2	10,470.00	12,564.00
	Sub Total (Civil Portion) (in Rs.)				**45,95,876.51**
A1	**Sub Total (Supply Portion)**				**50,33,376.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**9,06,007.79**
A	**Total Landed Cost (A=A1 + A2)**				**59,39,384.39**
B	Stock, Storage & Insurance @ 3 % of A				1,78,181.53
C	**Sub Total (A+B)**				**61,17,565.92**
D	Contingency @ 3 % of C				1,83,526.98
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				4,58,817.44
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**67,60,060.51**
I1	Sub Total (Erection Portion + Civil Portion)				55,49,876.51
I2	**Applicable Taxes to make it Landed Cost @18%**				**9,98,977.77**
I	**Total landed Cost (I=I1+ I2)**				**65,48,854.28**
J	**Total Cost (H+I)**				**1,33,08,914.78**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,33,08,914.78**
M	CESS 1% of L				1,33,089.15
N	**Grand Total (L+M)**				**1,34,42,003.93**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,850.00**
T	GST @ 18% on Total Inspection Fees (S)				513.00
U	Total Inspection Fees including GST (S+T)				3,363.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,34,45,366.93**

ANNEXURE-21.10		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	KED-I	
Name of the Sub-Division : -	Kendrapara	
Name of the Section : -	Kendrapara-I	
Name of the Work :-	Proposal for augmentation of 1.6 CKM 11 kV O/H line of 11 kV Town-2 feeder for mitigation of overloading issue along with construction of 0.8 CKM 11 KV line using 100 Sq.mm XLPE AAA Conductor for N-1 connectivity between 11 kV Block & Town-2 Fdr.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction of 0.5 CKM 11 kV O/H line (Double Circuit) using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD AB)	2,289,438.07
2	PART B: Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD BCD)	3,662,146.99
3	PART C: Construction of 0.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC in vertical arrangement (Refer PSLD F-G)	2,584,152.13
4	PART D: Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)	152,185.94
5	PART E: Dismantling Portion	105,103.98
6	**Total Amount**	**8,793,027.11**
	Total Amount (In Cr.)	**0.88**
Total estimated cost is Rs. 0.88 Crore. (On TPCODL Capex Scheme)		

PART A: Construction of 0.5 CKM 11 kV O/H line (Double Circuit) using 14 Mtr. H-Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD AB)					
No. of Cut Point with 180 Degree Angle				2	
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	2	131,140.00
2	GI Channel, angle & flat of different size	KG	78.00	214.9	16,760.02
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	12	1,680.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
14	Earthing of Support (Coil Type)	EA	164.00	2	328.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**236,183.42**
A2				**Applicable Taxes to make it Landed Cost @18%**	**42,513.02**
A				**Total landed Cost (A=A1 + A2)**	**278,696.44**
B				Stock, Storage & Insurance i.e 3% of A	8,360.89
C				**Sub Total (A+B)**	**287,057.33**
D				Contigency @ 3% of C	8,611.72
E				Tools & Plants @ 2% of C	5,598.41
F				Transportation @ 7.5% of C	21,529.30
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,969.38
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				12,053.29
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**342,819.44**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.16	7,712.67
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**16,050.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,889.07**
K				**Total landed Cost (K=K1+ K2)**	**18,939.46**
L				**Total (J+K)**	**361,758.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**361,758.89**
O				CESS 1% of N	3,617.59
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**365,376.48**
11 Kv Line Length In KM with 40 Mtr. Span				0.5	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	14 Mtr. Long H-Pole(GI) for SP	EA	65,570.00	12	786,840.00
2	11 KV V cross Arm(GI)	EA	851.00	36	30,636.00
3	Danger Plate	EA	180.00	12	2,160.00
4	Back Clamp for danger Plate and barbed wire	KG	78.00	18.48	1,441.44
5	GI barbed wire anticlimbing device	KG	74.00	36.00	2,664.00
6	11 KV pin insulator polymer	EA	140.00	72	10,080.00
7	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	72	7,920.00
8	Earthing of Support (Coil Type)	EA	164.00	12	1,968.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.39	3,655.01
10	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	404,790.00
A1				**Total Cost of materials**	**1,252,154.45**
A2				**Applicable Taxes to make it Landed Cost @18%**	**225,387.80**
A				**Total landed Cost (A=A1 + A2)**	**1,477,542.25**
B				Stock, Storage & Insurance i.e 3% of A	44,326.27
C				**Sub Total (A+B)**	**1,521,868.52**
D				Contigency @ 3% of C	45,656.06
E				Tools & Plants @ 2% of C	30,437.37
F				Transportation @ 7.5% of C	114,140.14
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				47,816.27
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				56,554.32
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,816,472.67**
Civil & Services					
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.96	46,276.00

2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	12	10,032.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12	3,400.08
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.5	5,235.00
K1				**Total Civil & Services**	**73,919.02**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,305.42**
K				**Total landed Cost (K=K1+ K2)**	**87,224.45**
L				**Total Material+Services (J+K)**	1,903,697.11
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**1,903,697.11**
O				CESS 1% of N	19,036.97
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**1,922,734.08**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				365,376.48
2	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				1,922,734.08
Q				**Gross Total Material +Services**	**2,288,110.57**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)				202.50
W	Total Inspection Fees including GST (U+V)				1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,289,438.07**

PART B: Construction of 1.1 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD BCD)					
	No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)			2	
	MATERIALS OF DP Without AB Switch				
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**203,455.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,621.90**
A				**Total landed Cost (A=A1 + A2)**	**240,076.92**
B				Stock, Storage & Insurance i.e 3% of A	7,202.31
C				**Sub Total (A+B)**	**247,279.23**
D				Contigency @ 3% of C	7,418.38
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,533.71
F				Transportation @ 7.5% of C	18,545.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,650.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**293,436.60**
	Civil & Services				
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**343,126.74**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**343,126.74**
O				CESS 1% of N	3,431.27
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**346,558.01**
	No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)			2	
	MATERIALS FOR 11 KV Cut Point with 180 Degree Angle				
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
14	Earthing of Support (Coil Type)	EA	164.00	2	328.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**111,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**131,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06
C				**Sub Total (A+B)**	**135,687.35**

D	Contigency @ 3% of C	4,070.62
E	Tools & Plants @ 2% of C	2,571.01
F	Transportation @ 7.5% of C	10,176.55
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**161,855.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**178,755.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**178,755.57**
O	CESS 1% of N				1,787.56
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**180,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
10	Earthing of Support (Coil Type)	EA	164.00	3	492.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1	**Total Cost of materials**				**184,396.61**
A2	**Applicable Taxes to make it Landed Cost @18%**				**33,191.39**
A	**Total landed Cost (A=A1 + A2)**				**217,588.00**
B	Stock, Storage & Insurance i.e 3% of A				6,527.64
C	**Sub Total (A+B)**				**224,115.64**
D	Contigency @ 3% of C				6,723.47
E	Tools & Plants @ 2% of C (Except HT Stay Set)				4,054.10
F	Transportation @ 7.5% of C				16,808.67
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,756.70
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**266,715.49**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1	**Total Civil & Services**				**28,387.10**
K2	**Applicable Taxes to make it Landed Cost @18%**				**5,109.68**
K	**Total landed Cost (K=K1+ K2)**				**33,496.78**
L	**Total (J+K)**				**300,212.27**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**300,212.27**
O	CESS 1% of N				3,002.12
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**303,214.39**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.1

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	42	1,211,070.00
2	11 KV V cross Arm(GI)	EA	851.00	42	35,742.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	42	3,402.00
4	Danger Plate	EA	180.00	42	7,560.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	64.68	5,045.04
6	GI barbed wire anticlimbing device	KG	74.00	126.00	9,324.00
7	11 KV pin insulator polymer	EA	140.00	126	17,640.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	126	13,860.00
9	Earthing of Support (Coil Type)	EA	164.00	42	6,888.00
10	GI Nut , Bolt & Washer of different sizes	KG	74.00	57.62	4,264.18
11	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3399.00	445,269.00
12	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**1,761,414.22**
A2				**Applicable Taxes to make it Landed Cost @18%**	**317,054.56**
A				**Total landed Cost (A=A1 + A2)**	**2,078,468.77**
B				Stock, Storage & Insurance i.e 3% of A	62,354.06
C				**Sub Total (A+B)**	**2,140,822.84**
D				Contigency @ 3% of C	64,224.69
E				Tools & Plants @ 2% of C	42,816.46
F				Transportation @ 7.5% of C	160,561.71
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				73,596.72
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				66,888.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,548,911.25**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	18.90	125,663.27
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.73	31,415.82
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	42	35,112.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	42	11,900.28
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.1	11,517.00
K1				**Total Civil & Services**	**215,608.36**
K2				**Applicable Taxes to make it Landed Cost @18%**	**38,809.51**
K				**Total landed Cost (K=K1+ K2)**	**254,417.87**
L				**Total Material+Services (J+K)**	2,803,329.12
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**2,803,329.12**
O				CESS 1% of N	28,033.29
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**2,831,362.41**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				346,558.01
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				180,543.13
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				303,214.39
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				2,831,362.41
Q				**Gross Total Material +Services**	**3,661,677.94**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				22.50
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**397.50**
V	GST @ 18% on Total Inspection Fees (U)				71.55
W	Total Inspection Fees including GST (U+V)				469.05
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**3,662,146.99**

PART C: Construction of 0.8 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC in vertical arrangement (Refer PSLD F-G)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
17	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**136,462.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,563.27**

A	**Total landed Cost (A=A1 + A2)**	**161,025.88**
B	Stock, Storage & Insurance i.e 3% of A	4,830.78
C	**Sub Total (A+B)**	**165,856.66**
D	Contigency @ 3% of C	4,975.70
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,968.46
F	Transportation @ 7.5% of C	12,439.25
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,833.08
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**197,577.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**227,854.43**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**227,854.43**
O	CESS 1% of N				2,278.54
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**230,132.98**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	15

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	15	432,525.00
2	GI Channel, angle & flat of different size	KG	78.00	1611.5	125,700.12
3	Danger Plate	EA	180.00	15	2,700.00
4	H.T. Stay clamp	EA	260.00	15	3,900.00
5	H.T. Stay set (Complete)	SET	1,434.00	15	21,510.00
6	H.T. Stay Insulator Type-C	EA	87.00	15	1,305.00
7	7/10 SWG Stay Wire	KG	77.00	225	17,325.00
8	GI barbed wire anticlimbing device	KG	74.00	45	3,330.00
9	11 KV pin insulator polymer	EA	140.00	45	6,300.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	45	4,950.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	90	49,500.00
12	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	90	225,000.00
13	Disc insulator (B&S) 70 KN polymer	EA	150.00	90	13,500.00
14	Earthing of Support (Coil Type)	EA	164.00	15	2,460.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	149.94	11,095.56
A1	**Total Cost of materials**				**921,100.68**
A2	**Applicable Taxes to make it Landed Cost @18%**				**165,798.12**
A	**Total landed Cost (A=A1 + A2)**				**1,086,898.80**
B	Stock, Storage & Insurance i.e 3% of A				32,606.96
C	**Sub Total (A+B)**				**1,119,505.77**
D	Contigency @ 3% of C				33,585.17
E	Tools & Plants @ 2% of C				21,319.59
F	Transportation @ 7.5% of C				83,962.93
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				26,284.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				54,028.87
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,338,686.87**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.75	44,879.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.69	11,219.93
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	15	34,522.88
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	15.00	12,540.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	15.00	4,250.10
K1	**Total Civil & Services**				**107,412.65**
K2	**Applicable Taxes to make it Landed Cost @18%**				**19,334.28**
K	**Total landed Cost (K=K1+ K2)**				**126,746.92**
L	**Total (J+K)**				**1,465,433.80**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**1,465,433.80**
O	CESS 1% of N				14,654.34
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**1,480,088.14**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				1	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	0	-
8	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
9	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
10	Earthing of Support (Coil Type)	EA	164.00	1	164.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**61,465.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**11,063.80**
A				**Total landed Cost (A=A1 + A2)**	**72,529.33**
B				Stock, Storage & Insurance i.e 3% of A	2,175.88
C				**Sub Total (A+B)**	**74,705.21**
D				Contigency @ 3% of C	2,241.16
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,351.37
F				Transportation @ 7.5% of C	5,602.89
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,252.23
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**88,905.16**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**100,070.76**
M				Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)	
N				**Sub-Total (L+M)**	**100,070.76**
O				CESS 1% of N	1,000.71
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**101,071.46**
11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				0.8	
MATERIALS FOR 11 KV Pin Points With WPB					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	2472.00	323,832.00
A1				**Total Cost of materials**	**386,441.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**69,559.43**
A				**Total landed Cost (A=A1 + A2)**	**456,000.73**
B				Stock, Storage & Insurance i.e 3% of A	13,680.02
C				**Sub Total (A+B)**	**469,680.75**
D				Contigency @ 3% of C	14,090.42
E				Tools & Plants @ 2% of C	9,393.62
F				Transportation @ 7.5% of C	35,226.06
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	39,958.86
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**571,854.31**
Civil & Services					
1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.8	8,376.00
K1				**Total Civil & Services**	**18,094.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,257.03**
K				**Total landed Cost (K=K1+ K2)**	**21,351.67**
L				**Total Material+Services (J+K)**	593,205.99
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**593,205.99**
O				CESS 1% of N	5,932.06

P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**599,138.04**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	173,279.01
2	Gross Total Material +Services (N+O) for DP With AB Switch	230,132.98
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,480,088.14
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	101,071.46
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	599,138.04
Q	**Gross Total Material +Services**	**2,583,709.63**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,584,152.13**

PART D: Installation of 05 Nos of 11 kV line protecting guarding having span 40 Mtr. (Refer PSLD)					
No. of 11 KV Line Protecting Guarding			5		
Length of 11 KV Line Protecting Guarding in Mtr.			40		
Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	GI Channel, angle & flat of different size	KG	78.00	576.235	44,946.33
2	No-10 GI wire for lacing	KG	78.00	32.75	2,554.50
3	No-8 GI wire for guard wire	KG	78.00	153.6	11,980.80
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	10	13,000.00
A1				**Total Cost of materials**	**72,481.63**
A2				**Applicable Taxes to make it Landed Cost @18%**	**13,046.69**
A				**Total landed Cost (A=A1 + A2)**	**85,528.32**
B				Stock, Storage & Insurance i.e 3% of A	2,565.85
C				**Sub Total (A+B)**	**88,094.17**
D				Contigency @ 3% of C	2,642.83
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	1,445.88
F				Transportation @ 7.5% of C	6,607.06
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				7,229.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**106,019.34**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	10	37,847.30
K1				**Total Civil & Services**	**37,847.30**
K2				Applicable Taxes to make it Landed Cost @18%	6,812.51
K				**Total landed Cost (K=K1+ K2)**	**44,659.81**
L				**Total (J+K)**	150,679.15
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**150,679.15**
O				Total CESS @ 1% of (N)	1,506.79
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**152,185.94**

PART E: Dismantling Portion					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	12	1,380.92	16,570.98
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	22	950.00	20,900.00
3	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	3300	7.00	23,100.00
4	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	3000	9.21	27,618.30
A1				**Sub Total (Civil Portion) (in Rs.)**	**88,189.28**
A2				**Applicable Taxes to make it Landed Cost @18%**	**15,874.07**
A				**Total landed Cost (A=A1+ A2)**	**104,063.35**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	104,063.35
D				**CESS @ 1% of C**	1,040.63
E				**Grand Total (C+D)**	105,103.98

ANNEXURE- 21.11		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Periphery
Name of the Section : -		CS Pur-1
Name of the Feeder: -		11kV BDA
Name of the Work :-		Proposal for Load Bifurcation of existing 11kV BDA feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Installation of 2 Nos. of RMU in BDA Feeder for linking with 11kV Gopabandhu feeder, 11kV District Center & Quality Care Feeder. (near LIC housing & Near care Hospital Main road).	87,06,252.59
2	Part-B:- 1. Augmentation of 11kV BDA feeder of length 4CKM. 2. Augmentation of Back feeding 11kV district center feeder of length-2 CKM 3. Augmentation of Back feeding 11kV Quality Care feeder of length 1.5 CKM.	1,23,65,081.10
3	Part-C Dismantling.	3,06,560.76
4	**Total Gross**	**2,13,77,894.45**
Total estimated cost is Rs. 2.14 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Installation of 2 Nos. of RMU in BDA Feeder for linking with 11kV Gopabandhu feeder, 11kV District Center & Quality Care Feeder. (near LIC housing & Near care Hospital Main road).

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***740***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	740	2,375.00	17,57,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	1	15,950.00	15,950.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	7	8,260.00	57,820.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	5	2,900.00	14,500.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	740.00	812.00	6,00,880.00
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3WAY 630A LLV WITH FRTU & AUX PT***	***EA***	***2***		
2.1	Supply of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	2	7,51,384.00	15,02,768.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**39,56,677.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	740	110.00	81,400.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	13	2,000.00	26,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	740.00	195.00	1,44,300.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	0	15,000.00	-
	Sub Total (Erection Portion) (in Rs.)				**2,75,700.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	700		
1.1.a	Earth work excavation of **soil**	M3	588	716.03	4,21,025.64
1.1.b	Earth work excavation of **hard rock**	M3	252	1,759.39	4,43,366.28
1.2	Back filling with excavated soil outside and above the trench	M3	840	220.00	1,84,800.00
1.3	Road Repair and restoration charges	KM	0.1	92,94,727.82	9,29,472.78

2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	25	1,035.17	25,879.25
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.74	10,470.00	7,747.80
	Sub Total (Civil Portion) (in Rs.)				**25,21,575.27**
A1	**Sub Total (Supply Portion)**				**39,56,677.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**7,12,201.90**
A	**Total Landed Cost (A=A1 + A2)**				**46,68,879.10**
B	Stock, Storage & Insurance @ 3 % of A				1,40,066.37
C	**Sub Total (A+B)**				**48,08,945.47**
D	Contingency @ 3 % of C				1,44,268.36
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				3,60,670.91
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**53,14,185.07**
I1	Sub Total (Erection Portion + Civil Portion)				27,97,275.27
I2	**Applicable Taxes to make it Landed Cost @18%**				**5,03,509.55**
I	**Total landed Cost (I=I1+ I2)**				**33,00,784.82**
J	**Total Cost (H+I)**				**86,14,969.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**86,14,969.89**
M	CESS 1% of L				86,149.70
N	**Grand Total (L+M)**				**87,01,119.59**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,350.00**
T	GST @ 18% on Total Inspection Fees (S)				783.00
U	Total Inspection Fees including GST (S+T)				5,133.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**87,06,252.59**

Part-B:-

1. Augmentation of 11kV BDA feeder of length 4CKM.

2. Augmentation of Back feeding 11kV district center feeder of length-2 CKM

3. Augmentation of Back feeding 11kV Quality Care feeder of length 1.5 CKM.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	10

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	673.44	52,528.32
3	Danger Plate	EA	180.00	10	1,800.00
4	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
5	11 KV pin insulator polymer	EA	140.00	40	5,600.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	40	4,400.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	60	33,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	20	4,400.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	60	9,000.00
11	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
12	H.T. Stay clamp	EA	260.00	20	5,200.00
13	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
14	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
15	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	99.96	7,397.04
A1				**Total Cost of materials**	**6,19,055.36**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,11,429.96**
A				**Total landed Cost (A=A1 + A2)**	**7,30,485.32**
B				Stock, Storage & Insurance i.e 3% of A	21,914.56
C				**Sub Total (A+B)**	**7,52,399.88**
D				Contigency @ 3% of C	22,572.00

E	Tools & Plants @ 2% of C (Except HT Stay Set)	13,620.63
F	Transportation @ 7.5% of C	56,429.99
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	33,057.10
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**8,95,602.63**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,479.96
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	10.00	8,360.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1	**Total Civil & Services**				**94,623.68**
K2	**Applicable Taxes to make it Landed Cost @18%**				**17,032.26**
K	**Total landed Cost (K=K1+ K2)**				**1,11,655.94**
L	**Total (J+K)**				**10,07,258.58**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**10,07,258.58**
O	CESS 1% of N				10,072.59
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**10,17,331.16**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		7.5		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	120	34,60,200.00
2	11 KV V cross Arm(GI)	EA	851.00	120	1,02,120.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	120	9,720.00
4	Danger Plate	EA	180.00	120	21,600.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	184.80	14,414.40
6	GI barbed wire anticlimbing device	KG	74.00	360.00	26,640.00
7	11 KV pin insulator polymer	EA	140.00	360	50,400.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	360	39,600.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	240	52,800.00
10	Earthing of Support (Coil Type)	EA	164.00	120	19,680.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	164.64	12,183.36
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	23175.00	30,35,925.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	21	9,450.00
A1	**Total Cost of materials**				**68,54,732.76**
A2	**Applicable Taxes to make it Landed Cost @18%**				**12,33,851.90**
A	**Total landed Cost (A=A1 + A2)**				**80,88,584.66**
B	Stock, Storage & Insurance i.e 3% of A				2,42,657.54
C	**Sub Total (A+B)**				**83,31,242.20**
D	Contigency @ 3% of C				2,49,937.27
E	Tools & Plants @ 2% of C				1,66,624.84
F	Transportation @ 7.5% of C				6,24,843.16
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				2,10,276.35
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,12,571.51
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**99,95,495.34**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	54.00	3,59,037.90
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	13.50	89,759.48
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	120	1,00,320.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	120	34,000.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	7.5	78,525.00
K1	**Total Civil & Services**				**6,61,643.18**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,19,095.77**
K	**Total landed Cost (K=K1+ K2)**				**7,80,738.95**
L	**Total Material+Services (J+K)**				1,07,76,234.28
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**1,07,76,234.28**
O	CESS 1% of N				1,07,762.34
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**1,08,83,996.63**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	10,17,331.16
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	1,08,83,996.63
Q	**Gross Total Material +Services**	**1,23,64,240.35**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	337.50
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**712.50**
V	GST @ 18% on Total Inspection Fees (U)	128.25
W	Total Inspection Fees including GST (U+V)	840.75
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,23,65,081.10**

Part-C Dismantling.

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
3	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	100	950.00	95,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	23175	7.00	1,62,225.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**2,57,225.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,300.50**
A				**Total landed Cost (A=A1+ A2)**	**3,03,525.50**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	3,03,525.50
D				**CESS @ 1% of C**	3,035.26
E				**Grand Total (C+D)**	3,06,560.76

ANNEXURE- 21.12		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Periphery
Name of the Section : -		CS Pur-2
Name of the Feeder: -		11kV Info Patia
Name of the Work :-		Proposal for Augmentation of existing 11kV Info patia feeder using 100mm2 XLPE Covered conductor & Load Diversion to near By feeder for mitigation of Overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Installation of 1 No. of RMU in near Sai Mandir RMU in Info Patia Feeder for linking with Royalty Sqauare feeder.	26,03,175.37
2	Part-B:-Augmentation of 11kV Info patia feeder of length 3.5CKM.	59,99,583.83
3	Part-C Dismantling.	1,46,835.72
4	**Total Gross**	**87,49,594.92**
Total estimated cost is Rs. 0.87 Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Installation of 1 No. of RMU in near Sai Mandir RMU in Info Patia Feeder for linking with Royalty Sqauare feeder.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***80***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***			
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	80	2,375.00	1,90,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA		15,950.00	-
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	80.00	812.00	64,960.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**15,60,076.60**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	80	110.00	8,800.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	0	2,970.00	-
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	80.00	195.00	15,600.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**51,400.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	64		
1.1.a	Earth work excavation of **soil**	M3	53.76	716.03	38,493.77
1.1.b	Earth work excavation of **hard rock**	M3	23.04	1,759.39	40,536.35
1.2	Back filling with excavated soil outside and above the trench	M3	76.8	220.00	16,896.00
1.3	Road Repair and restoration charges	KM		92,94,727.82	-
2	**Civil works for U/G Cable laying in Trench**				

2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	3	1,035.17	3,105.51
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.08	10,470.00	837.60
	Sub Total (Civil Portion) (in Rs.)				**3,54,510.99**
A1	**Sub Total (Supply Portion)**				**15,60,076.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**2,80,813.79**
A	**Total Landed Cost (A=A1 + A2)**				**18,40,890.39**
B	Stock, Storage & Insurance @ 3 % of A				55,226.71
C	**Sub Total (A+B)**				**18,96,117.10**
D	Contingency @ 3 % of C				56,883.51
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				1,42,208.78
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**20,95,359.56**
I1	Sub Total (Erection Portion + Civil Portion)				4,05,910.99
I2	**Applicable Taxes to make it Landed Cost @18%**				**73,063.98**
I	**Total landed Cost (I=I1+ I2)**				**4,78,974.97**
J	**Total Cost (H+I)**				**25,74,334.53**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**25,74,334.53**
M	CESS 1% of L				25,743.35
N	**Grand Total (L+M)**				**26,00,077.87**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,625.00**
T	GST @ 18% on Total Inspection Fees (S)				472.50
U	Total Inspection Fees including GST (S+T)				3,097.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**26,03,175.37**

Part-B:-Augmentation of 11kV Info patia feeder of length 3.5CKM.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				15,880.08
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**3,09,527.68**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,714.98**
A				**Total landed Cost (A=A1 + A2)**	**3,65,242.66**
B				Stock, Storage & Insurance i.e 3% of A	10,957.28
C				**Sub Total (A+B)**	**3,76,199.94**
D				Contigency @ 3% of C	11,286.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	6,810.32
F				Transportation @ 7.5% of C	28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51

H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,47,801.32**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1	**Total Civil & Services**				**47,311.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**8,516.13**
K	**Total landed Cost (K=K1+ K2)**				**55,827.97**
L	**Total (J+K)**				**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**5,03,629.29**
O	CESS 1% of N				5,036.29
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**5,08,665.58**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		3.5		
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	55	15,85,925.00
2	11 KV V cross Arm(GI)	EA	851.00	55	46,805.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	55	4,455.00
4	Danger Plate	EA	180.00	55	9,900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	84.70	6,606.60
6	GI barbed wire anticlimbing device	KG	74.00	165.00	12,210.00
7	11 KV pin insulator polymer	EA	140.00	165	23,100.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	165	18,150.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	110	24,200.00
10	Earthing of Support (Coil Type)	EA	164.00	55	9,020.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	75.46	5,584.04
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	10815.00	14,16,765.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	9	4,050.00
A1	**Total Cost of materials**				**31,66,770.64**
A2	**Applicable Taxes to make it Landed Cost @18%**				**5,70,018.72**
A	**Total landed Cost (A=A1 + A2)**				**37,36,789.36**
B	Stock, Storage & Insurance i.e 3% of A				1,12,103.68
C	**Sub Total (A+B)**				**38,48,893.04**
D	Contigency @ 3% of C				1,15,466.79
E	Tools & Plants @ 2% of C				76,977.86
F	Transportation @ 7.5% of C				2,88,666.98
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				96,376.66
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,92,135.98
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**46,18,517.31**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	24.75	1,64,559.04
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.19	41,139.76
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	55	45,980.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	55	15,583.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3.5	36,645.00
K1	**Total Civil & Services**				**3,03,907.50**
K2	**Applicable Taxes to make it Landed Cost @18%**				**54,703.35**
K	**Total landed Cost (K=K1+ K2)**				**3,58,610.85**
L	**Total Material+Services (J+K)**				49,77,128.15
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**49,77,128.15**
O	CESS 1% of N				49,771.28
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**50,26,899.43**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				50,26,899.43
Q	**Gross Total Material +Services**				**59,98,477.58**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				562.50
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**937.50**
V	GST @ 18% on Total Inspection Fees (U)				168.75
W	Total Inspection Fees including GST (U+V)				1,106.25
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**59,99,583.83**

Part-C Dismantling.

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	50	950.00	47,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	10815	7.00	75,705.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,23,205.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,176.90**
A				**Total landed Cost (A=A1+ A2)**	**1,45,381.90**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	1,45,381.90
D				**CESS @ 1% of C**	1,453.82
E				**Grand Total (C+D)**	1,46,835.72

ANNEXURE- 21.13		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-II
Name of the Sub-Division : -		Khandagiri
Name of the Section : -		Kalinga Nagar
Name of the Feeder: -		11kV Sijua
Name of the Work :-		Proposal for Augmentation of existing 11kV Sijua feeder using 100mm2 XLPE Covered conductor for mitigation of Overloading..
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:-Augmentation of 11kV Sijua feeder of length 6CKM.	93,60,971.57
2	Part-C Dismantling.	2,11,282.30
3	**Total Gross**	**95,72,253.87**
Total estimated cost is Rs. 0. 96Crore. (On TPCODL CAPEX Scheme)		

Part-A:-Augmentation of 11kV Sijua feeder of length 6CKM.

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	10

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	10	2,88,350.00
2	GI Channel, angle & flat of different size	KG	78.00	673.44	52,528.32
3	Danger Plate	EA	180.00	10	1,800.00
4	GI barbed wire anticlimbing device	KG	74.00	30	2,220.00
5	11 KV pin insulator polymer	EA	140.00	40	5,600.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	40	4,400.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	60	33,000.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	20	4,400.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	60	1,50,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	60	9,000.00
11	Earthing of Support (Coil Type)	EA	164.00	10	1,640.00
12	H.T. Stay clamp	EA	260.00	20	5,200.00
13	H.T. Stay set (Complete)	SET	1,434.00	20	28,680.00
14	H.T. Stay Insulator Type-C	EA	87.00	20	1,740.00
15	7/10 SWG Stay Wire	KG	77.00	300	23,100.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	99.96	7,397.04
A1				**Total Cost of materials**	**6,19,055.36**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,11,429.96**
A				**Total landed Cost (A=A1 + A2)**	**7,30,485.32**
B				Stock, Storage & Insurance i.e 3% of A	21,914.56
C				**Sub Total (A+B)**	**7,52,399.88**
D				Contigency @ 3% of C	22,572.00
E				Tools & Plants @ 2% of C (Except HT Stay Set)	13,620.63
F				Transportation @ 7.5% of C	56,429.99
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	17,523.03
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	33,057.10

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**8,95,602.63**
	Civil & Services				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	20	46,030.50
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.5	29,919.83
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,479.96
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	10.00	8,360.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	10.00	2,833.40
K1	**Total Civil & Services**				**94,623.68**
K2	**Applicable Taxes to make it Landed Cost @18%**				**17,032.26**
K	**Total landed Cost (K=K1+ K2)**				**1,11,655.94**
L	**Total (J+K)**				**10,07,258.58**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**10,07,258.58**
O	CESS 1% of N				10,072.59
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**10,17,331.16**
	11 Kv Line Length In KM with 40 Mtr. Span		6		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	80	23,06,800.00
2	11 KV V cross Arm(GI)	EA	851.00	80	68,080.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	80	6,480.00
4	Danger Plate	EA	180.00	80	14,400.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	123.20	9,609.60
6	GI barbed wire anticlimbing device	KG	74.00	240.00	17,760.00
7	11 KV pin insulator polymer	EA	140.00	240	33,600.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	240	26,400.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	160	35,200.00
10	Earthing of Support (Coil Type)	EA	164.00	80	13,120.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	109.76	8,122.24
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	18540.00	24,28,740.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	18	8,100.00
A1	**Total Cost of materials**				**49,76,411.84**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,95,754.13**
A	**Total landed Cost (A=A1 + A2)**				**58,72,165.97**
B	Stock, Storage & Insurance i.e 3% of A				1,76,164.98
C	**Sub Total (A+B)**				**60,48,330.95**
D	Contigency @ 3% of C				1,81,449.93
E	Tools & Plants @ 2% of C				1,20,966.62
F	Transportation @ 7.5% of C				4,53,624.82
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,40,184.24
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,24,464.62
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**72,69,021.18**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	36.00	2,39,358.60
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.00	59,839.65
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	80	66,880.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	80	22,667.20
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	6	62,820.00
K1	**Total Civil & Services**				**4,51,565.45**
K2	**Applicable Taxes to make it Landed Cost @18%**				**81,281.78**
K	**Total landed Cost (K=K1+ K2)**				**5,32,847.23**
L	**Total Material+Services (J+K)**				78,01,868.41
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**78,01,868.41**
O	CESS 1% of N				78,018.68
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**78,79,887.09**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				10,17,331.16
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				78,79,887.09
Q	**Gross Total Material +Services**				**93,60,130.82**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				337.50
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**712.50**
V	GST @ 18% on Total Inspection Fees (U)				128.25
W	Total Inspection Fees including GST (U+V)				840.75
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**93,60,971.57**

Part-C Dismantling.

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	50	950.00	47,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	18540	7.00	1,29,780.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,77,280.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,910.40**
A				**Total landed Cost (A=A1+ A2)**	**2,09,190.40**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	2,09,190.40
D				**CESS @ 1% of C**	2,091.90
E				**Grand Total (C+D)**	2,11,282.30

Annexure- 21.14		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		NED
Name of the Sub-Division : -		Nimapada
Name of the Section : -		Nimapada-1
Name of the Work :-		Proposal for Bifurcation of existing 11 KV OMFED Feeder load emanating from 33/11 KV Nimapada PSS by using 11kV RMU to mitigate overloading issue & to improve reliability.
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A- Supply and Laying of 11kV 1C, 630sqmm UG Cable of length = 0.04 KM, 3 run without spare run.	26,38,950.37
2	PART B: Construction of 11kV Feeder outgoing DP with isolator & Earth switch.	2,92,205.32
3	PART C- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.8 KM, with one run spare.	1,08,56,119.92
4	11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -AAA Conductor	8,06,775.75
5	PART E: Dismantling of Materials	7,300.49
6	**Total Gross**	**1,46,01,351.84**
Total estimated cost is Rs. 1.46 Cr.		

PART A- Supply and Laying of 11kV 1C, 630sqmm UG Cable of length = 0.04 KM, 3 run without spare run.					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 1Core, 630sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 1C, 630sqmm cable (open trench)***	***M***	***40***		
1.1	Supply of 11kV, 1Core, 630sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 59.4kA and SC rating of Armour in kA-20kA)	M	120	1,037.00	1,24,440.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits	EA	3	7,220.00	21,660.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, HT UG Cable kits	EA	3	7,390.00	22,170.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 110mm diameter, PE 80- PN8 for laying of 11kV U/G cable	M	120.00	261.00	31,320.00
2	**Supply of 11kV RMU**				
a	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***1***		
2.1	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	12,62,647.00	12,62,647.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**14,65,866.60**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 1Core, 630sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 1Core, 630sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	40	96.66	3,866.40
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 1Core, 630sqmm, aluminium UG cable kits	EA	6	2,129.37	12,776.23
1.3	Laying of **110mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	120.00	195.00	23,400.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	1	15,000.00	15,000.00
	Sub Total (Erection Portion) (in Rs.)				**55,042.63**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	6		
1.1.a	Earth work excavation of **soil**	M3	5.04	716.03	3,608.79
1.1.b	Earth work excavation of **hard rock**	M3	2.16	1,759.39	3,800.28
1.2	Back filling with excavated soil outside and above the trench	M3	7.2	220.00	1,584.00
1.3	Road Repair and restoration charges	KM	0.006	92,94,727.82	55,768.37
2	**Civil works for U/G Cable laying in Trench**				
2.1	Cable Trench with RCC Wall	RM	**10**	16,703.11	1,67,031.15
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46

6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	1	1,035.17	1,035.17
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.04	10,470.00	418.80
	Sub Total (Civil Portion) (in Rs.)				**4,87,888.32**
A1	**Sub Total (Supply Portion)**				**14,65,866.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**2,63,855.99**
A	**Total Landed Cost (A=A1 + A2)**				**17,29,722.59**
B	Stock, Storage & Insurance @ 3 % of A				51,891.68
C	**Sub Total (A+B)**				**17,81,614.27**
D	Contingency @ 3 % of C				53,448.43
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				1,33,621.07
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**19,68,833.93**
I1	Sub Total (Erection Portion + Civil Portion)				5,42,930.94
I2	**Applicable Taxes to make it Landed Cost @18%**				**97,727.57**
I	**Total landed Cost (I=I1+ I2)**				**6,40,658.51**
J	**Total Cost (H+I)**				**26,09,492.44**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**26,09,492.44**
M	CESS 1% of L				26,094.92
N	**Grand Total (L+M)**				**26,35,587.37**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				225.00
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,850.00**
T	GST @ 18% on Total Inspection Fees (S)				513.00
U	Total Inspection Fees including GST (S+T)				3,363.00
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**26,38,950.37**

PART B: Construction of 11kV Feeder outgoing DP with isolator & Earth switch.					
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				1	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	11 KV 630 Amp Motorized Isolator with Earth Switch (Based on the site requirement 48 V or 24 V Control Voltage will be provided)	SET	67,097.00	1	67,097.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,77,446.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,940.39**
A				**Total landed Cost (A=A1 + A2)**	**2,09,387.00**
B				Stock, Storage & Insurance i.e 3% of A	6,281.61
C				**Sub Total (A+B)**	**2,15,668.61**
D				Contigency @ 3% of C	6,470.06
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,964.70
F				Transportation @ 7.5% of C	16,175.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	12,814.28
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,58,597.40**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**2,88,874.07**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**2,88,874.07**
O				CESS 1% of N	2,888.74
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**2,91,762.82**
Gross Total Summary					
1				Gross Total Material +Services (N+O) for DP With AB Switch	2,91,762.82
Q				**Gross Total Material +Services**	**2,91,762.82**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,92,205.32**

PART C- Supply and Laying of 11kV 3C, 400sqmm UG Cable of length = 0.8 KM, with one run spare.

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***800***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	800	2,375.00	19,00,000.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	3	15,950.00	47,850.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	8,260.00	33,040.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	800.00	812.00	6,49,600.00
	Sub Total (Supply Portion) (in Rs.)				**26,42,090.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	800	110.00	88,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	11	2,000.00	22,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	800.00	195.00	1,56,000.00
	Sub Total (Erection Portion) (in Rs.)				**2,66,000.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	768		
1.1.a	Earth work excavation of **soil**	M3	645.12	716.03	4,61,925.27
1.1.b	Earth work excavation of **hard rock**	M3	276.48	1,759.39	4,86,436.15
1.2	Back filling with excavated soil outside and above the trench	M3	921.6	220.00	2,02,752.00
1.3	Road Repair and restoration charges	KM	0.5	92,94,727.82	46,47,363.91
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	27	1,035.17	27,949.59
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.8	10,470.00	8,376.00
	Sub Total (Civil Portion) (in Rs.)				**58,34,802.92**

A1	**Sub Total (Supply Portion)**	**26,42,090.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**4,75,576.20**
A	**Total Landed Cost (A=A1 + A2)**	**31,17,666.20**
B	Stock, Storage & Insurance @ 3 % of A	93,529.99
C	**Sub Total (A+B)**	**32,11,196.19**
D	Contingency @ 3 % of C	96,335.89
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	2,40,839.71
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**35,48,371.79**
I1	Sub Total (Erection Portion + Civil Portion)	61,00,802.92
I2	**Applicable Taxes to make it Landed Cost @18%**	**10,98,144.53**
I	**Total landed Cost (I=I1+ I2)**	**71,98,947.45**
J	**Total Cost (H+I)**	**1,07,47,319.23**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,07,47,319.23**
M	CESS 1% of L	1,07,473.19

N	**Grand Total (L+M)**	**1,08,54,792.42**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	750.00
S	Total Inspection Fees (O+P+Q+R)	**1,125.00**
T	GST @ 18% on Total Inspection Fees (S)	202.50
U	Total Inspection Fees including GST (S+T)	1,327.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,08,56,119.92**

11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -AAA Conductor					
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)		3			
MATERIALS OF DP With AB Switch					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1				**Total Cost of materials**	**3,63,964.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**65,513.67**
A				**Total landed Cost (A=A1 + A2)**	**4,29,478.51**
B				Stock, Storage & Insurance i.e 3% of A	12,884.36
C				**Sub Total (A+B)**	**4,42,362.87**
D				Contigency @ 3% of C	13,270.89
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	7,801.24
F				Transportation @ 7.5% of C	33,177.22
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,978.54
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,25,104.57**
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**76,974.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,855.43**
K				**Total landed Cost (K=K1+ K2)**	**90,830.01**
L				**Total (J+K)**	**6,15,934.58**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**6,15,934.58**
O				CESS 1% of N	6,159.35
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**6,22,093.93**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)		1			
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
12	Earthing of Support (Coil Type)	EA	164.00	1	164.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**40,679.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,322.23**
A				**Total landed Cost (A=A1 + A2)**	**48,001.27**
B				Stock, Storage & Insurance i.e 3% of A	1,440.04
C				**Sub Total (A+B)**	**49,441.31**
D				Contigency @ 3% of C	1,483.24
E				Tools & Plants @ 2% of C	917.46
F				Transportation @ 7.5% of C	3,708.10
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,082.68
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**58,385.09**
Civil & Services					

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**66,834.88**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**66,834.88**
O				CESS 1% of N	668.35
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**67,503.23**
	No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)		1		

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	10	210.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**46,235.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**8,322.40**
A				**Total landed Cost (A=A1 + A2)**	**54,557.93**
B				Stock, Storage & Insurance i.e 3% of A	1,636.74
C				**Sub Total (A+B)**	**56,194.67**
D				Contigency @ 3% of C	1,685.84
E				Tools & Plants @ 2% of C (Except HT Stay Set)	981.16
F				Transportation @ 7.5% of C	4,214.60
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,401.18
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**66,229.75**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**77,395.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**77,395.34**
O				CESS 1% of N	773.95
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**78,169.30**
	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		0.1		

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	100 sq.mm AAA conductor	M	78.41	309.00	24,228.69
A1				**Total Cost of materials**	**24,228.69**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,361.16**
A				**Total landed Cost (A=A1 + A2)**	**28,589.85**
B				Stock, Storage & Insurance i.e 3% of A	857.70
C				**Sub Total (A+B)**	**29,447.55**
D				Contigency @ 3% of C	883.43
E				Tools & Plants @ 2% of C	588.95
F				Transportation @ 7.5% of C	2,208.57
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,944.75
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**36,073.25**

Civil & Services

1	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.1	1,047.00
K1				**Total Civil & Services**	**1,047.00**
K2				**Applicable Taxes to make it Landed Cost @18%**	**188.46**

K	**Total landed Cost (K=K1+ K2)**	**1,235.46**
L	**Total Material+Services (J+K)**	37,308.71
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**37,308.71**
O	CESS 1% of N	373.09
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**37,681.80**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	6,22,093.93
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	67,503.23
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	78,169.30
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	37,681.80
Q	**Gross Total Material +Services**	**8,05,448.25**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,125.00**
V	GST @ 18% on Total Inspection Fees (U)	202.50
W	Total Inspection Fees including GST (U+V)	1,327.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**8,06,775.75**

PART E: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 09/11 Mtr. Joist/WPB Pole-116X100mm	EA	1	1,380.92	1,380.92
2	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	2	950.00	1,900.00
3	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	309	9.21	2,844.68
A1	**Sub Total (Civil Portion) (in Rs.)**				**6,125.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,102.61**
A	**Total landed Cost (A=A1+ A2)**				**7,228.21**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				7,228.21
D	**CESS @ 1% of C**				72.28
E	**Grand Total (C+D)**				7,300.49

ANNEXURE-21.15		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-		BCDD-I
Name of the Sub-Division : -		SDO-1
Name of the Section : -		Delta
Name of the Feeder: -		11kV Shatabdi Nagar
Name of the Work :-		Proposal for Bifurcation of 11kV Shatabdi Nagar Feeder for mitigation of overloading.
Names of Schemes: -		TPCODL CAPEX (FY 2027-28)
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	Part-A:- 1. Laying of 11kV UG cable of length- 0.82 CKM using 3Cx400mm2 XLPE UG cable from near Watco SS to City Womens College Chowk. 2. Installation of 2 Nos. of RMU.	1,29,58,843.37
2	Part-B:- 1. Augmentation of 11kV Unit-8 feeder of length 0.5 CKM. 2. Augmentation of 11kV Shatabdi Nagar feeder of length-4 CKM. 3. Construction of 11kV New O/H line of length 0.5 CKM for linking with 11kV Shatabdi Nagar	75,45,755.09
3	Part-C Dismantling.	2,06,360.17
4	**Total Gross**	**2,07,10,958.62**
Total estimated cost is Rs. 2.07Crore. (On TPCODL CAPEX Scheme)		

Part-A:-

1. Laying of 11kV UG cable of length- 0.82 CKM using 3Cx400mm2 XLPE UG cable from near Watco SS to City Womens College Chowk.

2. Installation of 2 Nos. of RMU.

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***600***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***220***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	820	2,375.00	19,47,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	15,950.00	31,900.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	8	8,260.00	66,080.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	6	2,900.00	17,400.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	600.00	812.00	4,87,200.00
2	**Supply of 11kV RMU**				
s	***No. of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT***	***EA***	***2***		
2.19	Supply of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	12,62,647.00	25,25,294.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	26.40	78.00	2,059.20
3.2	Pipe Earthing 40mm. GI Pipe	EA	4	1,300.00	5,200.00
	Sub Total (Supply Portion) (in Rs.)				**50,82,633.20**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	820	110.00	90,200.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	16	2,000.00	32,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	220	2,970.00	6,53,400.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	600.00	195.00	1,17,000.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.19	Erection of 11KV 4WAY RMU 630A LVVV(1I+3B)+FRTU+AUXPT	EA	2	15,000.00	30,000.00
	Sub Total (Erection Portion) (in Rs.)				**9,22,600.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	552		
1.1.a	Earth work excavation of **soil**	M3	463.68	716.03	3,32,008.79
1.1.b	Earth work excavation of **hard rock**	M3	198.72	1,759.39	3,49,625.98
1.2	Back filling with excavated soil outside and above the trench	M3	662.4	220.00	1,45,728.00
1.3	Road Repair and restoration charges	KM	0.3	92,94,727.82	27,88,418.35
2	**Civil works for U/G Cable laying in Trench**				

2.1	Cable Trench with RCC Wall	RM		16,703.11	-
2.2	Cable Trench with Brick Wall	RM		13,124.93	-
3	**RMU Civil works**				
3.1	RMU Plinth	EA	2	1,71,056.00	3,42,112.00
4	**Fencing**				
a	**GI Chain link**	EA	**2**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	36	4,167.57	1,50,032.60
4.2	Boundary wall Fencing for RMU	RM	0	11,173.88	-
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	4	3,784.73	15,138.92
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	27	1,035.17	27,949.59
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	2	1,000.00	2,000.00
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.82	10,470.00	8,585.40
	Sub Total (Civil Portion) (in Rs.)				**41,61,599.63**
A1	**Sub Total (Supply Portion)**				**50,82,633.20**
A2	**Applicable Taxes to make it Landed Cost @18%**				**9,14,873.98**
A	**Total Landed Cost (A=A1 + A2)**				**59,97,507.18**
B	Stock, Storage & Insurance @ 3 % of A				1,79,925.22
C	**Sub Total (A+B)**				**61,77,432.39**
D	Contingency @ 3 % of C				1,85,322.97
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				50.06
F	Transportation @ 7.5% of C				4,63,307.43
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				250.28
H	**Total (C+D+E+F+G)**				**68,26,363.12**
I1	Sub Total (Erection Portion + Civil Portion)				50,84,199.63
I2	**Applicable Taxes to make it Landed Cost @18%**				**9,15,155.93**
I	**Total landed Cost (I=I1+ I2)**				**59,99,355.56**
J	**Total Cost (H+I)**				**1,28,25,718.68**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**1,28,25,718.68**
M	CESS 1% of L				1,28,257.19
N	**Grand Total (L+M)**				**1,29,53,975.87**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				3,000.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**4,125.00**
T	GST @ 18% on Total Inspection Fees (S)				742.50
U	Total Inspection Fees including GST (S+T)				4,867.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**1,29,58,843.37**

Part-B:-

1. Augmentation of 11kV Unit-8 feeder of length 0.5 CKM.

2. Augmentation of 11kV Shatabdi Nagar feeder of length-4 CKM.

3. Construction of 11kV New O/H line of length 0.5 CKM for linking with 11kV Shatabdi Nagar feeder(OUAT Guest House to near PHD SS)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**
Civil & Services					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)			5		
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	179.1	13,966.68
3	Danger Plate	EA	180.00	5	900.00
4	H.T. Stay clamp	EA	260.00	5	1,300.00
5	H.T. Stay set (Complete)	SET	1,434.00	5	7,170.00
6	H.T. Stay Insulator Type-C	EA	87.00	5	435.00
7	7/10 SWG Stay Wire	KG	77.00	75	5,775.00
8	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
9	11 KV pin insulator polymer	EA	140.00	15	2,100.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
15	Earthing of Support (Coil Type)	EA	164.00	5	820.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1				**Total Cost of materials**	**2,81,300.20**
A2				**Applicable Taxes to make it Landed Cost @18%**	**50,634.04**
A				**Total landed Cost (A=A1 + A2)**	**3,31,934.24**
B				Stock, Storage & Insurance i.e 3% of A	9,958.03
C				**Sub Total (A+B)**	**3,41,892.26**
D				Contigency @ 3% of C	10,256.77

E	Tools & Plants @ 2% of C	6,481.00
F	Transportation @ 7.5% of C	25,641.92
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	14,881.99
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**4,07,915.46**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	5	11,507.63
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1	**Total Civil & Services**				**35,804.22**
K2	**Applicable Taxes to make it Landed Cost @18%**				**6,444.76**
K	**Total landed Cost (K=K1+ K2)**				**42,248.97**
L	**Total (J+K)**				**4,50,164.43**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**4,50,164.43**
O	CESS 1% of N				4,501.64
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**4,54,666.08**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	5

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	GI Channel, angle & flat of different size	KG	78.00	336.72	26,264.16
3	Danger Plate	EA	180.00	5	900.00
4	GI barbed wire anticlimbing device	KG	74.00	15	1,110.00
5	11 KV pin insulator polymer	EA	140.00	20	2,800.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	20	2,200.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	30	16,500.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	30	75,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	30	4,500.00
11	Earthing of Support (Coil Type)	EA	164.00	5	820.00
12	H.T. Stay clamp	EA	260.00	10	2,600.00
13	H.T. Stay set (Complete)	SET	1,434.00	10	14,340.00
14	H.T. Stay Insulator Type-C	EA	87.00	10	870.00
15	7/10 SWG Stay Wire	KG	77.00	150	11,550.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.98	3,698.52
A1	**Total Cost of materials**				**3,09,527.68**
A2	**Applicable Taxes to make it Landed Cost @18%**				**55,714.98**
A	**Total landed Cost (A=A1 + A2)**				**3,65,242.66**
B	Stock, Storage & Insurance i.e 3% of A				10,957.28
C	**Sub Total (A+B)**				**3,76,199.94**
D	Contigency @ 3% of C				11,286.00
E	Tools & Plants @ 2% of C (Except HT Stay Set)				6,810.32
F	Transportation @ 7.5% of C				28,215.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				8,761.51
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				16,528.55
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**4,47,801.32**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	10	23,015.25
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.3	14,959.91
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.6	3,739.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	5.00	4,180.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5.00	1,416.70
K1	**Total Civil & Services**				**47,311.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**8,516.13**
K	**Total landed Cost (K=K1+ K2)**				**55,827.97**
L	**Total (J+K)**				**5,03,629.29**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**5,03,629.29**
O	CESS 1% of N				5,036.29
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**5,08,665.58**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	58	16,72,430.00
2	11 KV V cross Arm(GI)	EA	851.00	58	49,358.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	58	4,698.00
4	Danger Plate	EA	180.00	58	10,440.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	89.32	6,966.96
6	GI barbed wire anticlimbing device	KG	74.00	174.00	12,876.00
7	11 KV pin insulator polymer	EA	140.00	174	24,360.00

8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	174	19,140.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	116	25,520.00
10	Earthing of Support (Coil Type)	EA	164.00	58	9,512.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	79.58	5,888.62
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	15450.00	20,23,950.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	15	6,750.00
A1	**Total Cost of materials**				**38,71,889.58**
A2	**Applicable Taxes to make it Landed Cost @18%**				**6,96,940.13**
A	**Total landed Cost (A=A1 + A2)**				**45,68,829.71**
B	Stock, Storage & Insurance i.e 3% of A				1,37,064.89
C	**Sub Total (A+B)**				**47,05,894.60**
D	Contigency @ 3% of C				1,41,176.84
E	Tools & Plants @ 2% of C				94,117.89
F	Transportation @ 7.5% of C				3,52,942.10
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,01,633.57
H	of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,67,322.32
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**56,63,087.31**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	26.10	1,73,534.99
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.53	43,383.75
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	58	48,488.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	58	16,433.72
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	5	52,350.00
K1	**Total Civil & Services**				**3,34,190.45**
K2	**Applicable Taxes to make it Landed Cost @18%**				**60,154.28**
K	**Total landed Cost (K=K1+ K2)**				**3,94,344.73**
L	**Total Material+Services (J+K)**				60,57,432.05
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**60,57,432.05**
O	CESS 1% of N				60,574.32
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**61,18,006.37**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				-
2	Gross Total Material +Services (N+O) for DP With AB Switch				4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				4,54,666.08
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				5,08,665.58
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				61,18,006.37
Q	**Gross Total Material +Services**				**75,44,250.59**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				900.00
T	Inspection Fee of Drawing Checking and Approval				
U	**Total Inspection Fees (R+S+T)**				**1,275.00**
V	GST @ 18% on Total Inspection Fees (U)				229.50
W	Total Inspection Fees including GST (U+V)				1,504.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**75,45,755.09**

Part-C Dismantling.

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of 11/13 Mtr. Joist/WPB Pole-150X150 mm/ 160X160 mm	EA	50	1,300.00	65,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	15450	7.00	1,08,150.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**1,73,150.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,167.00**
A				**Total landed Cost (A=A1+ A2)**	**2,04,317.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	2,04,317.00
D				**CESS @ 1% of C**	2,043.17
E				**Grand Total (C+D)**	2,06,360.17

ANNEXURE-21.16	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	BAED
Name of the Sub-Division : -	Tangi
Name of the Section : -	Kuhudi
11kV feeder name : -	11kV Chandeswar feeder
Name of the Work :-	Proposal for Bifurcation of existing 11 KV Chandeswar Feeder load emanating from 33/11 KV Kuhudi PSS by constructing 1 No. of new feeder from 33/11 KV Kuhudi PSS through 1.86 CKM 11KV new line from Kuhudi PSS to NH-16.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Construction of 1.8 CKM 11kV O/H Line with 40 Mtr. Span using 100 SQ.MM. - XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP. (Refer PSLD A-B-C)	55,56,751.44
2	PART B: Construction of 1 no. 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with 2 nos. AB Switch and LA Set (Refer PSLD point B)	4,20,967.63
3	PART C: Supply & laying of 0.06 KM 11kV 3CX400sqmm U/G Cable without spare run. (Refer PSLD point B-D)	3,77,878.80
4	**Total Gross**	**63,55,597.88**
Total estimated cost is Rs. 0.64 Cr.		

PART A: Construction of 1.8 CKM 11kV O/H Line with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor & 11 Mtr. H-Pole for Pin-Points and Cut-Points & 11 Mtr WPB Pole for DP. (Refer PSLD A-B-C)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**3,07,822.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,408.06**
A				**Total landed Cost (A=A1 + A2)**	**3,63,230.59**
B				Stock, Storage & Insurance i.e 3% of A	10,896.92
C				**Sub Total (A+B)**	**3,74,127.50**
D				Contigency @ 3% of C	11,223.83
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,864.74
F				Transportation @ 7.5% of C	28,059.56
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,296.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,44,085.50**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**5,18,620.72**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**5,18,620.72**
O				CESS 1% of N	5,186.21
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**5,23,806.93**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**1,37,342.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,721.67**

A	**Total landed Cost (A=A1 + A2)**	**1,62,064.28**
B	Stock, Storage & Insurance i.e 3% of A	4,861.93
C	**Sub Total (A+B)**	**1,66,926.21**
D	Contigency @ 3% of C	5,007.79
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,989.85
F	Transportation @ 7.5% of C	12,519.47
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	7,940.04
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,98,887.96**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**25,658.20**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,618.48**
K	**Total landed Cost (K=K1+ K2)**				**30,276.67**
L	**Total (J+K)**				**2,29,164.63**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**2,29,164.63**
O	CESS 1% of N				2,291.65
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**2,31,456.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	2	1,02,700.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**1,57,550.08**
A2	**Applicable Taxes to make it Landed Cost @18%**				**28,359.01**
A	**Total landed Cost (A=A1 + A2)**				**1,85,909.09**
B	Stock, Storage & Insurance i.e 3% of A				5,577.27
C	**Sub Total (A+B)**				**1,91,486.37**
D	Contigency @ 3% of C				5,744.59
E	Tools & Plants @ 2% of C				3,686.99
F	Transportation @ 7.5% of C				14,361.48
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				6,241.08
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,952.80
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**2,27,473.30**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**2,44,372.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**2,44,372.89**
O	CESS 1% of N				2,443.73
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**2,46,816.62**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	3	1,54,050.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**2,53,261.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**45,587.09**
A				**Total landed Cost (A=A1 + A2)**	**2,98,848.70**
B				Stock, Storage & Insurance i.e 3% of A	8,965.46
C				**Sub Total (A+B)**	**3,07,814.16**
D				Contigency @ 3% of C	9,234.42
E				Tools & Plants @ 2% of C (Except HT Stay Set)	5,728.07
F				Transportation @ 7.5% of C	23,086.06
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	9,361.62
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,917.13
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,65,141.47**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,98,638.25**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**3,98,638.25**
O				CESS 1% of N	3,986.38
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**4,02,624.63**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.8

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	11 Mtr. Long H-Pole(GI) for SP	EA	51,350.00	36	18,48,600.00
2	11 KV V cross Arm(GI)	EA	851.00	36	30,636.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	36	2,916.00
4	Danger Plate	EA	180.00	36	6,480.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	55.44	4,324.32
6	GI barbed wire anticlimbing device	KG	74.00	108.00	7,992.00
7	11 KV pin insulator polymer	EA	140.00	108	15,120.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	108	11,880.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	72	15,840.00
10	Earthing of Support (Coil Type)	EA	164.00	36	5,904.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	49.39	3,655.01
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	5562.00	7,28,622.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**26,81,969.33**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,82,754.48**
A				**Total landed Cost (A=A1 + A2)**	**31,64,723.81**
B				Stock, Storage & Insurance i.e 3% of A	94,941.71
C				**Sub Total (A+B)**	**32,59,665.52**
D				Contigency @ 3% of C	97,789.97
E				Tools & Plants @ 2% of C	65,193.31
F				Transportation @ 7.5% of C	2,44,474.91
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,12,339.42
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,01,287.71
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**38,80,750.84**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	16.20	1,07,711.37
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.05	26,927.84
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	36	30,096.00

4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	36	10,200.24
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.8	18,846.00
K1				**Total Civil & Services**	**1,93,781.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**34,880.66**
K				**Total landed Cost (K=K1+ K2)**	**2,28,662.11**
L				**Total Material+Services (J+K)**	41,09,412.96
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**41,09,412.96**
O				CESS 1% of N	41,094.13
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**41,50,507.09**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	5,23,806.93
2	Gross Total Material +Services (N+O) for DP With AB Switch	2,31,456.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	2,46,816.62
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	4,02,624.63
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	41,50,507.09
Q	**Gross Total Material +Services**	**55,55,211.54**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	180.00
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,305.00**
V	GST @ 18% on Total Inspection Fees (U)	234.90
W	Total Inspection Fees including GST (U+V)	1,539.90
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**55,56,751.44**

PART B: Construction of 1 no. 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with 2 nos. AB Switch and LA Set (Refer PSLD point B)	
No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)	1

MATERIALS OF 4 POLE

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	1041.027	81,200.11
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate, 2 no's.	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	18	2,484.00
17	100 sq.mm AAA conductor	M	78.41	30.00	2,352.30
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	36.044	2,667.26
19	POLYCARBONATE BIRD GUARD	EA	21.00	21	441.00
A1				**Total Cost of materials**	**2,59,344.66**
A2				**Applicable Taxes to make it Landed Cost @18%**	**46,682.04**
A				**Total landed Cost (A=A1 + A2)**	**3,06,026.70**
B				Stock, Storage & Insurance i.e 3% of A	9,180.80
C				**Sub Total (A+B)**	**3,15,207.50**
D				Contigency @ 3% of C	9,456.23
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	5,955.48
F				Transportation @ 7.5% of C	23,640.56
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,758.96
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,77,027.93**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**33,704.83**
K2				Applicable Taxes to make it Landed Cost @18%	6,066.87
K				**Total landed Cost (K=K1+ K2)**	**39,771.70**
L				**Total (J+K)**	**4,16,799.64**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**4,16,799.64**
O				CESS 1% of N	4,168.00
P				**Gross Total Material +Services (N+O)**	**4,20,967.63**

PART C: Supply & laying of 0.06 KM 11kV 3CX400sqmm U/G Cable without spare run. (Refer PSLD point B-D)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***60***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	60	2,375.00	1,42,500.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.3	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	60.00	812.00	48,720.00
	Sub Total (Supply Portion) (in Rs.)				**1,97,020.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	60	110.00	6,600.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
1.3	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	60.00	195.00	11,700.00
	Sub Total (Erection Portion) (in Rs.)				**22,300.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	14		
1.1.a	Earth work excavation of **soil**	M3	11.76	716.03	8,420.51
1.1.b	Earth work excavation of **hard rock**	M3	5.04	1,759.39	8,867.33
1.2	Back filling with excavated soil outside and above the trench	M3	16.8	220.00	3,696.00
1.3	Road Repair and restoration charges	KM	0.005	92,94,727.82	46,473.64
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	2	1,035.17	2,070.34
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.06	10,470.00	628.20
	Sub Total (Civil Portion) (in Rs.)				**70,156.02**

A1	**Sub Total (Supply Portion)**	**1,97,020.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**35,463.60**
A	**Total Landed Cost (A=A1 + A2)**	**2,32,483.60**
B	Stock, Storage & Insurance @ 3 % of A	6,974.51
C	**Sub Total (A+B)**	**2,39,458.11**
D	Contingency @ 3 % of C	7,183.74
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	17,959.36
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**2,64,601.21**
I1	Sub Total (Erection Portion + Civil Portion)	92,456.02
I2	**Applicable Taxes to make it Landed Cost @18%**	**16,642.08**
I	**Total landed Cost (I=I1+ I2)**	**1,09,098.10**
J	**Total Cost (H+I)**	**3,73,699.31**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**3,73,699.31**
M	CESS 1% of L	3,736.99
N	**Grand Total (L+M)**	**3,77,436.30**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	

Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**3,77,878.80**

ANNEXURE-21.17	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Division :-	KHD
Name of the Sub-Division : -	Begunia
Name of the Section : -	Rajsunakhala
11kV feeder name : -	11kV Sanapadar feeder
Name of the Work :-	Proposal for augmentation of existing 11 KV Sanapadar Feeder emanating from 33/11 KV Binodpada PSS to mitigate the overloading issue.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 9.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor over existing and new intermediate pole. (Refer PSLD point A1-B1)	1,37,82,522.67
2	PART B: Augmentation of 2.025CKM 11kV O/H Line Length using 100 SQ.MM. -XLPE AAA Covered Conductor over existing and new intermediate pole. (Refer PSLD point B1-C1 & D-E)	37,16,745.16
3	PART C: Construction of 1 no.11 KV Line Protecting Guarding on Single Pole. (Refer PSLD point D-E)	28,797.88
4	PART D: Dismantling of Materials	4,92,243.20
5	**Total Gross**	**1,80,20,308.90**
Total estimated cost is Rs. 1.80 Cr.		

PART A: Augmentation of 9.5 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor over existing and new intermediate pole. (Refer PSLD point A1-B1)					
No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)			18		
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	36	10,38,060.00
2	GI Channel, angle & flat of different size	KG	78.00	3225.042	2,51,553.28
3	Danger Plate	EA	180.00	36	6,480.00
4	H.T. Stay clamp	EA	260.00	36	9,360.00
5	H.T. Stay set (Complete)	SET	1,434.00	36	51,624.00
6	H.T. Stay Insulator Type-C	EA	87.00	36	3,132.00
7	7/10 SWG Stay Wire	KG	77.00	540	41,580.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	36	46,800.00
9	GI barbed wire anticlimbing device	KG	74.00	108	7,992.00
10	11 KV pin insulator polymer	EA	140.00	54	7,560.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	108	44,496.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	108	16,200.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	108	14,904.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	162	3,402.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	208.296	15,413.90
A1				**Total Cost of materials**	**15,58,557.18**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,80,540.29**
A				**Total landed Cost (A=A1 + A2)**	**18,39,097.47**
B				Stock, Storage & Insurance i.e 3% of A	55,172.92
C				**Sub Total (A+B)**	**18,94,270.40**
D				Contigency @ 3% of C	56,828.11
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	34,178.54
F				Transportation @ 7.5% of C	1,42,070.28
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	63,082.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				44,726.86
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**22,35,157.09**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	36	82,854.90
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	16.20	1,07,711.37
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.05	26,927.84
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	36	1,36,250.28
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	18	15,048.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	36	10,200.24
K1				**Total Civil & Services**	**3,78,992.63**
K2				**Applicable Taxes to make it Landed Cost @18%**	**68,218.67**
K				**Total landed Cost (K=K1+ K2)**	**4,47,211.31**
L				**Total (J+K)**	**26,82,368.40**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**26,82,368.40**
O				CESS 1% of N	26,823.68
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**27,09,192.08**
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)			2		
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,42,643.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**43,675.78**
A				**Total landed Cost (A=A1 + A2)**	**2,86,319.01**
B				Stock, Storage & Insurance i.e 3% of A	8,589.57
C				**Sub Total (A+B)**	**2,94,908.58**

D	Contigency @ 3% of C	8,847.26
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,200.82
F	Transportation @ 7.5% of C	22,118.14
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	11,985.69
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**3,50,069.71**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**51,316.39**
K2	**Applicable Taxes to make it Landed Cost @18%**				**9,236.95**
K	**Total landed Cost (K=K1+ K2)**				**60,553.34**
L	**Total (J+K)**				**4,10,623.05**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**4,10,623.05**
O	CESS 1% of N				4,106.23
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**4,14,729.28**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	12

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	12	3,46,020.00
2	GI Channel, angle & flat of different size	KG	78.00	429.7	33,520.03
3	Danger Plate	EA	180.00	12	2,160.00
4	H.T. Stay clamp	EA	260.00	12	3,120.00
5	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
6	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
7	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
8	GI barbed wire anticlimbing device	KG	74.00	36	2,664.00
9	11 KV pin insulator polymer	EA	140.00	36	5,040.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	72	29,664.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	72	10,800.00
12	Earthing of Support (Coil Type)	EA	164.00	12	1,968.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	72	9,936.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	108	2,268.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	119.952	8,876.45
A1	**Total Cost of materials**				**4,88,148.48**
A2	**Applicable Taxes to make it Landed Cost @18%**				**87,866.73**
A	**Total landed Cost (A=A1 + A2)**				**5,76,015.21**
B	Stock, Storage & Insurance i.e 3% of A				17,280.46
C	**Sub Total (A+B)**				**5,93,295.66**
D	Contigency @ 3% of C				17,798.87
E	Tools & Plants @ 2% of C				11,009.49
F	Transportation @ 7.5% of C				44,497.17
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				21,027.64
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				12,992.20
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**7,00,621.03**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	5.40	35,903.79
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	12.00	10,032.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	12.00	3,400.08
K1	**Total Civil & Services**				**85,930.12**
K2	**Applicable Taxes to make it Landed Cost @18%**				**15,467.42**
K	**Total landed Cost (K=K1+ K2)**				**1,01,397.54**
L	**Total (J+K)**				**8,02,018.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**8,02,018.57**
O	CESS 1% of N				8,020.19
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**8,10,038.76**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	14

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	14	4,03,690.00

2	GI Channel, angle & flat of different size	KG	78.00	942.816	73,539.65
3	Danger Plate	EA	180.00	14	2,520.00
4	GI barbed wire anticlimbing device	KG	74.00	42	3,108.00
5	11 KV pin insulator polymer	EA	140.00	56	7,840.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	84	34,608.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	84	12,600.00
8	Earthing of Support (Coil Type)	EA	164.00	14	2,296.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	84	11,592.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	140	2,940.00
11	H.T. Stay clamp	EA	260.00	28	7,280.00
12	H.T. Stay set (Complete)	SET	1,434.00	28	40,152.00
13	H.T. Stay Insulator Type-C	EA	87.00	28	2,436.00
14	7/10 SWG Stay Wire	KG	77.00	420	32,340.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	139.944	10,355.86
A1				**Total Cost of materials**	**6,47,297.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,16,513.55**
A				**Total landed Cost (A=A1 + A2)**	**7,63,811.05**
B				Stock, Storage & Insurance i.e 3% of A	22,914.33
C				**Sub Total (A+B)**	**7,86,725.39**
D				Contigency @ 3% of C	23,601.76
E				Tools & Plants @ 2% of C (Except HT Stay Set)	13,736.20
F				Transportation @ 7.5% of C	59,004.40
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				24,532.24
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				19,616.50
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**9,27,216.48**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	28	64,442.70
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.3	41,887.76
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.6	10,471.94
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	14.00	11,704.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	14.00	3,966.76
K1				**Total Civil & Services**	**1,32,473.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,845.17**
K				**Total landed Cost (K=K1+ K2)**	**1,56,318.32**
L				**Total (J+K)**	**10,83,534.81**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**10,83,534.81**
O				CESS 1% of N	10,835.35
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**10,94,370.15**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	9.5

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	102	29,41,170.00
2	11 KV V cross Arm(GI)	EA	851.00	102	86,802.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	102	8,262.00
4	Danger Plate	EA	180.00	102	18,360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	157.08	12,252.24
6	GI barbed wire anticlimbing device	KG	74.00	306.00	22,644.00
7	11 KV pin insulator polymer	EA	140.00	306	42,840.00
8	Earthing of Support (Coil Type)	EA	164.00	102	16,728.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	139.94	10,355.86
10	100 sq.mm AAA conductor	M	78.41	29355.00	23,01,725.55
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	0	-
12	POLYCARBONATE BIRD GUARD	EA	21.00	306	6,426.00
A1				**Total Cost of materials**	**54,67,565.65**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,84,161.82**
A				**Total landed Cost (A=A1 + A2)**	**64,51,727.46**
B				Stock, Storage & Insurance i.e 3% of A	1,93,551.82
C				**Sub Total (A+B)**	**66,45,279.29**
D				Contigency @ 3% of C	1,99,358.38
E				Tools & Plants @ 2% of C	1,32,905.59
F				Transportation @ 7.5% of C	4,98,395.95
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,78,734.90
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,07,058.13
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**79,61,732.22**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	45.90	3,05,182.22
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.48	76,295.55
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	102	85,272.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	102	28,900.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	9.5	99,465.00
K1				**Total Civil & Services**	**5,95,115.45**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,07,120.78**
K				**Total landed Cost (K=K1+ K2)**	**7,02,236.23**

L	**Total Material+Services (J+K)**	86,63,968.45
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**86,63,968.45**
O	CESS 1% of N	86,639.68
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**87,50,608.14**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	27,09,192.08
2	Gross Total Material +Services (N+O) for DP With AB Switch	4,14,729.28
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	8,10,038.76
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	10,94,370.15
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	87,50,608.14
Q	**Gross Total Material +Services**	**1,37,78,938.42**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	1,912.50
T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**3,037.50**
V	GST @ 18% on Total Inspection Fees (U)	546.75
W	Total Inspection Fees including GST (U+V)	3,584.25
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**1,37,82,522.67**

PART B: Augmentation of 2.025CKM 11kV O/H Line Length using 100 SQ.MM. -XLPE AAA Covered Conductor over existing and new intermediate pole. (Refer PSLD point B1-C1 & D-E)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**3,07,822.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,408.06**
A				**Total landed Cost (A=A1 + A2)**	**3,63,230.59**
B				Stock, Storage & Insurance i.e 3% of A	10,896.92
C				**Sub Total (A+B)**	**3,74,127.50**
D				Contigency @ 3% of C	11,223.83
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,864.74
F				Transportation @ 7.5% of C	28,059.56
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,296.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,44,085.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**5,18,620.72**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**5,18,620.72**
O				CESS 1% of N	5,186.21
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**5,23,806.93**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	-
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**1,59,345.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**28,682.14**

A	**Total landed Cost (A=A1 + A2)**	**1,88,027.37**
B	Stock, Storage & Insurance i.e 3% of A	5,640.82
C	**Sub Total (A+B)**	**1,93,668.19**
D	Contigency @ 3% of C	5,810.05
E	Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,176.02
F	Transportation @ 7.5% of C	14,525.11
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**2,33,059.45**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**51,316.39**
K2	**Applicable Taxes to make it Landed Cost @18%**				**9,236.95**
K	**Total landed Cost (K=K1+ K2)**				**60,553.34**
L	**Total (J+K)**				**2,93,612.79**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N	**Sub-Total (L+M)**				**2,93,612.79**
O	CESS 1% of N				2,936.13
P	**Gross Total Material +Services (N+O) for DP With AB Switch**				**2,96,548.92**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
1	WPB (GI) Pole 160x152 - 13 Mtr. long for SP	EA	33,970.00	2	67,940.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1	**Total Cost of materials**				**1,79,050.12**
A2	**Applicable Taxes to make it Landed Cost @18%**				**32,229.02**
A	**Total landed Cost (A=A1 + A2)**				**2,11,279.14**
B	Stock, Storage & Insurance i.e 3% of A				6,338.37
C	**Sub Total (A+B)**				**2,17,617.52**
D	Contigency @ 3% of C				6,528.53
E	Tools & Plants @ 2% of C				4,138.25
F	Transportation @ 7.5% of C				16,321.31
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				17,186.62
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**2,63,544.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.1	7,313.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1	**Total Civil & Services**				**22,812.30**
K2	**Applicable Taxes to make it Landed Cost @18%**				**4,106.21**
K	**Total landed Cost (K=K1+ K2)**				**26,918.51**
L	**Total (J+K)**				**2,90,463.04**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**2,90,463.04**
O	CESS 1% of N				2,904.63
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**2,93,367.67**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
11	Earthing of Support (Coil Type)	EA	164.00	3	492.00
12	H.T. Stay clamp	EA	260.00	6	1,560.00
13	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
14	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
15	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,85,716.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**33,428.99**
A				**Total landed Cost (A=A1 + A2)**	**2,19,145.60**
B				Stock, Storage & Insurance i.e 3% of A	6,574.37
C				**Sub Total (A+B)**	**2,25,719.97**
D				Contigency @ 3% of C	6,771.60
E				Tools & Plants @ 2% of C (Except HT Stay Set)	4,086.19
F				Transportation @ 7.5% of C	16,929.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				9,917.13
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,68,680.79**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**3,02,177.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**3,02,177.57**
O				CESS 1% of N	3,021.78
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**3,05,199.35**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)		2.025			

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	20	5,76,700.00
2	11 KV V cross Arm(GI)	EA	851.00	20	17,020.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	20	1,620.00
4	Danger Plate	EA	180.00	20	3,600.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	30.80	2,402.40
6	GI barbed wire anticlimbing device	KG	74.00	60.00	4,440.00
7	11 KV pin insulator polymer	EA	140.00	60	8,400.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	60	6,600.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	40	8,800.00
10	Earthing of Support (Coil Type)	EA	164.00	20	3,280.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	27.44	2,030.56
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6257.25	8,19,699.75
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**14,57,292.71**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,62,312.69**
A				**Total landed Cost (A=A1 + A2)**	**17,19,605.40**
B				Stock, Storage & Insurance i.e 3% of A	51,588.16
C				**Sub Total (A+B)**	**17,71,193.56**
D				Contigency @ 3% of C	53,135.81
E				Tools & Plants @ 2% of C	35,423.87
F				Transportation @ 7.5% of C	1,32,839.52
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				35,046.06
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,07,027.24
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**21,34,666.05**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.00	59,839.65
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	20	16,720.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	20	5,666.80
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.025	21,201.75

K1	**Total Civil & Services**	**1,18,388.11**
K2	**Applicable Taxes to make it Landed Cost @18%**	**21,309.86**
K	**Total landed Cost (K=K1+ K2)**	**1,39,697.97**
L	**Total Material+Services (J+K)**	22,74,364.02
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N	**Sub-Total (L+M)**	**22,74,364.02**
O	CESS 1% of N	22,743.64
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**22,97,107.66**
	Gross Total Summary	
1	Gross Total Material +Services (N+O) for DP Without AB Switch	5,23,806.93
2	Gross Total Material +Services (N+O) for DP With AB Switch	2,96,548.92
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	2,93,367.67
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	3,05,199.35
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	22,97,107.66
Q	**Gross Total Material +Services**	**37,16,030.52**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	230.63
T	Inspection Fee of Drawing Checking and Approval	-
U	**Total Inspection Fees (R+S+T)**	**605.63**
V	GST @ 18% on Total Inspection Fees (U)	109.01
W	Total Inspection Fees including GST (U+V)	714.64
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**37,16,745.16**

PART C: Construction of 1 no.11 KV Line Protecting Guarding on Single Pole. (Refer PSLD point D-E)

No. of 11 KV Line Protecting Guarding	1
Length of 11 KV Line Protecting Guarding in Mtr.	25

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	115.247	8,989.27
2	No-10 GI wire for lacing	KG	78.00	4.09375	319.31
3	No-8 GI wire for guard wire	KG	78.00	19.2	1,497.60
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1				**Total Cost of materials**	**13,406.18**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,413.11**
A				**Total landed Cost (A=A1 + A2)**	**15,819.29**
B				Stock, Storage & Insurance i.e 3% of A	474.58
C				**Sub Total (A+B)**	**16,293.87**
D				Contigency @ 3% of C	488.82
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	262.68
F				Transportation @ 7.5% of C	1,222.04
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,313.38
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**19,580.79**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1				**Total Civil & Services**	**7,569.46**
K2				Applicable Taxes to make it Landed Cost @18%	1,362.50
K				**Total landed Cost (K=K1+ K2)**	**8,931.96**
L				**Total (J+K)**	28,512.75
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**28,512.75**
O				Total CESS @ 1% of (N)	285.13
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**28,797.88**

PART D: Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	180	950.00	1,71,000.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	34575	7.00	2,42,025.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**4,13,025.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**74,344.50**
A	**Total landed Cost (A=A1+ A2)**				**4,87,369.50**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				4,87,369.50
D	**CESS @ 1% of C**				4,873.70
E	**Grand Total (C+D)**				4,92,243.20

ANNEXURE-21.18

TP CENTRAL ODISHA DISTRIBUTION LIMITED

Name of the Division :-	NYED
Name of the Sub-Division :-	Itamati
Name of the Section : -	Itamati
Name of the Work :-	Proposal for augmentation of existing 11 KV Itamati Feeder emanating from 33/11 KV Itamati PSS to mitigate the overloading issue.
Names of Schemes: -	**CAPEX 27-28**

Abstract of Estimate

Sl. No.	Description	Gross
1	PART A: Augmentation of 3 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.	24,26,204.22
2	PART B: Augmentation of 1 CKM 11kV O/H Line using 100 SQ.MM. -XLPE AAA Covered Conductor.	10,10,769.98
3	Standard BoQ and Estimate for Dismantling of Materials	61,377.70
4	**Total Gross**	**34,98,351.90**

Total estimated cost is Rs. 0.35 Cr.

PART A: Augmentation of 3 CKM 11kV O/H Line using 100 SQ.MM. -AAA Conductor.					
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				3	
MATERIALS OF DP With AB Switch					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	966.075	75,353.85
3	DMC Insulator for LA (70/10)	EA	113.50	24	2,724.00
4	Danger Plate	EA	180.00	6	1,080.00
5	H.T. Stay clamp	EA	260.00	12	3,120.00
6	H.T. Stay set (Complete)	SET	1,434.00	12	17,208.00
7	H.T. Stay Insulator Type-C	EA	87.00	12	1,044.00
8	7/10 SWG Stay Wire	KG	77.00	180	13,860.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
10	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	3	32,916.00
13	11 KV pin insulator polymer	EA	140.00	9	1,260.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	33.108	2,449.99
A1				**Total Cost of materials**	**3,63,964.84**
A2				**Applicable Taxes to make it Landed Cost @18%**	**65,513.67**
A				**Total landed Cost (A=A1 + A2)**	**4,29,478.51**
B				Stock, Storage & Insurance i.e 3% of A	12,884.36
C				**Sub Total (A+B)**	**4,42,362.87**
D				Contigency @ 3% of C	13,270.89
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	7,801.24
F				Transportation @ 7.5% of C	33,177.22
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	17,978.54
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**5,25,104.57**
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	12	27,618.30
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6.00	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6.00	1,700.04
K1				**Total Civil & Services**	**76,974.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,855.43**
K				**Total landed Cost (K=K1+ K2)**	**90,830.01**
L				**Total (J+K)**	**6,15,934.58**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**6,15,934.58**
O				CESS 1% of N	6,159.35
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**6,22,093.93**
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)				2	
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**81,358.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**14,644.45**
A				**Total landed Cost (A=A1 + A2)**	**96,002.53**
B				Stock, Storage & Insurance i.e 3% of A	2,880.08
C				**Sub Total (A+B)**	**98,882.61**
D				Contigency @ 3% of C	2,966.48

E	Tools & Plants @ 2% of C	1,834.92
F	Transportation @ 7.5% of C	7,416.20
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,165.37
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,16,770.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**1,33,669.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**1,33,669.76**
O	CESS 1% of N				1,336.70
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**1,35,006.46**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	10	210.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**46,235.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,322.40**
A	**Total landed Cost (A=A1 + A2)**				**54,557.93**
B	Stock, Storage & Insurance i.e 3% of A				1,636.74
C	**Sub Total (A+B)**				**56,194.67**
D	Contigency @ 3% of C				1,685.84
E	Tools & Plants @ 2% of C (Except HT Stay Set)				981.16
F	Transportation @ 7.5% of C				4,214.60
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,401.18
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**66,229.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**77,395.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**77,395.34**
O	CESS 1% of N				773.95
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**78,169.30**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	3

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	9	2,59,515.00
2	11 KV V cross Arm(GI)	EA	851.00	9	7,659.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	9	729.00

4	Danger Plate	EA	180.00	9	1,620.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	13.86	1,081.08
6	GI barbed wire anticlimbing device	KG	74.00	27.00	1,998.00
7	11 KV pin insulator polymer	EA	140.00	27	3,780.00
8	Earthing of Support (Coil Type)	EA	164.00	9	1,476.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	12.35	913.75
10	100 sq.mm AAA conductor	M	78.41	9270.00	7,26,860.70
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	9	1,577.25
12	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**10,07,776.78**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,81,399.82**
A				**Total landed Cost (A=A1 + A2)**	**11,89,176.60**
B				Stock, Storage & Insurance i.e 3% of A	35,675.30
C				**Sub Total (A+B)**	**12,24,851.90**
D				Contigency @ 3% of C	36,745.56
E				Tools & Plants @ 2% of C	24,497.04
F				Transportation @ 7.5% of C	91,863.89
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	15,770.73
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				90,943.74
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**14,84,672.85**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.05	26,927.84
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.01	6,731.96
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	9	7,524.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	9	2,550.06
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**75,143.86**
K2				**Applicable Taxes to make it Landed Cost @18%**	**13,525.90**
K				**Total landed Cost (K=K1+ K2)**	**88,669.76**
L				**Total Material+Services (J+K)**	15,73,342.61
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**15,73,342.61**
O				CESS 1% of N	15,733.43
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**15,89,076.04**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP With AB Switch	6,22,093.93
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,35,006.46
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	78,169.30
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	15,89,076.04
Q				**Gross Total Material +Services**	**24,24,345.72**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	450.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,575.00**
V				GST @ 18% on Total Inspection Fees (U)	283.50
W				Total Inspection Fees including GST (U+V)	1,858.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**24,26,204.22**

PART B: Augmentation of 1 CKM 11kV O/H Line using 100 SQ.MM. -XLPE AAA Covered Conductor.					
No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)				2	
MATERIALS FOR 11 KV Cut Point with 180 Degree Angle					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,952.80
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,63,166.18**
Civil & Services					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,80,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,80,065.77**
O				CESS 1% of N	1,800.66
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**1,81,866.43**
No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)				1	
MATERIALS FOR 11 KV Cut Point with 90 Degree Angle					
Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**61,905.54**
A2				**Applicable Taxes to make it Landed Cost @18%**	**11,143.00**
A				**Total landed Cost (A=A1 + A2)**	**73,048.53**
B				Stock, Storage & Insurance i.e 3% of A	2,191.46
C				**Sub Total (A+B)**	**75,239.99**
D				Contigency @ 3% of C	2,257.20
E				Tools & Plants @ 2% of C (Except HT Stay Set)	1,362.06
F				Transportation @ 7.5% of C	5,643.00

G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	3,305.71
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**89,560.26**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**9,462.37**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,703.23**
K				**Total landed Cost (K=K1+ K2)**	**11,165.59**
L				**Total (J+K)**	**1,00,725.86**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**1,00,725.86**
O				CESS 1% of N	1,007.26
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**1,01,733.12**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1	

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	11 KV V cross Arm(GI)	EA	851.00	2	1,702.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	2	162.00
4	Danger Plate	EA	180.00	2	360.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	3.08	240.24
6	GI barbed wire anticlimbing device	KG	74.00	6.00	444.00
7	11 KV pin insulator polymer	EA	140.00	6	840.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
10	Earthing of Support (Coil Type)	EA	164.00	2	328.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	2.74	203.06
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	4,04,790.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**4,69,629.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**84,533.27**
A				**Total landed Cost (A=A1 + A2)**	**5,54,162.57**
B				Stock, Storage & Insurance i.e 3% of A	16,624.88
C				**Sub Total (A+B)**	**5,70,787.45**
D				Contigency @ 3% of C	17,123.62
E				Tools & Plants @ 2% of C	11,415.75
F				Transportation @ 7.5% of C	42,809.06
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				50,069.53
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**6,95,710.02**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**20,188.64**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,633.95**
K				**Total landed Cost (K=K1+ K2)**	**23,822.59**
L				**Total Material+Services (J+K)**	7,19,532.61
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**7,19,532.61**
O				CESS 1% of N	7,195.33
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**7,26,727.93**

Gross Total Summary

1	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,81,866.43
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	1,01,733.12
3	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	7,26,727.93
Q	**Gross Total Material +Services**	**10,10,327.48**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	-
T	Inspection Fee of Drawing Checking and Approval	-
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**10,10,769.98**

Standard BoQ and Estimate for Dismantling of Materials					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	10	950.00	9,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	6000	7.00	42,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**51,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,270.00**
A				**Total landed Cost (A=A1+ A2)**	**60,770.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	60,770.00
D				**CESS @ 1% of C**	607.70
E				**Grand Total (C+D)**	61,377.70

ANNEXURE-21.19		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	NIALI	
Name of the Section : -	NIALI	
Name of the Work :-	Proposal for augmentation/refurbishment of 4.5 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor along with construction of 0.16 CKM 11 kV line for N-1 connectivity between 11 kV Bilasuni(Tola) & Kaliaghai Fdr to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: 1. Augmentation of 1.1 CKM 11 kV line using 100 Sq.mm. AAA Conductor (Poles is not required) (Refer PSLD A-E) 2. Augmentation of 3.4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD E-B) 3. Construction of 0.16 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole for N-1 connectivity between 11 kV Tola & Kaliaghai FDR (Refer PSLD C-D)	4,643,603.23
2	Part B: Dismantling	112,625.10
	Total Amount	**4,756,228.33**
	Total Amount (In Cr.)	**0.48**
Total estimated cost is Rs. 0.48 Crore. (On TPCODL Capex Scheme)		

PART A:

1. Augmentation of 1.1 CKM 11 kV line using 100 Sq.mm. AAA Conductor (Poles is not required) (Refer PSLD A-E)

2. Augmentation of 3.4 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor (Refer PSLD E-B)

3. Construction of 0.16 CKM 11 kV O/H line using 100 Sq.mm. AAAC & 11 Mtr. WPB Pole for N-1 connectivity between 11 kV Tola & Kaliaghai FDR (Refer PSLD C-D)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
12	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**173,173.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**31,171.14**
A				**Total landed Cost (A=A1 + A2)**	**204,344.16**
B				Stock, Storage & Insurance i.e 3% of A	6,130.32
C				**Sub Total (A+B)**	**210,474.49**
D				Contigency @ 3% of C	6,314.23
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	3,797.62
F				Transportation @ 7.5% of C	15,785.59
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,969.65
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**248,350.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**298,040.93**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**298,040.93**
O				CESS 1% of N	2,980.41
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**301,021.34**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00

17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**121,321.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**
A				**Total landed Cost (A=A1 + A2)**	**143,159.50**
B				Stock, Storage & Insurance i.e 3% of A	4,294.79
C				**Sub Total (A+B)**	**147,454.29**
D				Contigency @ 3% of C	4,423.63
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F				Transportation @ 7.5% of C	11,059.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				5,992.85
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**175,034.86**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**205,311.53**
M	Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)				
N				**Sub-Total (L+M)**	**205,311.53**
O				CESS 1% of N	2,053.12
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**207,364.64**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
12	Earthing of Support (Coil Type)	EA	164.00	3	492.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	68	9,384.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**128,937.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**23,208.68**
A				**Total landed Cost (A=A1 + A2)**	**152,145.80**
B				Stock, Storage & Insurance i.e 3% of A	4,564.37
C				**Sub Total (A+B)**	**156,710.18**
D				Contigency @ 3% of C	4,701.31
E				Tools & Plants @ 2% of C	2,920.10
F				Transportation @ 7.5% of C	11,753.26
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,086.68
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**185,428.43**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**21,482.53**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,866.86**
K				**Total landed Cost (K=K1+ K2)**	**25,349.38**
L				**Total (J+K)**	**210,777.81**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**210,777.81**

O					CESS 1% of N	2,107.78
P					**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**212,885.59**

No. of Cut Point with 90 Degree Angle ***(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)***	3

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	202.032	15,758.50
3	Danger Plate	EA	180.00	3	540.00
4	GI barbed wire anticlimbing device	KG	74.00	9	666.00
5	11 KV pin insulator polymer	EA	140.00	12	1,680.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	18	7,416.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
8	Earthing of Support (Coil Type)	EA	164.00	3	492.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	18	2,484.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	30	630.00
11	H.T. Stay clamp	EA	260.00	6	1,560.00
12	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
13	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
14	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**138,706.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**24,967.19**
A				**Total landed Cost (A=A1 + A2)**	**163,673.80**
B				Stock, Storage & Insurance i.e 3% of A	4,910.21
C				**Sub Total (A+B)**	**168,584.01**
D				Contigency @ 3% of C	5,057.52
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,943.47
F				Transportation @ 7.5% of C	12,643.80
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				5,256.91
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				4,203.53
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**198,689.25**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.4	8,975.95
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.3	2,243.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1				**Total Civil & Services**	**28,387.10**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,109.68**
K				**Total landed Cost (K=K1+ K2)**	**33,496.78**
L				**Total (J+K)**	**232,186.03**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**232,186.03**
O				CESS 1% of N	2,321.86
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**234,507.89**

11 Kv Line Length In KM with 40 Mtr. Span ***(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)***	4.66

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	38	1,095,730.00
2	11 KV V cross Arm(GI)	EA	851.00	38	32,338.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	38	3,078.00
4	Danger Plate	EA	180.00	38	6,840.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	58.52	4,564.56
6	GI barbed wire anticlimbing device	KG	74.00	114.00	8,436.00
7	11 KV pin insulator polymer	EA	140.00	114	15,960.00
8	Earthing of Support (Coil Type)	EA	164.00	38	6,232.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	52.14	3,858.06
10	100 sq.mm AAA conductor	M	78.41	14399.40	1,129,056.95
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	12	2,103.00
12	POLYCARBONATE BIRD GUARD	EA	21.00	114	2,394.00
A1				**Total Cost of materials**	**2,310,590.58**
A2				**Applicable Taxes to make it Landed Cost @18%**	**415,906.30**
A				**Total landed Cost (A=A1 + A2)**	**2,726,496.88**
B				Stock, Storage & Insurance i.e 3% of A	81,794.91
C				**Sub Total (A+B)**	**2,808,291.79**
D				Contigency @ 3% of C	84,248.75
E				Tools & Plants @ 2% of C	56,165.84
F				Transportation @ 7.5% of C	210,621.88
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				66,587.51

H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				147,654.15
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**3,373,569.93**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	17.10	113,695.34
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	4.28	28,423.83
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	38	31,768.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	38	10,766.92
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4.66	48,790.20
K1	**Total Civil & Services**				**233,444.29**
K2	**Applicable Taxes to make it Landed Cost @18%**				**42,019.97**
K	**Total landed Cost (K=K1+ K2)**				**275,464.26**
L	**Total Material+Services (J+K)**				3,649,034.19
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N	**Sub-Total (L+M)**				**3,649,034.19**
O	CESS 1% of N				36,490.34
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**3,685,524.53**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				301,021.34
2	Gross Total Material +Services (N+O) for DP With AB Switch				207,364.64
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				212,885.59
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				234,507.89
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				3,685,524.53
Q	**Gross Total Material +Services**				**4,641,304.00**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				823.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U	**Total Inspection Fees (R+S+T)**				**1,948.50**
V	GST @ 18% on Total Inspection Fees (U)				350.73
W	Total Inspection Fees including GST (U+V)				2,299.23
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**4,643,603.23**

Part B: Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	13500	7.00	94,500.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**94,500.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**17,010.00**
A				**Total landed Cost (A=A1+ A2)**	**111,510.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	111,510.00
D				**CESS @ 1% of C**	1,115.10
E				**Grand Total (C+D)**	112,625.10

ANNEXURE-21.20		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	AED	
Name of the Sub-Division : -	ATHAGARH	
Name of the Section : -	KHUNTUNI	
Name of the Work :-	Proposal for augmentation/refurbishment of 3 CKM O/H line using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole along with conversion of O/H to 0.25 CKM U/G in college premises to mitigate overloading issue of 11 kV Megha feeder.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Construction New Line of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)	4,117,330.70
2	Part B: Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 250 MTR Without Spare . (Refer Proposed SLD point B-C)	1,855,988.20
3	Part C: Dismantling	86,405.50
	Total Amount	**6,059,724.41**
	Total Amount (In Cr.)	**0.61**
Total estimated cost is Rs. 0.61 Crore. (On TPCODL Capex Scheme)		

PART A: Construction New Line of 3 CKM 11 kV O/H line using 11 Mtr. WPB Pole & 100 Sq.mm. XLPE AAAC (Refer PSLD C-D)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**274,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**324,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**333,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**397,775.92**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**458,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**458,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**462,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41

A1	**Total Cost of materials**	**112,520.08**
A2	**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A	**Total landed Cost (A=A1 + A2)**	**132,773.69**
B	Stock, Storage & Insurance i.e 3% of A	3,983.21
C	**Sub Total (A+B)**	**136,756.91**
D	Contigency @ 3% of C	4,102.71
E	Tools & Plants @ 2% of C	2,592.40
F	Transportation @ 7.5% of C	10,256.77
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,952.80
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**163,166.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**180,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**180,065.77**
O	CESS 1% of N				1,800.66
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**181,866.43**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**123,811.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,285.99**
A	**Total landed Cost (A=A1 + A2)**				**146,097.06**
B	Stock, Storage & Insurance i.e 3% of A				4,382.91
C	**Sub Total (A+B)**				**150,479.98**
D	Contigency @ 3% of C				4,514.40
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,724.13
F	Transportation @ 7.5% of C				11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**179,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**201,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**201,451.72**
O	CESS 1% of N				2,014.52

P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**203,466.23**
	11 Kv Line Length In KM with 40 Mtr. Span				
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			3	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	27	778,545.00
2	11 KV V cross Arm(GI)	EA	851.00	27	22,977.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	27	2,187.00
4	Danger Plate	EA	180.00	27	4,860.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	41.58	3,243.24
6	GI barbed wire anticlimbing device	KG	74.00	81.00	5,994.00
7	11 KV pin insulator polymer	EA	140.00	81	11,340.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	81	8,910.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	54	11,880.00
10	Earthing of Support (Coil Type)	EA	164.00	27	4,428.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	37.04	2,741.26
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	9270.00	1,214,370.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	9	4,050.00
A1				**Total Cost of materials**	**2,075,525.50**
A2				**Applicable Taxes to make it Landed Cost @18%**	**373,594.59**
A				**Total landed Cost (A=A1 + A2)**	**2,449,120.09**
B				Stock, Storage & Insurance i.e 3% of A	73,473.60
C				**Sub Total (A+B)**	**2,522,593.69**
D				Contigency @ 3% of C	75,677.81
E				Tools & Plants @ 2% of C	50,451.87
F				Transportation @ 7.5% of C	189,194.53
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				47,312.18
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				157,635.01
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,042,865.09**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	12.15	80,783.53
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.04	20,195.88
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	27	22,572.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	27	7,650.18
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3	31,410.00
K1				**Total Civil & Services**	**162,611.59**
K2				**Applicable Taxes to make it Landed Cost @18%**	**29,270.09**
K				**Total landed Cost (K=K1+ K2)**	**191,881.68**
L				**Total Material+Services (J+K)**	3,234,746.76
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**3,234,746.76**
O				CESS 1% of N	32,347.47
P	**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**				**3,267,094.23**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP With AB Switch				462,912.56
2	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				181,866.43
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				203,466.23
4	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				3,267,094.23
Q				**Gross Total Material +Services**	**4,115,339.45**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				562.50
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,687.50**
V	GST @ 18% on Total Inspection Fees (U)				303.75
W	Total Inspection Fees including GST (U+V)				1,991.25
X	**Gross Total Material, Services and Inspection Fees (Q+W)**				**4,117,330.70**

Part B: Supply and Laying of 11KV 3CX400 Sqmm XLPE U/G Cable with line length of 250 MTR Without Spare . (Refer Proposed SLD point B-C)

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***	***150***		
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***100***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	250	2,375.00	593,750.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	150.00	812.00	121,800.00
	Sub Total (Supply Portion) (in Rs.)				**721,350.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	250	110.00	27,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	100	2,970.00	297,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	150.00	195.00	29,250.00
	Sub Total (Erection Portion) (in Rs.)				**357,750.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
1.1	Earth work excavation of soil (1mtr. width X 1.2mtr. depth)-Route Length	M	59		
1.1.a	Earth work excavation of **soil**	M3	49.56	716.03	35,486.45
1.1.b	Earth work excavation of **hard rock**	M3	21.24	1,759.39	37,369.44
1.2	Back filling with excavated soil outside and above the trench	M3	70.8	220.00	15,576.00
1.3	Road Repair and restoration charges	KM	0.03	9,294,727.82	278,841.83
2	**Civil works for U/G Cable laying in Trench**				
3	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	8	1,035.17	8,281.36
4	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.25	10,470.00	2,617.50
	Sub Total (Civil Portion) (in Rs.)				**378,172.59**

A1	**Sub Total (Supply Portion)**	**721,350.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**129,843.00**
A	**Total Landed Cost (A=A1 + A2)**	**851,193.00**
B	Stock, Storage & Insurance @ 3 % of A	25,535.79
C	**Sub Total (A+B)**	**876,728.79**
D	Contingency @ 3 % of C	26,301.86
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	65,754.66
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**968,785.31**

I1	Sub Total (Erection Portion + Civil Portion)	735,922.59
I2	**Applicable Taxes to make it Landed Cost @18%**	**132,466.07**
I	**Total landed Cost (I=I1+ I2)**	**868,388.65**
J	**Total Cost (H+I)**	**1,837,173.96**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**1,837,173.96**
M	CESS 1% of L	18,371.74
N	**Grand Total (L+M)**	**1,855,545.70**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**1,855,988.20**

Part C: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of 9/8 Mtr. PCC/Joist Pole	EA	10	950.00	9,500.00
2	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	9000	7.00	63,000.00
A1	**Sub Total (Civil Portion) (in Rs.)**				**72,500.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**13,050.00**
A	**Total landed Cost (A=A1+ A2)**				**85,550.00**
B	**Other Overhead /(including Supervision Charges) @ 6 % of B**				
C	**Gross Total Estimated Cost i.e. (A+B)**				85,550.00
D	**CESS @ 1% of C**				855.50
E	**Grand Total (C+D)**				86,405.50

ANNEXURE-21.21		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	SALEPUR	
Name of the Section : -	SALEPUR	
Name of the Work :-	Proposal for augmentation of of 4 CKM O/H line of 11 kV Naiguan Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole (interposing) to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD A-B)	3,817,379.50
2	PART B: Installation of 8 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	226,011.50
3	Part C: Dismantling	107,998.89
	Total Amount	**4,151,389.89**
	Total Amount (In Cr.)	**0.42**
Total estimated cost is Rs. 0.42 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 4 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD A-B)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**111,640.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,095.21**
A				**Total landed Cost (A=A1 + A2)**	**131,735.29**
B				Stock, Storage & Insurance i.e 3% of A	3,952.06

C	**Sub Total (A+B)**	**135,687.35**
D	Contigency @ 3% of C	4,070.62
E	Tools & Plants @ 2% of C	2,571.01
F	Transportation @ 7.5% of C	10,176.55
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,845.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**161,855.98**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**178,755.57**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**178,755.57**
O	CESS 1% of N				1,787.56
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**180,543.13**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**122,931.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,127.59**
A	**Total landed Cost (A=A1 + A2)**				**145,058.66**
B	Stock, Storage & Insurance i.e 3% of A				4,351.76
C	**Sub Total (A+B)**				**149,410.42**
D	Contigency @ 3% of C				4,482.31
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,702.74
F	Transportation @ 7.5% of C				11,205.78
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,504.46
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**177,810.33**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**200,141.51**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**200,141.51**
O	CESS 1% of N				2,001.42
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**202,142.93**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	4

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	15	432,525.00
2	11 KV V cross Arm(GI)	EA	851.00	15	12,765.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	15	1,215.00
4	Danger Plate	EA	180.00	15	2,700.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	23.10	1,801.80
6	GI barbed wire anticlimbing device	KG	74.00	45.00	3,330.00
7	11 KV pin insulator polymer	EA	140.00	45	6,300.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	45	4,950.00
10	Earthing of Support (Coil Type)	EA	164.00	15	2,460.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	20.58	1,522.92
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	12360.00	1,619,160.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	12	5,400.00
A1				**Total Cost of materials**	**2,094,129.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**376,943.35**
A				**Total landed Cost (A=A1 + A2)**	**2,471,073.07**
B				Stock, Storage & Insurance i.e 3% of A	74,132.19
C				**Sub Total (A+B)**	**2,545,205.26**
D				Contigency @ 3% of C	76,356.16
E				Tools & Plants @ 2% of C	50,904.11
F				Transportation @ 7.5% of C	190,890.39
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				26,284.54
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				201,951.44
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**3,091,591.90**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.75	44,879.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.69	11,219.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	15	12,540.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	15	4,250.10
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	4	41,880.00
K1				**Total Civil & Services**	**114,769.77**
K2				**Applicable Taxes to make it Landed Cost @18%**	**20,658.56**
K				**Total landed Cost (K=K1+ K2)**	**135,428.33**
L				**Total Material+Services (J+K)**	3,227,020.23
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**3,227,020.23**
O				CESS 1% of N	32,270.20
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**3,259,290.43**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	173,279.01
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	180,543.13
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	202,142.93
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	3,259,290.43
Q				**Gross Total Material +Services**	**3,815,255.50**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	675.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,800.00**
V				GST @ 18% on Total Inspection Fees (U)	324.00
W				Total Inspection Fees including GST (U+V)	2,124.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**3,817,379.50**

PART B: Installation of 8 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)

No. of 11 KV Line Protecting Guarding	8
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	921.976	71,914.13
2	No-10 GI wire for lacing	KG	78.00	26.2	2,043.60
3	No-8 GI wire for guard wire	KG	78.00	122.88	9,584.64
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	16	20,800.00
A1				**Total Cost of materials**	**104,342.37**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,781.63**
A				**Total landed Cost (A=A1 + A2)**	**123,123.99**
B				Stock, Storage & Insurance i.e 3% of A	3,693.72
C				**Sub Total (A+B)**	**126,817.71**
D				Contigency @ 3% of C	3,804.53
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	2,030.75
F				Transportation @ 7.5% of C	9,511.33
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				10,153.74
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**152,318.06**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	16	60,555.68
K1				**Total Civil & Services**	**60,555.68**
K2				Applicable Taxes to make it Landed Cost @18%	10,900.02
K				**Total landed Cost (K=K1+ K2)**	**71,455.70**
L				**Total (J+K)**	223,773.76
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**223,773.76**
O				Total CESS @ 1% of (N)	2,237.74
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**226,011.50**

Part C: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	9000	7.00	63,000.00
2	Dismantling of ACSR/AAAC 80/100 mm2 from overhead line	M	3000	9.21	27,618.30
A1				**Sub Total (Civil Portion) (in Rs.)**	**90,618.30**
A2				**Applicable Taxes to make it Landed Cost @18%**	**16,311.29**
A				**Total landed Cost (A=A1+ A2)**	**106,929.59**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	106,929.59
D				**CESS @ 1% of C**	1,069.30
E				**Grand Total (C+D)**	107,998.89

ANNEXURE-21.22		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	GOPALPUR	
Name of the Section : -	ADASPUR	
Name of the Work :-	Proposal for augmentation/refurbishment of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAA Conductor to mitigate overloading issue of 11 kV Sundargram feeder.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD A-B,C-D,G-F)	2,670,962.73
2	PART B: Installation 1 Nos of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with 4 Nos of AB Switch.	523,973.29
3	PART C: Construction 1 No of Protecting Guarding on Double Pole for Road Crossing (Refer PSLD)	32,271.30
4	Part D: Dismantling	65,072.28
	Total Amount	**3,292,279.59**
	Total Amount (In Cr.)	**0.33**
Total estimated cost is Rs. 0.33 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 2.6 CKM 11 kV O/H line using 11 Mtr. WPB Pole (interposing) & 100 Sq.mm. AAAC (Refer PSLD A-B,C-D,G-F)

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	1

MATERIALS OF DP With AB Switch

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	322.025	25,117.95
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
10	GI barbed wire anticlimbing device	KG	74.00	6	444.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	3	5,880.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	1	10,972.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
17	POLYCARBONATE BIRD GUARD	EA	21.00	9	189.00
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.036	816.66
A1				**Total Cost of materials**	**121,321.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**21,837.89**
A				**Total landed Cost (A=A1 + A2)**	**143,159.50**
B				Stock, Storage & Insurance i.e 3% of A	4,294.79
C				**Sub Total (A+B)**	**147,454.29**
D				Contigency @ 3% of C	4,423.63
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,600.41
F				Transportation @ 7.5% of C	11,059.07
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,992.85
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**175,034.86**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2.00	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**25,658.20**
K2				**Applicable Taxes to make it Landed Cost @18%**	**4,618.48**
K				**Total landed Cost (K=K1+ K2)**	**30,276.67**
L				**Total (J+K)**	**205,311.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**205,311.53**
O				CESS 1% of N	2,053.12
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**207,364.64**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	12	4,944.00
11	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
12	Earthing of Support (Coil Type)	EA	164.00	2	328.00
13	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	12	1,656.00
14	POLYCARBONATE BIRD GUARD	EA	21.00	18	378.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41

A1	**Total Cost of materials**	**81,358.08**
A2	**Applicable Taxes to make it Landed Cost @18%**	**14,644.45**
A	**Total landed Cost (A=A1 + A2)**	**96,002.53**
B	Stock, Storage & Insurance i.e 3% of A	2,880.08
C	**Sub Total (A+B)**	**98,882.61**
D	Contigency @ 3% of C	2,966.48
E	Tools & Plants @ 2% of C	1,834.92
F	Transportation @ 7.5% of C	7,416.20
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,165.37
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**116,770.17**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**133,669.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**133,669.76**
O	CESS 1% of N				1,336.70
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**135,006.46**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	6	2,472.00
7	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
8	Earthing of Support (Coil Type)	EA	164.00	1	164.00
9	WEDGE CONNECTOR FOR 100 SQMM.CONDUCTOR	EA	138.00	6	828.00
10	POLYCARBONATE BIRD GUARD	EA	21.00	10	210.00
11	H.T. Stay clamp	EA	260.00	2	520.00
12	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
13	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
14	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
15	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**46,235.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**8,322.40**
A	**Total landed Cost (A=A1 + A2)**				**54,557.93**
B	Stock, Storage & Insurance i.e 3% of A				1,636.74
C	**Sub Total (A+B)**				**56,194.67**
D	Contigency @ 3% of C				1,685.84
E	Tools & Plants @ 2% of C (Except HT Stay Set)				981.16
F	Transportation @ 7.5% of C				4,214.60
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,401.18
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**66,229.75**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**77,395.34**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**77,395.34**
O	CESS 1% of N				773.95
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**78,169.30**

	11 Kv Line Length In KM with 40 Mtr. Span		2.6		
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	25	720,875.00
2	11 KV V cross Arm(GI)	EA	851.00	25	21,275.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	25	2,025.00
4	Danger Plate	EA	180.00	25	4,500.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	38.50	3,003.00
6	GI barbed wire anticlimbing device	KG	74.00	75.00	5,550.00
7	11 KV pin insulator polymer	EA	140.00	75	10,500.00
8	Earthing of Support (Coil Type)	EA	164.00	25	4,100.00
9	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.30	2,538.20
10	100 sq.mm AAA conductor	M	78.41	8034.00	629,945.94
11	Crimping type Midspan Compression Joint for 100 sq.mm AAA conductor	EA	175.25	6	1,051.50
12	POLYCARBONATE BIRD GUARD	EA	21.00	75	1,575.00
A1				**Total Cost of materials**	**1,406,938.64**
A2				**Applicable Taxes to make it Landed Cost @18%**	**253,248.96**
A				**Total landed Cost (A=A1 + A2)**	**1,660,187.60**
B				Stock, Storage & Insurance i.e 3% of A	49,805.63
C				**Sub Total (A+B)**	**1,709,993.22**
D				Contigency @ 3% of C	51,299.80
E				Tools & Plants @ 2% of C	34,199.86
F				Transportation @ 7.5% of C	128,249.49
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				43,807.57
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				83,384.17
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,050,934.12**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	11.25	74,799.56
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.81	18,699.89
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	25	20,900.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	25	7,083.50
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2.6	27,222.00
K1				**Total Civil & Services**	**148,704.95**
K2				**Applicable Taxes to make it Landed Cost @18%**	**26,766.89**
K				**Total landed Cost (K=K1+ K2)**	**175,471.84**
L				**Total Material+Services (J+K)**	2,226,405.97
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**2,226,405.97**
O				CESS 1% of N	22,264.06
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**2,248,670.03**
	Gross Total Summary				
2	Gross Total Material +Services (N+O) for DP With AB Switch				207,364.64
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				135,006.46
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				78,169.30
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				2,248,670.03
Q				**Gross Total Material +Services**	**2,669,210.43**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				360.00
T	Inspection Fee of Drawing Checking and Approval				750.00
U				**Total Inspection Fees (R+S+T)**	**1,485.00**
V	GST @ 18% on Total Inspection Fees (U)				267.30
W	Total Inspection Fees including GST (U+V)				1,752.30
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,670,962.73**

PART B: Installation 1 Nos of 11 KV 4 Pole using WPB GI Pole 160x152 (11Mtr. Long) with 4 Nos of AB Switch.

No. of 4 Pole with AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8055)	1

MATERIALS OF 4 POLE

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for 4-Pole	EA	28,835.00	4	115,340.00
2	GI Channel, angle & flat of different size	KG	78.00	1241.027	96,800.11
3	DMC Insulator for LA (70/10)	EA	113.50	8	908.00
4	Danger Plate, 2 no's.	EA	180.00	2	360.00
5	H.T. Stay clamp	EA	260.00	4	1,040.00
6	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
7	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
8	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	5	6,500.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	9	17,640.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	3	420.00
14	H W fitting(B&S) 70KN, 3Bolt	EA	412.00	24	9,888.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
16	WEDGE CONNECTOR FOR 100 SQ MM CONDUCTOR.	EA	138.00	24	3,312.00
17	100 sq.mm AAA conductor	M	78.41	60.00	4,704.60
18	GI Nut , Bolt & Washer of different sizes	KG	74.00	36.044	2,667.26
19	POLYCARBONATE BIRD GUARD	EA	21.00	27	567.00
A1				**Total Cost of materials**	**319,226.96**
A2				**Applicable Taxes to make it Landed Cost @18%**	**57,460.85**
A				**Total landed Cost (A=A1 + A2)**	**376,687.82**
B				Stock, Storage & Insurance i.e 3% of A	11,300.63
C				**Sub Total (A+B)**	**387,988.45**
D				Contigency @ 3% of C	11,639.65
E				Tools & Plants @ 2% of C (Except GI Pipe earthing/HT Stay)	7,316.29
F				Transportation @ 7.5% of C	29,099.13
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	22,563.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**465,615.79**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	5	18,923.65
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**45,059.02**
K2				Applicable Taxes to make it Landed Cost @18%	8,110.62
K				**Total landed Cost (K=K1+ K2)**	**53,169.65**
L				**Total (J+K)**	**518,785.43**
M				Other overheads (Including 6% supervision charges) of L (for 4P With AB Switch)	
N				**Sub Total (L+M)**	**518,785.43**
O				CESS 1% of N	5,187.85
P				**Gross Total Material +Services (N+O)**	**523,973.29**

PART C: Construction 1 No of Protecting Guarding on Double Pole for Road Crossing (Refer PSLD)

No. of 11 KV Line Protecting Guarding	1
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road CrossingRef. Drawing No.- PD-1346-TPCODL-COM-LINE-8041)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	149.519	11,662.48
2	No-10 GI wire for lacing	KG	78.00	3.275	255.45
3	No-8 GI wire for guard wire	KG	78.00	15.36	1,198.08
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1				**Total Cost of materials**	**15,716.01**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,828.88**
A				**Total landed Cost (A=A1 + A2)**	**18,544.89**
B				Stock, Storage & Insurance i.e 3% of A	556.35
C				**Sub Total (A+B)**	**19,101.24**
D				Contigency @ 3% of C	573.04
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	318.82
F				Transportation @ 7.5% of C	1,432.59
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,594.12
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**23,019.82**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1				**Total Civil & Services**	**7,569.46**
K2				Applicable Taxes to make it Landed Cost @18%	1,362.50
K				**Total landed Cost (K=K1+ K2)**	**8,931.96**
L				**Total (J+K)**	31,951.78
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**31,951.78**
O				Total CESS @ 1% of (N)	319.52
P				**Gross Total Material +Services (N+O) for 11 KV DP With Road crossing Guarding**	**32,271.30**

Part D: Dismantling

SL.No	Description	Unit	Quantity	Rate	Amount
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	7800	7.00	54,600.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**54,600.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**9,828.00**
A				**Total landed Cost (A=A1+ A2)**	**64,428.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	64,428.00
D				**CESS @ 1% of C**	644.28
E				**Grand Total (C+D)**	65,072.28

ANNEXURE-21.23		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	CED	
Name of the Sub-Division : -	Adaspur	
Name of the Section : -	Niali	
Name of the Work :-	Proposal for augmentation of of 2 CKM O/H line of 11 kV adaspur Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)	2,736,752.08
2	PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	56,502.88
3	Part C: Dismantling	50,055.60
	Total Amount	**2,843,310.55**
	Total Amount (In Cr.)	**0.28**
Total estimated cost is Rs. 0.28 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**55,820.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,047.61**
A				**Total landed Cost (A=A1 + A2)**	**65,867.65**
B				Stock, Storage & Insurance i.e 3% of A	1,976.03
C				**Sub Total (A+B)**	**67,843.68**

D	Contigency @ 3% of C	2,035.31
E	Tools & Plants @ 2% of C	1,285.51
F	Transportation @ 7.5% of C	5,088.28
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**80,927.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**89,377.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**89,377.79**
O	CESS 1% of N				893.78
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,271.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**61,465.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,063.80**
A	**Total landed Cost (A=A1 + A2)**				**72,529.33**
B	Stock, Storage & Insurance i.e 3% of A				2,175.88
C	**Sub Total (A+B)**				**74,705.21**
D	Contigency @ 3% of C				2,241.16
E	Tools & Plants @ 2% of C (Except HT Stay Set)				1,351.37
F	Transportation @ 7.5% of C				5,602.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**88,905.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**100,070.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**100,070.76**
O	CESS 1% of N				1,000.71
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**101,071.46**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	22	634,370.00
2	11 KV V cross Arm(GI)	EA	851.00	22	18,722.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	22	1,782.00
4	Danger Plate	EA	180.00	22	3,960.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	33.88	2,642.64
6	GI barbed wire anticlimbing device	KG	74.00	66.00	4,884.00
7	11 KV pin insulator polymer	EA	140.00	66	9,240.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	66	7,260.00
10	Earthing of Support (Coil Type)	EA	164.00	22	3,608.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	30.18	2,233.62
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6180.00	809,580.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**1,500,982.26**
A2				**Applicable Taxes to make it Landed Cost @18%**	**270,176.81**
A				**Total landed Cost (A=A1 + A2)**	**1,771,159.06**
B				Stock, Storage & Insurance i.e 3% of A	53,134.77
C				**Sub Total (A+B)**	**1,824,293.83**
D				Contigency @ 3% of C	54,728.82
E				Tools & Plants @ 2% of C	36,485.88
F				Transportation @ 7.5% of C	136,822.04
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				38,550.66
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				105,328.05
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,196,209.28**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.90	65,823.62
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.48	16,455.90
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	22	18,392.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	22	6,233.48
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1				**Total Civil & Services**	**127,845.00**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,012.10**
K				**Total landed Cost (K=K1+ K2)**	**150,857.10**
L				**Total Material+Services (J+K)**	2,347,066.38
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**2,347,066.38**
O				CESS 1% of N	23,470.66
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**2,370,537.04**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	173,279.01
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,271.56
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	101,071.46
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	2,370,537.04
Q				**Gross Total Material +Services**	**2,735,159.08**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	225.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,350.00**
V				GST @ 18% on Total Inspection Fees (U)	243.00
W				Total Inspection Fees including GST (U+V)	1,593.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,736,752.08**

PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**26,085.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,695.41**
A				**Total landed Cost (A=A1 + A2)**	**30,781.00**
B				Stock, Storage & Insurance i.e 3% of A	923.43
C				**Sub Total (A+B)**	**31,704.43**
D				Contigency @ 3% of C	951.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	507.69
F				Transportation @ 7.5% of C	2,377.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,538.43
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**38,079.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	55,943.44
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**55,943.44**
O				Total CESS @ 1% of (N)	559.43
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**56,502.88**

Part C: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	6000	7.00	42,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**42,000.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,560.00**
A				**Total landed Cost (A=A1+ A2)**	**49,560.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	49,560.00
D				**CESS @ 1% of C**	495.60
E				**Grand Total (C+D)**	50,055.60

ANNEXURE-21.24		
TP CENTRAL ODISHA DISTRIBUTION LIMITED		
Name of the Division :-	SED	
Name of the Sub-Division : -	Mahanga	
Name of the Section : -	Mahanga	
Name of the Work :-	Proposal for augmentation of of 2 CKM O/H line of 11 kV Mahanga Fdr. using 100 Sq.mm XLPE AAA Conductor & 11 Mtr. WPB Pole to mitigate overloading issue.	
Names of Schemes: -	**TPCODL CAPEX (FY 27-28)**	
Abstract of Estimate		
Sl. No.	**Description**	**Gross**
1	PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)	2,736,752.08
2	PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)	56,502.88
3	Part C: Dismantling	50,055.60
	Total Amount	**2,843,310.55**
	Total Amount (In Cr.)	**0.28**
Total estimated cost is Rs. 0.28 Crore. (On TPCODL Capex Scheme)		

PART A: Augmentation of 2 CKM 11 kV O/H line using 11 Mtr. WPB Pole(interposing) using 100 Sq.mm. XLPE AAAC (Refer PSLD)

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**101,727.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,310.95**
A				**Total landed Cost (A=A1 + A2)**	**120,038.46**
B				Stock, Storage & Insurance i.e 3% of A	3,601.15
C				**Sub Total (A+B)**	**123,639.62**
D				Contigency @ 3% of C	3,709.19
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,266.85
F				Transportation @ 7.5% of C	9,272.97
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,325.06
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**146,718.30**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**171,563.37**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**171,563.37**
O				CESS 1% of N	1,715.63
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**173,279.01**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**55,820.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,047.61**
A				**Total landed Cost (A=A1 + A2)**	**65,867.65**
B				Stock, Storage & Insurance i.e 3% of A	1,976.03
C				**Sub Total (A+B)**	**67,843.68**

D	Contigency @ 3% of C	2,035.31
E	Tools & Plants @ 2% of C	1,285.51
F	Transportation @ 7.5% of C	5,088.28
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,922.92
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**80,927.99**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**7,160.84**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,288.95**
K	**Total landed Cost (K=K1+ K2)**				**8,449.79**
L	**Total (J+K)**				**89,377.79**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**89,377.79**
O	CESS 1% of N				893.78
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**90,271.56**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	1

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	67.344	5,252.83
3	Danger Plate	EA	180.00	1	180.00
4	GI barbed wire anticlimbing device	KG	74.00	3	222.00
5	11 KV pin insulator polymer	EA	140.00	4	560.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	4	440.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
11	Earthing of Support (Coil Type)	EA	164.00	1	164.00
12	H.T. Stay clamp	EA	260.00	2	520.00
13	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
14	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
15	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1	**Total Cost of materials**				**61,465.54**
A2	**Applicable Taxes to make it Landed Cost @18%**				**11,063.80**
A	**Total landed Cost (A=A1 + A2)**				**72,529.33**
B	Stock, Storage & Insurance i.e 3% of A				2,175.88
C	**Sub Total (A+B)**				**74,705.21**
D	Contigency @ 3% of C				2,241.16
E	Tools & Plants @ 2% of C (Except HT Stay Set)				1,351.37
F	Transportation @ 7.5% of C				5,602.89
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				3,252.23
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**88,905.16**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.1	748.00
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1	**Total Civil & Services**				**9,462.37**
K2	**Applicable Taxes to make it Landed Cost @18%**				**1,703.23**
K	**Total landed Cost (K=K1+ K2)**				**11,165.59**
L	**Total (J+K)**				**100,070.76**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**100,070.76**
O	CESS 1% of N				1,000.71
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**101,071.46**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	2

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	22	634,370.00
2	11 KV V cross Arm(GI)	EA	851.00	22	18,722.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	22	1,782.00
4	Danger Plate	EA	180.00	22	3,960.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	33.88	2,642.64
6	GI barbed wire anticlimbing device	KG	74.00	66.00	4,884.00
7	11 KV pin insulator polymer	EA	140.00	66	9,240.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	66	7,260.00
10	Earthing of Support (Coil Type)	EA	164.00	22	3,608.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	30.18	2,233.62
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	6180.00	809,580.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	6	2,700.00
A1				**Total Cost of materials**	**1,500,982.26**
A2				**Applicable Taxes to make it Landed Cost @18%**	**270,176.81**
A				**Total landed Cost (A=A1 + A2)**	**1,771,159.06**
B				Stock, Storage & Insurance i.e 3% of A	53,134.77
C				**Sub Total (A+B)**	**1,824,293.83**
D				Contigency @ 3% of C	54,728.82
E				Tools & Plants @ 2% of C	36,485.88
F				Transportation @ 7.5% of C	136,822.04
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				38,550.66
H	f C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				105,328.05
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**2,196,209.28**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.90	65,823.62
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.48	16,455.90
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	22	18,392.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	22	6,233.48
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	2	20,940.00
K1				**Total Civil & Services**	**127,845.00**
K2				**Applicable Taxes to make it Landed Cost @18%**	**23,012.10**
K				**Total landed Cost (K=K1+ K2)**	**150,857.10**
L				**Total Material+Services (J+K)**	2,347,066.38
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**2,347,066.38**
O				CESS 1% of N	23,470.66
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**2,370,537.04**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	173,279.01
2				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,271.56
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	101,071.46
4				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	2,370,537.04
Q				**Gross Total Material +Services**	**2,735,159.08**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	225.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,350.00**
V				GST @ 18% on Total Inspection Fees (U)	243.00
W				Total Inspection Fees including GST (U+V)	1,593.00
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**2,736,752.08**

PART B: Installation of 02 Nos of 11 kV line protecting guarding on Single Pole for Road Crossing having span 20 Mtr. each(Refer PSLD)

No. of 11 KV Line Protecting Guarding	2
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	230.494	17,978.53
2	No-10 GI wire for lacing	KG	78.00	6.55	510.90
3	No-8 GI wire for guard wire	KG	78.00	30.72	2,396.16
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
A1				**Total Cost of materials**	**26,085.59**
A2				**Applicable Taxes to make it Landed Cost @18%**	**4,695.41**
A				**Total landed Cost (A=A1 + A2)**	**30,781.00**
B				Stock, Storage & Insurance i.e 3% of A	923.43
C				**Sub Total (A+B)**	**31,704.43**
D				Contigency @ 3% of C	951.13
E				Tools & Plants @ 2% of C (Except GI Pipe earthing)	507.69
F				Transportation @ 7.5% of C	2,377.83
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,538.43
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**38,079.52**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
K1				**Total Civil & Services**	**15,138.92**
K2				Applicable Taxes to make it Landed Cost @18%	2,725.01
K				**Total landed Cost (K=K1+ K2)**	**17,863.93**
L				**Total (J+K)**	55,943.44
M				Other overheads (Including 6% supervision charges) of L	
N				**Sub Total (L+M)**	**55,943.44**
O				Total CESS @ 1% of (N)	559.43
P				**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**	**56,502.88**

Part C: Dismantling					
SL.No	**Description**	**Unit**	**Quantity**	**Rate**	**Amount**
1	Dismantling of ACSR/AAAC 34/ 55mm2 from overhead line	M	6000	7.00	42,000.00
A1				**Sub Total (Civil Portion) (in Rs.)**	**42,000.00**
A2				**Applicable Taxes to make it Landed Cost @18%**	**7,560.00**
A				**Total landed Cost (A=A1+ A2)**	**49,560.00**
B				**Other Overhead /(including Supervision Charges) @ 6 % of B**	
C				**Gross Total Estimated Cost i.e. (A+B)**	49,560.00
D				**CESS @ 1% of C**	495.60
E				**Grand Total (C+D)**	50,055.60

Annexure-21.25			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**DED**		
Name of the Work :-	***Overloading Migation of 11kV Hindol feeder by linking of 11kV Kurumitha Feeder*** Construction of New Linking from Mahidharpur Petrol Pump 25kVA to Madhia Munda 25kVA. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1. Link line 11KV OH 100sqmm XLPE - 1.4ckm 2 . 1Nos DP with Isolator 2 nos		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.4ckm	₹ 32,86,675.86
		Total Amount	**₹ 32,86,675.86**
		Total Amount (In Cr)	**₹ 0.33**

Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.4ckm

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00

9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20
F				Transportation @ 7.5% of C	5,128.38
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				1,752.30
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				2,976.40
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**81,583.09**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**90,032.89**
O				CESS 1% of N	900.33
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**90,933.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,23,811.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A				**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B				Stock, Storage & Insurance i.e 3% of A	4,382.91
C				**Sub Total (A+B)**	**1,50,479.98**
D				Contigency @ 3% of C	4,514.40
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F				Transportation @ 7.5% of C	11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,01,451.72**
O				CESS 1% of N	2,014.52
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,03,466.23**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.4

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	32	9,22,720.00
2	11 KV V cross Arm(GI)	EA	851.00	32	27,232.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	32	2,592.00
4	Danger Plate	EA	180.00	32	5,760.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	49.28	3,843.84
6	GI barbed wire anticlimbing device	KG	74.00	96.00	7,104.00
7	11 KV pin insulator polymer	EA	140.00	96	13,440.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	96	10,560.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	64	14,080.00
10	Earthing of Support (Coil Type)	EA	164.00	32	5,248.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	43.90	3,248.90
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	4326.00	5,66,706.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**15,83,884.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,85,099.25**
A				**Total landed Cost (A=A1 + A2)**	**18,68,983.99**
B				Stock, Storage & Insurance i.e 3% of A	56,069.52
C				**Sub Total (A+B)**	**19,25,053.51**
D				Contigency @ 3% of C	57,751.61
E				Tools & Plants @ 2% of C	38,501.07
F				Transportation @ 7.5% of C	1,44,379.01
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				56,073.69
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				80,357.96
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**23,02,116.85**

Civil & Services

1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	14.40	95,743.44
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	32	26,752.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	32	9,066.88
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.4	14,658.00
K1				**Total Civil & Services**	**1,70,156.18**
K2				**Applicable Taxes to make it Landed Cost @18%**	**30,628.11**
K				**Total landed Cost (K=K1+ K2)**	**2,00,784.29**
L				**Total Material+Services (J+K)**	25,02,901.15
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**25,02,901.15**
O				CESS 1% of N	25,029.01
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**25,27,930.16**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,933.22
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	25,27,930.16
Q	**Gross Total Material +Services**	**32,85,242.16**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	90.00

T	Inspection Fee of Drawing Checking and Approval	750.00
U	**Total Inspection Fees (R+S+T)**	**1,215.00**
V	GST @ 18% on Total Inspection Fees (U)	218.70
W	Total Inspection Fees including GST (U+V)	1,433.70
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**32,86,675.86**

ANNEXURE-21.26	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Circle :-	**Dhenkanal**
Name of the Division :-	**DED**
Name of the Work :-	***Overloading Mitigation of 11kV Gudiyanali feeder by linking of 11kV Sasan Feeder*** Construction of New Linking from 11kV Gudiyanali feeder by linking of 11kV sasan Feeder. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.
Scope of work:-	Proposal Details 1. 11KV OH Line 100sqmm XLPE - 0.350ckm 2 . 1Nos DP with Isolator 1 nos 3. 3C400 11kV UG cable - 340mtr without spare 4. 3-Way RMU - 1nos
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***

ABSTRACT OF ESTIMATE

Sl. No.	Part	Description	Amount
1	A	Part-A Augemntation fo 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. - XLPE AAA Covered Conductor 0.35ckm	₹ 14,09,443.92
2	B	Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.34ckm	₹ 38,15,555.91
		Total Amount	**₹ 52,24,999.83**
		Total Amount (In Cr)	**₹ 0.52**

Part-A Augemntation fo 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor 0.35ckm					
No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)				1	
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				2	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00

11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	1

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	1	28,835.00
2	GI Channel, angle & flat of different size	KG	78.00	35.8	2,793.34
3	Danger Plate	EA	180.00	1	180.00
4	H.T. Stay clamp	EA	260.00	1	260.00
5	H.T. Stay set (Complete)	SET	1,434.00	1	1,434.00
6	H.T. Stay Insulator Type-C	EA	87.00	1	87.00
7	7/10 SWG Stay Wire	KG	77.00	15	1,155.00
8	GI barbed wire anticlimbing device	KG	74.00	3	222.00
9	11 KV pin insulator polymer	EA	140.00	3	420.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	2	440.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
15	Earthing of Support (Coil Type)	EA	164.00	1	164.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	9.996	739.70
A1				**Total Cost of materials**	**56,260.04**
A2				**Applicable Taxes to make it Landed Cost @18%**	**10,126.81**
A				**Total landed Cost (A=A1 + A2)**	**66,386.85**
B				Stock, Storage & Insurance i.e 3% of A	1,991.61
C				**Sub Total (A+B)**	**68,378.45**
D				Contigency @ 3% of C	2,051.35
E				Tools & Plants @ 2% of C	1,296.20
F				Transportation @ 7.5% of C	5,128.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,752.30
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	2,976.40
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**81,583.09**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.11	748.00
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	1	2,301.53
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	1.00	836.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	1.00	283.34
K1				**Total Civil & Services**	**7,160.84**
K2				**Applicable Taxes to make it Landed Cost @18%**	**1,288.95**
K				**Total landed Cost (K=K1+ K2)**	**8,449.79**
L				**Total (J+K)**	**90,032.89**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**90,032.89**
O				CESS 1% of N	900.33
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**90,933.22**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,23,811.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A				**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B				Stock, Storage & Insurance i.e 3% of A	4,382.91
C				**Sub Total (A+B)**	**1,50,479.98**
D				Contigency @ 3% of C	4,514.40
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F				Transportation @ 7.5% of C	11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,01,451.72**
O				CESS 1% of N	2,014.52
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,03,466.23**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			0.35	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	5	1,44,175.00
2	11 KV V cross Arm(GI)	EA	851.00	5	4,255.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	5	405.00
4	Danger Plate	EA	180.00	5	900.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	7.70	600.60
6	GI barbed wire anticlimbing device	KG	74.00	15.00	1,110.00
7	11 KV pin insulator polymer	EA	140.00	15	2,100.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	15	1,650.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	10	2,200.00
10	Earthing of Support (Coil Type)	EA	164.00	5	820.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	6.86	507.64
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	1081.50	1,41,676.50
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	0	-
A1				**Total Cost of materials**	**3,00,399.74**
A2				**Applicable Taxes to make it Landed Cost @18%**	**54,071.95**
A				**Total landed Cost (A=A1 + A2)**	**3,54,471.69**
B				Stock, Storage & Insurance i.e 3% of A	10,634.15
C				**Sub Total (A+B)**	**3,65,105.84**
D				Contigency @ 3% of C	10,953.18
E				Tools & Plants @ 2% of C	7,302.12
F				Transportation @ 7.5% of C	27,382.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	8,761.51
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	18,987.55
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,38,493.14**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.25	14,959.91
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.56	3,739.98
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	5	4,180.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	5	1,416.70
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	0.35	3,664.50
K1				**Total Civil & Services**	**27,961.09**
K2				**Applicable Taxes to make it Landed Cost @18%**	**5,033.00**
K				**Total landed Cost (K=K1+ K2)**	**32,994.09**
L				**Total Material+Services (J+K)**	4,71,487.23
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**4,71,487.23**
O				CESS 1% of N	4,714.87
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**4,76,202.10**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	1,74,602.31
2				Gross Total Material +Services (N+O) for DP With AB Switch	4,62,912.56
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	90,933.22
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	4,76,202.10
Q				**Gross Total Material +Services**	**14,08,116.42**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,125.00**
V				GST @ 18% on Total Inspection Fees (U)	202.50
W				Total Inspection Fees including GST (U+V)	1,327.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**14,09,443.92**

Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.34ckm					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***340***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	340	2,375.00	8,07,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	15,950.00	31,900.00
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	8,260.00	16,520.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	16.00	812.00	12,992.00
2	**Supply of 11kV RMU**				
a	***No. of 11kV 3WAY 630A LLV WITH FRTU & AUX PT***	***EA***	***1***		
2.1	Supply of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	1	7,51,384.00	7,51,384.00
3	**Earthing**				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) Flat(GI) for equipment, structure etc.)	KG	13.20	78.00	1,029.60
3.2	Pipe Earthing 40mm. GI Pipe	EA	2	1,300.00	2,600.00
	Sub Total (Supply Portion) (in Rs.)				**16,29,725.60**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	340	110.00	37,400.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	340	2,970.00	10,09,800.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	16.00	195.00	3,120.00
2	**Erection, Commissioning, Wiring and Testing of 11kV RMU**				
2.1	Erection of 11kV RMU 3WAY 630A LLV WITH FRTU & AUX PT	EA	1	12,000.00	12,000.00
	Sub Total (Erection Portion) (in Rs.)				**10,74,320.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Civil works for U/G Cable laying in Open Trench**				
3	**RMU Civil works**				
3.1	RMU Plinth	EA	1	1,71,056.00	1,71,056.00
4	**Fencing**				
a	**GI Chain link**	EA	**1**		
b	**Boundary Wall**	EA			
4.1	GI chain link fencing for RMU	RM	18	4,167.57	75,016.30
5	Construction of Earthing chamber incuding earthing pipe and civil works	EA	2	3,784.73	7,569.46
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	11	1,035.17	11,386.87
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	1	1,000.00	1,000.00

8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.34	10,470.00	3,559.80
	Sub Total (Civil Portion) (in Rs.)				**2,69,588.43**
A1	**Sub Total (Supply Portion)**				**16,29,725.60**
A2	**Applicable Taxes to make it Landed Cost @18%**				**2,93,350.61**
A	**Total Landed Cost (A=A1 + A2)**				**19,23,076.21**
B	Stock, Storage & Insurance @ 3 % of A				57,692.29
C	**Sub Total (A+B)**				**19,80,768.49**
D	Contingency @ 3 % of C				59,423.05
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				25.03
F	Transportation @ 7.5% of C				1,48,557.64
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				125.14
H	**Total (C+D+E+F+G)**				**21,88,899.35**
I1	Sub Total (Erection Portion + Civil Portion)				13,43,908.43
I2	**Applicable Taxes to make it Landed Cost @18%**				**2,41,903.52**
I	**Total landed Cost (I=I1+ I2)**				**15,85,811.95**
J	**Total Cost (H+I)**				**37,74,711.30**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**37,74,711.30**
M	CESS 1% of L				37,747.11
N	**Grand Total (L+M)**				**38,12,458.41**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	Inspection Fee of Drawing Checking and Approval				750.00
S	Total Inspection Fees (O+P+Q+R)				**2,625.00**
T	GST @ 18% on Total Inspection Fees (S)				472.50
U	Total Inspection Fees including GST (S+T)				3,097.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**38,15,555.91**

Annexure-21.27	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Circle :-	**Dhenkanal**
Name of the Division :-	**TED,Talcher**
Name of the Work :-	***Overloading Mitigation of 11kV Kalamachuin feeder by linking of 11kV Danara Feeder*** Construction of New Linking from 11kV Kalamachuin feeder by linking of 11kV Danara Feeder. To improve power supply & mitigating Reliability,Reduce feeder length and loss reduction.
Scope of work:-	1. 11KV OH Line 100sqmm XLPE - 3.24ckm 2 . 1Nos DP with Isolator 4 nos 3. 3C400 11kV UG cable - 120mtr without spare 4.11kV Guarding 20mtr
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***

ABSTRACT OF ESTIMATE

Sl. No.	Part	Description	Amount
1	A	Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor -3.24ckm	₹ 78,70,468.01
2	B	Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable along without spare-120mtr	₹ 8,67,927.43
3	C	Part-C Construction of line Protecting Guarding on Single Pole for Road Crossing	₹ 28,251.44
		Total Amount	**₹ 87,66,646.88**
		Total Amount (In Cr)	**₹ 0.88**

Part-A Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor -3.24ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	3

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	6	1,73,010.00
2	GI Channel, angle & flat of different size	KG	78.00	537.507	41,925.55
3	Danger Plate	EA	180.00	6	1,080.00
4	H.T. Stay clamp	EA	260.00	6	1,560.00
5	H.T. Stay set (Complete)	SET	1,434.00	6	8,604.00
6	H.T. Stay Insulator Type-C	EA	87.00	6	522.00
7	7/10 SWG Stay Wire	KG	77.00	90	6,930.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	6	7,800.00
9	GI barbed wire anticlimbing device	KG	74.00	18	1,332.00
10	11 KV pin insulator polymer	EA	140.00	9	1,260.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	12	2,640.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	34.716	2,568.98
A1				**Total Cost of materials**	**3,07,822.53**
A2				**Applicable Taxes to make it Landed Cost @18%**	**55,408.06**
A				**Total landed Cost (A=A1 + A2)**	**3,63,230.59**
B				Stock, Storage & Insurance i.e 3% of A	10,896.92
C				**Sub Total (A+B)**	**3,74,127.50**
D				Contigency @ 3% of C	11,223.83
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	6,864.74
F				Transportation @ 7.5% of C	28,059.56
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	10,513.82
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	13,296.05
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**4,44,085.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	6	13,809.15
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.70	17,951.90
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.68	4,487.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	6	22,708.38
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	3	2,508.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	6	1,700.04
K1				**Total Civil & Services**	**63,165.44**
K2				**Applicable Taxes to make it Landed Cost @18%**	**11,369.78**
K				**Total landed Cost (K=K1+ K2)**	**74,535.22**
L				**Total (J+K)**	**5,18,620.72**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**5,18,620.72**
O				CESS 1% of N	5,186.21
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**5,23,806.93**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00

10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**5,49,370.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**98,886.68**
A				**Total landed Cost (A=A1 + A2)**	**6,48,257.14**
B				Stock, Storage & Insurance i.e 3% of A	19,447.71
C				**Sub Total (A+B)**	**6,67,704.85**
D				Contigency @ 3% of C	20,031.15
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,959.40
F				Transportation @ 7.5% of C	50,077.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,760.16
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,95,551.85**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**9,16,658.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**9,16,658.53**
O				CESS 1% of N	9,166.59
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**9,25,825.12**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	3

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	3	86,505.00
2	GI Channel, angle & flat of different size	KG	78.00	107.4	8,380.01
3	Danger Plate	EA	180.00	3	540.00
4	H.T. Stay clamp	EA	260.00	3	780.00
5	H.T. Stay set (Complete)	SET	1,434.00	3	4,302.00
6	H.T. Stay Insulator Type-C	EA	87.00	3	261.00
7	7/10 SWG Stay Wire	KG	77.00	45	3,465.00
8	GI barbed wire anticlimbing device	KG	74.00	9	666.00
9	11 KV pin insulator polymer	EA	140.00	9	1,260.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	9	990.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	18	9,900.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	6	1,320.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	18	45,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	18	2,700.00
15	Earthing of Support (Coil Type)	EA	164.00	3	492.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	29.988	2,219.11
A1				**Total Cost of materials**	**1,68,780.12**
A2				**Applicable Taxes to make it Landed Cost @18%**	**30,380.42**
A				**Total landed Cost (A=A1 + A2)**	**1,99,160.54**
B				Stock, Storage & Insurance i.e 3% of A	5,974.82
C				**Sub Total (A+B)**	**2,05,135.36**
D				Contigency @ 3% of C	6,154.06
E				Tools & Plants @ 2% of C	3,888.60
F				Transportation @ 7.5% of C	15,385.15
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	5,256.91
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,929.19

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**2,44,749.28**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.35	8,975.95
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.34	2,243.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	3	6,904.58
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	3.00	2,508.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	3.00	850.02
K1	**Total Civil & Services**				**21,482.53**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,866.86**
K	**Total landed Cost (K=K1+ K2)**				**25,349.38**
L	**Total (J+K)**				**2,70,098.66**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**2,70,098.66**
O	CESS 1% of N				2,700.99
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**2,72,799.65**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	4

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	269.376	21,011.33
3	Danger Plate	EA	180.00	4	720.00
4	GI barbed wire anticlimbing device	KG	74.00	12	888.00
5	11 KV pin insulator polymer	EA	140.00	16	2,240.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	16	1,760.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
11	Earthing of Support (Coil Type)	EA	164.00	4	656.00
12	H.T. Stay clamp	EA	260.00	8	2,080.00
13	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
14	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
15	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	39.984	2,958.82
A1	**Total Cost of materials**				**2,47,622.14**
A2	**Applicable Taxes to make it Landed Cost @18%**				**44,571.99**
A	**Total landed Cost (A=A1 + A2)**				**2,92,194.13**
B	Stock, Storage & Insurance i.e 3% of A				8,765.82
C	**Sub Total (A+B)**				**3,00,959.95**
D	Contigency @ 3% of C				9,028.80
E	Tools & Plants @ 2% of C (Except HT Stay Set)				5,448.25
F	Transportation @ 7.5% of C				22,572.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				7,009.21
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				13,222.84
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**3,58,241.05**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.8	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.5	2,991.98
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1	**Total Civil & Services**				**37,849.47**
K2	**Applicable Taxes to make it Landed Cost @18%**				**6,812.91**
K	**Total landed Cost (K=K1+ K2)**				**44,662.38**
L	**Total (J+K)**				**4,02,903.43**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**4,02,903.43**
O	CESS 1% of N				4,029.03
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**4,06,932.47**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			3.24	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	72	20,76,120.00
2	11 KV V cross Arm(GI)	EA	851.00	72	61,272.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	72	5,832.00
4	Danger Plate	EA	180.00	72	12,960.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	110.88	8,648.64
6	GI barbed wire anticlimbing device	KG	74.00	216.00	15,984.00
7	11 KV pin insulator polymer	EA	140.00	216	30,240.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	216	23,760.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	144	31,680.00
10	Earthing of Support (Coil Type)	EA	164.00	72	11,808.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	98.78	7,310.02
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	10011.60	13,11,519.60
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00		-
A1				**Total Cost of materials**	**35,97,134.26**
A2				**Applicable Taxes to make it Landed Cost @18%**	**6,47,484.17**
A				**Total landed Cost (A=A1 + A2)**	**42,44,618.42**
B				Stock, Storage & Insurance i.e 3% of A	1,27,338.55
C				**Sub Total (A+B)**	**43,71,956.97**
D				Contigency @ 3% of C	1,31,158.71
E				Tools & Plants @ 2% of C	87,439.14
F				Transportation @ 7.5% of C	3,27,896.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	1,26,165.81
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	1,84,864.07
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**52,29,481.48**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	32.40	2,15,422.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	8.10	53,855.69
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	72	60,192.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	72	20,400.48
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	3.24	33,922.80
K1				**Total Civil & Services**	**3,83,793.71**
K2				**Applicable Taxes to make it Landed Cost @18%**	**69,082.87**
K				**Total landed Cost (K=K1+ K2)**	**4,52,876.57**
L				**Total Material+Services (J+K)**	56,82,358.05
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**56,82,358.05**
O				CESS 1% of N	56,823.58
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**57,39,181.63**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	5,23,806.93
2				Gross Total Material +Services (N+O) for DP With AB Switch	9,25,825.12
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	2,72,799.65
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	4,06,932.47
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	57,39,181.63
Q				**Gross Total Material +Services**	**78,68,545.79**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	504.00
T				Inspection Fee of Drawing Checking and Approval	750.00
U				**Total Inspection Fees (R+S+T)**	**1,629.00**
V				GST @ 18% on Total Inspection Fees (U)	293.22
W				Total Inspection Fees including GST (U+V)	1,922.22
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**78,70,468.01**

Part-B Supply and Laying of 11kV 3C, 400sqmm UG Cable along without spare-120mtr

Supply Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***120***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	120	2,375.00	2,85,000.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	2	2,900.00	5,800.00
1.3	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	16.00	812.00	12,992.00
	Sub Total (Supply Portion) (in Rs.)				**3,03,792.00**

Erection Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	120	110.00	13,200.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	2	2,000.00	4,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	120	2,970.00	3,56,400.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	16.00	195.00	3,120.00
	Sub Total (Erection Portion) (in Rs.)				**3,76,720.00**

Civil Portion

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	**Civil works for U/G Cable laying in Open Trench**				
2	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	4	1,035.17	4,140.68
3	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.12	10,470.00	1,256.40
	Sub Total (Civil Portion) (in Rs.)				**5,397.08**

A1	**Sub Total (Supply Portion)**	**3,03,792.00**
A2	**Applicable Taxes to make it Landed Cost @18%**	**54,682.56**
A	**Total Landed Cost (A=A1 + A2)**	**3,58,474.56**
B	Stock, Storage & Insurance @ 3 % of A	10,754.24
C	**Sub Total (A+B)**	**3,69,228.80**
D	Contingency @ 3 % of C	11,076.86
E	Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F	Transportation @ 7.5% of C	27,692.16
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H	**Total (C+D+E+F+G)**	**4,07,997.82**
I1	Sub Total (Erection Portion + Civil Portion)	3,82,117.08
I2	**Applicable Taxes to make it Landed Cost @18%**	**68,781.07**
I	**Total landed Cost (I=I1+ I2)**	**4,50,898.15**
J	**Total Cost (H+I)**	**8,58,895.97**
K	Other Overhead /(including Supervision Charges) @ 6 % of J	
L	**Total Estimated Capital Cost i.e. (J+K)**	**8,58,895.97**
M	CESS 1% of L	8,588.96
N	**Grand Total (L+M)**	**8,67,484.93**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	Inspection Fee of Drawing Checking and Approval	
S	Total Inspection Fees (O+P+Q+R)	**375.00**
T	GST @ 18% on Total Inspection Fees (S)	67.50
U	Total Inspection Fees including GST (S+T)	442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**	**8,67,927.43**

Part-C Construction of line Protecting Guarding on Single Pole for Road Crossing

No. of 11 KV Line Protecting Guarding	1
Length of 11 KV Line Protecting Guarding in Mtr.	20

Materials for Line Protecting Guarding for Road Crossing (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8040)

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	GI Channel, angle & flat of different size	KG	78.00	115.247	8,989.27
2	No-10 GI wire for lacing	KG	78.00	3.275	255.45
3	No-8 GI wire for guard wire	KG	78.00	15.36	1,198.08
4	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
A1	**Total Cost of materials**				**13,042.80**
A2	**Applicable Taxes to make it Landed Cost @18%**				**2,347.70**
A	**Total landed Cost (A=A1 + A2)**				**15,390.50**
B	Stock, Storage & Insurance i.e 3% of A				461.71
C	**Sub Total (A+B)**				**15,852.21**
D	Contigency @ 3% of C				475.57
E	Tools & Plants @ 2% of C (Except GI Pipe earthing)				253.84
F	Transportation @ 7.5% of C				1,188.92
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed				
H	Erection Charges @ 10% of C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				1,269.22
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**19,039.76**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
K1	**Total Civil & Services**				**7,569.46**
K2	Applicable Taxes to make it Landed Cost @18%				1,362.50
K	**Total landed Cost (K=K1+ K2)**				**8,931.96**
L	**Total (J+K)**				27,971.72
M	Other overheads (Including 6% supervision charges) of L				
N	**Sub Total (L+M)**				**27,971.72**
O	Total CESS @ 1% of (N)				279.72
P	**Gross Total Material +Services (N+O) for 11 KV SP With Road crossing Guarding**				**28,251.44**

ANNEXURE-21.28			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**TED**		
Name of the Work :-	***Overloading Mitigation of 11kV Balher feeder by Augmentation of Existing feeder.*** Augmentation of 11kV Balher feeder from Chainpal PSS to KRISHANA TIMBER RAIL GATE CHAINPAL 16kVA. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.250ckm without spare 3. 11kV Outdoor Bay - 1nos 4.11kV Aug - 1.2ckm		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.25ckm	₹ 18,04,460.21
2	B	Part-B Aug 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.2ckm	₹ 33,20,562.19
		Total Amount	**₹ 51,25,022.40**
		Total Amount (In Cr)	**₹ 0.51**

Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.25ckm					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***			
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***250***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	250	2,375.00	5,93,750.00
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.5	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	32.00	812.00	25,984.00
	Sub Total (Supply Portion) (in Rs.)				**6,31,334.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	250	110.00	27,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	4	2,000.00	8,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	250	2,970.00	7,42,500.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	32.00	195.00	6,240.00
	Sub Total (Erection Portion) (in Rs.)				**7,84,240.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	8	1,035.17	8,281.36
2	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.25	10,470.00	2,617.50
	Sub Total (Civil Portion) (in Rs.)				**10,898.86**
A1	**Sub Total (Supply Portion)**				**6,31,334.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,13,640.12**
A	**Total Landed Cost (A=A1 + A2)**				**7,44,974.12**
B	Stock, Storage & Insurance @ 3 % of A				22,349.22
C	**Sub Total (A+B)**				**7,67,323.34**
D	Contingency @ 3 % of C				23,019.70
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				57,549.25
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**8,47,892.29**
I1	Sub Total (Erection Portion + Civil Portion)				7,95,138.86
I2	**Applicable Taxes to make it Landed Cost @18%**				**1,43,124.99**
I	**Total landed Cost (I=I1+ I2)**				**9,38,263.85**
J	**Total Cost (H+I)**				**17,86,156.15**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**17,86,156.15**
M	CESS 1% of L				17,861.56
N	**Grand Total (L+M)**				**18,04,017.71**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**375.00**
T	GST @ 18% on Total Inspection Fees (S)				67.50
U	Total Inspection Fees including GST (S+T)				442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**18,04,460.21**

Part-B Aug 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.2ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	1

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00

11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**5,49,370.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**98,886.68**
A				**Total landed Cost (A=A1 + A2)**	**6,48,257.14**
B				Stock, Storage & Insurance i.e 3% of A	19,447.71
C				**Sub Total (A+B)**	**6,67,704.85**
D				Contigency @ 3% of C	20,031.15
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,959.40
F				Transportation @ 7.5% of C	50,077.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,760.16
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,95,551.85**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**9,16,658.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**9,16,658.53**
O				CESS 1% of N	9,166.59
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**9,25,825.12**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,952.80
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-

J				**Sum of (C to I)**	**1,63,166.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,80,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,80,065.77**
O				CESS 1% of N	1,800.66
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,81,866.43**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,23,811.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A				**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B				Stock, Storage & Insurance i.e 3% of A	4,382.91
C				**Sub Total (A+B)**	**1,50,479.98**
D				Contigency @ 3% of C	4,514.40
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F				Transportation @ 7.5% of C	11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,01,451.72**
O				CESS 1% of N	2,014.52
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,03,466.23**

	11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)			1.2	
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	21	6,05,535.00
2	11 KV V cross Arm(GI)	EA	851.00	21	17,871.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	21	1,701.00
4	Danger Plate	EA	180.00	21	3,780.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	32.34	2,522.52
6	GI barbed wire anticlimbing device	KG	74.00	63.00	4,662.00
7	11 KV pin insulator polymer	EA	140.00	63	8,820.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	63	6,930.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	42	9,240.00
10	Earthing of Support (Coil Type)	EA	164.00	21	3,444.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	28.81	2,132.09
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3708.00	4,85,748.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**11,53,735.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,07,672.41**
A				**Total landed Cost (A=A1 + A2)**	**13,61,408.02**
B				Stock, Storage & Insurance i.e 3% of A	40,842.24
C				**Sub Total (A+B)**	**14,02,250.26**
D				Contigency @ 3% of C	42,067.51
E				Tools & Plants @ 2% of C	28,045.01
F				Transportation @ 7.5% of C	1,05,168.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	36,798.36
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	66,628.30
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**16,80,958.20**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.45	62,831.63
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.36	15,707.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	21	17,556.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	21	5,950.14
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.2	12,564.00
K1				**Total Civil & Services**	**1,14,609.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**20,629.74**
K				**Total landed Cost (K=K1+ K2)**	**1,35,239.42**
L				**Total Material+Services (J+K)**	18,16,197.63
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**18,16,197.63**
O				CESS 1% of N	18,161.98
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**18,34,359.60**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	1,74,602.31
2				Gross Total Material +Services (N+O) for DP With AB Switch	9,25,825.12
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,81,866.43
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	18,34,359.60
Q				**Gross Total Material +Services**	**33,20,119.69**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**33,20,562.19**

Annexure-21.29	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Circle :-	**Dhenkanal**
Name of the Division :-	**ANED**
Name of the Work :-	***Overloading Mitigation of 11kV Balher feeder by Augmentation of Existing feeder.*** Proposal for 1CKM Linking Line From 11KV KHINDA FEEDER (KALEIPADA AGRO 25 KVA DT) WITH KHALAGOAN AGRO-2 25 KVA DT . To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.250ckm without spare 3. 11kV Outdoor Bay - 1nos 4.11kV Aug - 1.2ckm
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***

ABSTRACT OF ESTIMATE

Sl. No.	Part	Description	Amount
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.25ckm	₹ 18,04,460.21
2	B	Aug 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.2ckm	₹ 33,20,562.19
		Total Amount	**₹ 51,25,022.40**
		Total Amount (In Cr)	**₹ 0.51**

Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.25ckm					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***250***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	250	2,375.00	5,93,750.00
1.2	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.3	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	32.00	812.00	25,984.00
	Sub Total (Supply Portion) (in Rs.)				**6,31,334.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	250	110.00	27,500.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	4	2,000.00	8,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	250	2,970.00	7,42,500.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	32.00	195.00	6,240.00
	Sub Total (Erection Portion) (in Rs.)				**7,84,240.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	8	1,035.17	8,281.36
7	GIS coordinate mapping, drawing preparation and submission of the same for RMU.	EA	0	1,000.00	-
8	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.25	10,470.00	2,617.50
	Sub Total (Civil Portion) (in Rs.)				**10,898.86**
A1	**Sub Total (Supply Portion)**				**6,31,334.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**1,13,640.12**
A	**Total Landed Cost (A=A1 + A2)**				**7,44,974.12**
B	Stock, Storage & Insurance @ 3 % of A				22,349.22
C	**Sub Total (A+B)**				**7,67,323.34**
D	Contingency @ 3 % of C				23,019.70
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				57,549.25
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**8,47,892.29**
I1	Sub Total (Erection Portion + Civil Portion)				7,95,138.86
I2	**Applicable Taxes to make it Landed Cost @18%**				**1,43,124.99**
I	**Total landed Cost (I=I1+ I2)**				**9,38,263.85**
J	**Total Cost (H+I)**				**17,86,156.15**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**17,86,156.15**
M	CESS 1% of L				17,861.56
N	**Grand Total (L+M)**				**18,04,017.71**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**375.00**
T	GST @ 18% on Total Inspection Fees (S)				67.50
U	Total Inspection Fees including GST (S+T)				442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**18,04,460.21**

Aug 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1.2ckm					
No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)				1	
MATERIALS OF DP Without AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	179.169	13,975.18
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	2	2,600.00
9	GI barbed wire anticlimbing device	KG	74.00	6	444.00
10	11 KV pin insulator polymer	EA	140.00	3	420.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	3	330.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	6	3,300.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	6	15,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	6	900.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	11.572	856.33
A1				**Total Cost of materials**	**1,02,607.51**
A2				**Applicable Taxes to make it Landed Cost @18%**	**18,469.35**
A				**Total landed Cost (A=A1 + A2)**	**1,21,076.86**
B				Stock, Storage & Insurance i.e 3% of A	3,632.31
C				**Sub Total (A+B)**	**1,24,709.17**
D				Contigency @ 3% of C	3,741.28
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	2,288.25
F				Transportation @ 7.5% of C	9,353.19
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	4,432.02
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,48,028.50**
Civil & Services					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	2	7,569.46
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	1	836.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2	566.68
K1				**Total Civil & Services**	**21,055.15**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,789.93**
K				**Total landed Cost (K=K1+ K2)**	**24,845.07**
L				**Total (J+K)**	**1,72,873.57**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**1,72,873.57**
O				CESS 1% of N	1,728.74
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**1,74,602.31**
No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)				4	
MATERIALS OF DP With AB Switch					
Sl. No.	**Description of Materials**	**Unit**	**Unit Rate**	**Total Quantity**	**Total Amount**
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00
10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00

12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**5,49,370.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**98,886.68**
A				**Total landed Cost (A=A1 + A2)**	**6,48,257.14**
B				Stock, Storage & Insurance i.e 3% of A	19,447.71
C				**Sub Total (A+B)**	**6,67,704.85**
D				Contigency @ 3% of C	20,031.15
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,959.40
F				Transportation @ 7.5% of C	50,077.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,760.16
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,95,551.85**

Civil & Services

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**9,16,658.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**9,16,658.53**
O				CESS 1% of N	9,166.59
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**9,25,825.12**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,952.80
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**1,63,166.18**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**14,321.69**
K2				**Applicable Taxes to make it Landed Cost @18%**	**2,577.90**
K				**Total landed Cost (K=K1+ K2)**	**16,899.59**
L				**Total (J+K)**	**1,80,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N				**Sub-Total (L+M)**	**1,80,065.77**
O				CESS 1% of N	1,800.66
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**	**1,81,866.43**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,23,811.07**
A2				**Applicable Taxes to make it Landed Cost @18%**	**22,285.99**
A				**Total landed Cost (A=A1 + A2)**	**1,46,097.06**
B				Stock, Storage & Insurance i.e 3% of A	4,382.91
C				**Sub Total (A+B)**	**1,50,479.98**
D				Contigency @ 3% of C	4,514.40
E				Tools & Plants @ 2% of C (Except HT Stay Set)	2,724.13
F				Transportation @ 7.5% of C	11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**1,79,120.53**

Civil & Services

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1				**Total Civil & Services**	**18,924.74**
K2				**Applicable Taxes to make it Landed Cost @18%**	**3,406.45**
K				**Total landed Cost (K=K1+ K2)**	**22,331.19**
L				**Total (J+K)**	**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N				**Sub-Total (L+M)**	**2,01,451.72**
O				CESS 1% of N	2,014.52
P				**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**	**2,03,466.23**

11 Kv Line Length In KM with 40 Mtr. Span (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)	1.2

MATERIALS FOR 11 KV Pin Points With WPB

Sl. No.	Description of Materials	Unit	Unit Rate	Total Quantity	Total Amount
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	21	6,05,535.00
2	11 KV V cross Arm(GI)	EA	851.00	21	17,871.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	21	1,701.00
4	Danger Plate	EA	180.00	21	3,780.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	32.34	2,522.52
6	GI barbed wire anticlimbing device	KG	74.00	63.00	4,662.00
7	11 KV pin insulator polymer	EA	140.00	63	8,820.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	63	6,930.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	42	9,240.00
10	Earthing of Support (Coil Type)	EA	164.00	21	3,444.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	28.81	2,132.09
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3708.00	4,85,748.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**11,53,735.61**
A2				**Applicable Taxes to make it Landed Cost @18%**	**2,07,672.41**
A				**Total landed Cost (A=A1 + A2)**	**13,61,408.02**
B				Stock, Storage & Insurance i.e 3% of A	40,842.24
C				**Sub Total (A+B)**	**14,02,250.26**
D				Contigency @ 3% of C	42,067.51
E				Tools & Plants @ 2% of C	28,045.01
F				Transportation @ 7.5% of C	1,05,168.77
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				36,798.36
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				66,628.30
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J				**Sum of (C to I)**	**16,80,958.20**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	9.45	62,831.63
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	2.36	15,707.91
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	21	17,556.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	21	5,950.14
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1.2	12,564.00
K1				**Total Civil & Services**	**1,14,609.68**
K2				**Applicable Taxes to make it Landed Cost @18%**	**20,629.74**
K				**Total landed Cost (K=K1+ K2)**	**1,35,239.42**
L				**Total Material+Services (J+K)**	18,16,197.63
M	Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)				
N				**Sub-Total (L+M)**	**18,16,197.63**
O				CESS 1% of N	18,161.98
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**18,34,359.60**
	Gross Total Summary				
1	Gross Total Material +Services (N+O) for DP Without AB Switch				1,74,602.31
2	Gross Total Material +Services (N+O) for DP With AB Switch				9,25,825.12
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle				1,81,866.43
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle				2,03,466.23
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB				18,34,359.60
Q				**Gross Total Material +Services**	**33,20,119.69**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.				375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km				
T	Inspection Fee of Drawing Checking and Approval				
U				**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)				67.50
W	Total Inspection Fees including GST (U+V)				442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**33,20,562.19**

Annexure-21.30			
TP CENTRAL ODISHA DISTRIBUTION LIMITED			
Name of the Circle :-	**Dhenkanal**		
Name of the Division :-	**ANED**		
Name of the Work :-	***Overloading Mitigation of 11kV Balher feeder by Augmentation of Existing feeder.*** Proposal for New linking line from AB Switch at 11kv PTC Feeder near RAAZ CHAKA SIMILIPADA 500 KVA DTC4212DT089) for linking from 11KV RCMS THANA feeder near NEAR JUDGE QUARTER 10 kva DTC 4212DT163. To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.		
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.250ckm without spare		
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***		
ABSTRACT OF ESTIMATE			
Sl. No.	**Part**	**Description**	**Amount**
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable with spare-0.25ckm	₹ 18,04,460.21
2	B	Part-B Installtion of 2Nos DP with ISO for UG cable Raising	₹ 4,63,355.06
		Total Amount	**₹ 22,67,815.27**
		Total Amount (In Cr)	**₹ 0.23**

Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable with spare-0.25ckm

Supply Portion

Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a		***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***			
b		***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***250***		
1.1	401000484	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	250	2,375.00	5,93,750.00
1.2	401000859	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.3	401000916	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	32.00	812.00	25,984.00
		Sub Total (Supply Portion) (in Rs.)				**6,31,334.00**

Erection Portion

Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1		**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	600278	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	250	110.00	27,500.00
1.2	600256	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	4	2,000.00	8,000.00
1.3	600568	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	250	2,970.00	7,42,500.00
1.4	600606	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	32.00	195.00	6,240.00
		Sub Total (Erection Portion) (in Rs.)				**7,84,240.00**

Civil Portion

Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	600426	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	8	1,035.17	8,281.36
2	600916	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.25	10,470.00	2,617.50
		Sub Total (Civil Portion) (in Rs.)				**10,898.86**

A1		**Sub Total (Supply Portion)**	**6,31,334.00**
A2		**Applicable Taxes to make it Landed Cost @18%**	**1,13,640.12**
A		**Total Landed Cost (A=A1 + A2)**	**7,44,974.12**
B		Stock, Storage & Insurance @ 3 % of A	22,349.22
C		**Sub Total (A+B)**	**7,67,323.34**
D		Contingency @ 3 % of C	23,019.70
E		Tools & Plants Charges @ 2% of C (considered for earthing items)	-
F		Transportation @ 7.5% of C	57,549.25
G		Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)	-
H		**Total (C+D+E+F+G)**	**8,47,892.29**
I1		Sub Total (Erection Portion + Civil Portion)	7,95,138.86
I2		**Applicable Taxes to make it Landed Cost @18%**	**1,43,124.99**
I		**Total landed Cost (I=I1+ I2)**	**9,38,263.85**
J		**Total Cost (H+I)**	**17,86,156.15**
K		Other Overhead /(including Supervision Charges) @ 6 % of J	
L		**Total Estimated Capital Cost i.e. (J+K)**	**17,86,156.15**
M		CESS 1% of L	17,861.56
N		**Grand Total (L+M)**	**18,04,017.71**
O	6000060	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.	375.00
P	6000061	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km	
Q	6000082	Inspection Fee of RMU - Rs. 1500/ RMU	-
R	6000062	Inspection Fee of Drawing Checking and Approval	
S		Total Inspection Fees (O+P+Q+R)	**375.00**
T		GST @ 18% on Total Inspection Fees (S)	67.50
U		Total Inspection Fees including GST (S+T)	442.50
V		**Gross Total Material, Services and Inspection Fees (N+U)**	**18,04,460.21**

Part-B Installtion of 2Nos DP with ISO for UG cable Raising

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	2

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	644.05	50,235.90
3	DMC Insulator for LA (70/10)	EA	113.50	16	1,816.00
4	Danger Plate	EA	180.00	4	720.00
5	H.T. Stay clamp	EA	260.00	8	2,080.00
6	H.T. Stay set (Complete)	SET	1,434.00	8	11,472.00
7	H.T. Stay Insulator Type-C	EA	87.00	8	696.00
8	7/10 SWG Stay Wire	KG	77.00	120	9,240.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
10	GI barbed wire anticlimbing device	KG	74.00	12	888.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	6	11,760.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	2	21,944.00
13	11 KV pin insulator polymer	EA	140.00	6	840.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	22.072	1,633.33
A1				**Total Cost of materials**	**2,74,685.23**
A2				**Applicable Taxes to make it Landed Cost @18%**	**49,443.34**
A				**Total landed Cost (A=A1 + A2)**	**3,24,128.57**
B				Stock, Storage & Insurance i.e 3% of A	9,723.86
C				**Sub Total (A+B)**	**3,33,852.43**
D				Contigency @ 3% of C	10,015.57
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	5,979.70
F				Transportation @ 7.5% of C	25,038.93
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	15,880.08
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**3,97,775.92**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	8	18,412.20
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4.00	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4.00	1,133.36
K1				**Total Civil & Services**	**51,316.39**
K2				**Applicable Taxes to make it Landed Cost @18%**	**9,236.95**
K				**Total landed Cost (K=K1+ K2)**	**60,553.34**
L				**Total (J+K)**	**4,58,329.27**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**4,58,329.27**
O				CESS 1% of N	4,583.29
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**4,62,912.56**

Gross Total Summary

1	Gross Total Material +Services (N+O) for DP Without AB Switch	-
2	Gross Total Material +Services (N+O) for DP With AB Switch	4,62,912.56
3	Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	-
4	Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	-
5	Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	-
Q	**Gross Total Material +Services**	**4,62,912.56**
R	Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S	Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T	Inspection Fee of Drawing Checking and Approval	
U	**Total Inspection Fees (R+S+T)**	**375.00**
V	GST @ 18% on Total Inspection Fees (U)	67.50
W	Total Inspection Fees including GST (U+V)	442.50
X	**Gross Total Material, Services and Inspection Fees (Q+W)**	**4,63,355.06**

Annexure-21.31	
TP CENTRAL ODISHA DISTRIBUTION LIMITED	
Name of the Circle :-	**Dhenkanal**
Name of the Division :-	**ANED**
Name of the Work :-	***Overloading Mitigation of 11kV Kurudol feeder by Linking of 11kV MCL Feeder.*** Proposal for 1.5 CKM Linking Line From 11KV MCL Feeder (PETROL PUMP ALEKHAPATANA 25 KVA DT) WITH 11KV KURDUL NEAR SAKOSINGHA CANAL ROAD NEAR (SHAKTI FLY ASH BRICKS DTC 4213DT211 25 KVA). To improve power supply & mitigating Overloading,Reliability,Reduce feeder length and loss reduction.
Scope of work:-	Proposal Details 1 . 1Nos DP with Isolator 4 nos 2. 3C400 11kV UG cable - 0.5ckm without spare 3. 11kV Outdoor Bay - 1nos 4.11kV Aug - 1ckm
Names of Schemes: -	***TPCODL CAPEX (FY 27-28)***

ABSTRACT OF ESTIMATE

Sl. No.	Part	Description	Amount
1	A	Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.5ckm	₹ 35,89,797.56
2	B	Part-B Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1ckm	₹ 30,60,382.15
		Total Amount	**₹ 66,50,179.71**
		Total Amount (In Cr)	**₹ 0.67**

Part-A Supply and Laying of 11kV 3C, 400sqmm UG Cable without spare-0.5ckm					
Supply Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Supply of materials for 11kV, 3Core, 400sqmm Aluminium, XLPE insulation UG Cable with accessories**				
a	***Length of 11kV 3C, 400sqmm cable (open trench)***	***M***			
b	***Length of 11kV 3C, 400sqmm cable (HDD)***	***M***	***500***		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in kA- 37.7kA and SC rating of Armour in kA- 15kA)	M	500	2,375.00	11,87,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG Cable kits	EA	2	15,950.00	31,900.00
1.3	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, HT UG Cable kits	EA	4	2,900.00	11,600.00
1.4	Supply of materials for High Density Polyethelene (HDPE) pipe 200mm diameter, PE 80- PN8 for laying of 11kV UG cable	M	32.00	812.00	25,984.00
	Sub Total (Supply Portion) (in Rs.)				**12,56,984.00**
Erection Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	**Erection, Commissioning & Testing of 11kV new line by 3Core, 400sqmm, XLPE UG cable**				
1.1	Laying, Commissioning & Testing of 11kV, 3Core, 400sqmm, XLPE insulation (extruted type) UG cable by open trench method.	M	500	110.00	55,000.00
1.2	Erection of Straight through jointing Kits/Outdoor termination kits/Indoor termination Kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits	EA	6	2,000.00	12,000.00
1.3	Laying of HDPE pipe (200mm dia, PN8 PE80) by HDD method including supply of HDPE Pipe.	M	500	2,970.00	14,85,000.00
1.4	Laying of 20**0mm dia** PE 80-PN8, **HDPE pipe** inside open trench.	M	32.00	195.00	6,240.00
	Sub Total (Erection Portion) (in Rs.)				**15,58,240.00**
Civil Portion					
Sl. No.	**Description of items**	**Unit**	**Quantity**	**Rate (in Rs.)**	**Amount (in Rs.)**
1	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	EA	17	1,035.17	17,597.89
2	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	0.5	10,470.00	5,235.00
	Sub Total (Civil Portion) (in Rs.)				**22,832.89**
A1	**Sub Total (Supply Portion)**				**12,56,984.00**
A2	**Applicable Taxes to make it Landed Cost @18%**				**2,26,257.12**
A	**Total Landed Cost (A=A1 + A2)**				**14,83,241.12**
B	Stock, Storage & Insurance @ 3 % of A				44,497.23
C	**Sub Total (A+B)**				**15,27,738.35**
D	Contingency @ 3 % of C				45,832.15
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				1,14,580.38
G	Erection Charges @ 10% of earthing items (With Applicable Taxes @ 18% to make it Landed Cost)				-
H	**Total (C+D+E+F+G)**				**16,88,150.88**
I1	Sub Total (Erection Portion + Civil Portion)				15,81,072.89
I2	**Applicable Taxes to make it Landed Cost @18%**				**2,84,593.12**
I	**Total landed Cost (I=I1+ I2)**				**18,65,666.01**
J	**Total Cost (H+I)**				**35,53,816.89**
K	Other Overhead /(including Supervision Charges) @ 6 % of J				
L	**Total Estimated Capital Cost i.e. (J+K)**				**35,53,816.89**
M	CESS 1% of L				35,538.17
N	**Grand Total (L+M)**				**35,89,355.06**
O	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				375.00
P	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	Inspection Fee of RMU - Rs. 1500/ RMU				-
R	Inspection Fee of Drawing Checking and Approval				
S	Total Inspection Fees (O+P+Q+R)				**375.00**
T	GST @ 18% on Total Inspection Fees (S)				67.50
U	Total Inspection Fees including GST (S+T)				442.50
V	**Gross Total Material, Services and Inspection Fees (N+U)**				**35,89,797.56**

Part-B Construction of 11kV Line Length with 40 Mtr. Span using 100 SQ.MM. -XLPE AAA Covered Conductor-1ckm

No. of DP required Without AB switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8035)	2

MATERIALS OF DP Without AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	4	1,15,340.00
2	GI Channel, angle & flat of different size	KG	78.00	358.338	27,950.36
3	Danger Plate	EA	180.00	4	720.00
4	H.T. Stay clamp	EA	260.00	4	1,040.00
5	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
6	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
7	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
8	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	4	5,200.00
9	GI barbed wire anticlimbing device	KG	74.00	12	888.00
10	11 KV pin insulator polymer	EA	140.00	6	840.00
11	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
12	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
13	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	8	1,760.00
14	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
15	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	23.144	1,712.66
A1				**Total Cost of materials**	**2,05,215.02**
A2				**Applicable Taxes to make it Landed Cost @18%**	**36,938.70**
A				**Total landed Cost (A=A1 + A2)**	**2,42,153.72**
B				Stock, Storage & Insurance i.e 3% of A	7,264.61
C				**Sub Total (A+B)**	**2,49,418.34**
D				Contigency @ 3% of C	7,482.55
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	4,576.49
F				Transportation @ 7.5% of C	18,706.38
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	7,009.21
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	8,864.04
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**2,96,057.00**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.80	11,967.93
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.45	2,991.98
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	4	15,138.92
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	2	1,672.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	4	1,133.36
K1				**Total Civil & Services**	**42,110.29**
K2				**Applicable Taxes to make it Landed Cost @18%**	**7,579.85**
K				**Total landed Cost (K=K1+ K2)**	**49,690.15**
L				**Total (J+K)**	**3,45,747.15**
M				Other overheads (Including 6% supervision charges) of L (for DP Without AB Switch)	
N				**Sub-Total (L+M)**	**3,45,747.15**
O				CESS 1% of N	3,457.47
P				**Gross Total Material +Services (N+O) for DP Without AB Switch**	**3,49,204.62**

No. of DP required With AB Switch (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8039)	4

MATERIALS OF DP With AB Switch

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for DP	EA	28,835.00	8	2,30,680.00
2	GI Channel, angle & flat of different size	KG	78.00	1288.1	1,00,471.80
3	DMC Insulator for LA (70/10)	EA	113.50	32	3,632.00
4	Danger Plate	EA	180.00	8	1,440.00
5	H.T. Stay clamp	EA	260.00	16	4,160.00
6	H.T. Stay set (Complete)	SET	1,434.00	16	22,944.00
7	H.T. Stay Insulator Type-C	EA	87.00	16	1,392.00
8	7/10 SWG Stay Wire	KG	77.00	240	18,480.00
9	Gi Pipe Earthing 40mm. 3 Mtr. Long	EA	1,300.00	8	10,400.00

10	GI barbed wire anticlimbing device	KG	74.00	24	1,776.00
11	Lightning Arrester(12KV,10KA) (Station Class,class-2)	EA	1,960.00	12	23,520.00
12	AB Switch (11KV,400A.3pole,50Hz)	SET	10,972.00	4	43,888.00
13	11 KV pin insulator polymer	EA	140.00	12	1,680.00
14	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	12	1,320.00
15	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	24	13,200.00
16	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	16	3,520.00
17	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	24	60,000.00
18	Disc insulator (B&S) 70 KN polymer	EA	150.00	24	3,600.00
19	GI Nut , Bolt & Washer of different sizes	KG	74.00	44.144	3,266.66
A1				**Total Cost of materials**	**5,49,370.46**
A2				**Applicable Taxes to make it Landed Cost @18%**	**98,886.68**
A				**Total landed Cost (A=A1 + A2)**	**6,48,257.14**
B				Stock, Storage & Insurance i.e 3% of A	19,447.71
C				**Sub Total (A+B)**	**6,67,704.85**
D				Contigency @ 3% of C	20,031.15
E				Tools & Plants @ 2% of C (Except HT Stay Set / GI Pipe earthing)	11,959.40
F				Transportation @ 7.5% of C	50,077.86
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	14,018.42
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	31,760.16
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**7,95,551.85**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	16	36,824.40
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	3.60	23,935.86
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
4	Construction of Earthing chamber incuding earthing pipe and civil works	EA	3,784.73	8.00	30,277.84
5	GIS Mapping, indexing/numbering of Poles	EA	836.00	4.00	3,344.00
6	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	8.00	2,266.72
K1				**Total Civil & Services**	**1,02,632.79**
K2				**Applicable Taxes to make it Landed Cost @18%**	**18,473.90**
K				**Total landed Cost (K=K1+ K2)**	**1,21,106.69**
L				**Total (J+K)**	**9,16,658.53**
M				Other overheads (Including 6% supervision charges) of L (for DP With AB Switch)	
N				**Sub-Total (L+M)**	**9,16,658.53**
O				CESS 1% of N	9,166.59
P				**Gross Total Material +Services (N+O) for DP With AB Switch**	**9,25,825.12**

No. of Cut Point with 180 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8032)	2

MATERIALS FOR 11 KV Cut Point with 180 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	71.6	5,586.67
3	Danger Plate	EA	180.00	2	360.00
4	H.T. Stay clamp	EA	260.00	2	520.00
5	H.T. Stay set (Complete)	SET	1,434.00	2	2,868.00
6	H.T. Stay Insulator Type-C	EA	87.00	2	174.00
7	7/10 SWG Stay Wire	KG	77.00	30	2,310.00
8	GI barbed wire anticlimbing device	KG	74.00	6	444.00
9	11 KV pin insulator polymer	EA	140.00	6	840.00
10	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	6	660.00
11	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
12	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
13	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
14	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
15	Earthing of Support (Coil Type)	EA	164.00	2	328.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1				**Total Cost of materials**	**1,12,520.08**
A2				**Applicable Taxes to make it Landed Cost @18%**	**20,253.61**
A				**Total landed Cost (A=A1 + A2)**	**1,32,773.69**
B				Stock, Storage & Insurance i.e 3% of A	3,983.21
C				**Sub Total (A+B)**	**1,36,756.91**
D				Contigency @ 3% of C	4,102.71
E				Tools & Plants @ 2% of C	2,592.40
F				Transportation @ 7.5% of C	10,256.77
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	3,504.61
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	5,952.80

I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J	**Sum of (C to I)**	**1,63,166.18**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.90	5,983.97
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.23	1,495.99
3	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	2	4,603.05
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**14,321.69**
K2	**Applicable Taxes to make it Landed Cost @18%**				**2,577.90**
K	**Total landed Cost (K=K1+ K2)**				**16,899.59**
L	**Total (J+K)**				**1,80,065.77**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 180 Degree Angle)				
N	**Sub-Total (L+M)**				**1,80,065.77**
O	CESS 1% of N				1,800.66
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle**				**1,81,866.43**

No. of Cut Point with 90 Degree Angle (Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8031)	2

MATERIALS FOR 11 KV Cut Point with 90 Degree Angle

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	2	57,670.00
2	GI Channel, angle & flat of different size	KG	78.00	134.688	10,505.66
3	Danger Plate	EA	180.00	2	360.00
4	GI barbed wire anticlimbing device	KG	74.00	6	444.00
5	11 KV pin insulator polymer	EA	140.00	8	1,120.00
6	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	8	880.00
7	IPC for 100 sq.mm AAA conductor (For covered conductor)-11 kV	EA	550.00	12	6,600.00
8	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	4	880.00
9	Dead end assembly with accessories for 100 Sq.mm. AAAC	EA	2,500.00	12	30,000.00
10	Disc insulator (B&S) 70 KN polymer	EA	150.00	12	1,800.00
11	Earthing of Support (Coil Type)	EA	164.00	2	328.00
12	H.T. Stay clamp	EA	260.00	4	1,040.00
13	H.T. Stay set (Complete)	SET	1,434.00	4	5,736.00
14	H.T. Stay Insulator Type-C	EA	87.00	4	348.00
15	7/10 SWG Stay Wire	KG	77.00	60	4,620.00
16	GI Nut , Bolt & Washer of different sizes	KG	74.00	19.992	1,479.41
A1	**Total Cost of materials**				**1,23,811.07**
A2	**Applicable Taxes to make it Landed Cost @18%**				**22,285.99**
A	**Total landed Cost (A=A1 + A2)**				**1,46,097.06**
B	Stock, Storage & Insurance i.e 3% of A				4,382.91
C	**Sub Total (A+B)**				**1,50,479.98**
D	Contigency @ 3% of C				4,514.40
E	Tools & Plants @ 2% of C (Except HT Stay Set)				2,724.13
F	Transportation @ 7.5% of C				11,286.00
G	Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)				3,504.61
H	C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)				6,611.42
I	Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)				-
J	**Sum of (C to I)**				**1,79,120.53**

Civil & Services

Sl. No.	*Description of Materials*	*Unit*	*Unit Rate*	*Total Quantity*	*Total Amount*
1	Fixing of complete Stay Set with all accessories and civil works	EA	2,301.53	4	9,206.10
2	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.9	5,983.97
3	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	0.2	1,495.99
4	GIS Mapping, indexing/numbering of Poles	EA	836.00	2.00	1,672.00
5	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	2.00	566.68
K1	**Total Civil & Services**				**18,924.74**
K2	**Applicable Taxes to make it Landed Cost @18%**				**3,406.45**
K	**Total landed Cost (K=K1+ K2)**				**22,331.19**
L	**Total (J+K)**				**2,01,451.72**
M	Other overheads (Including 6% supervision charges) of L (for 11 KV Cut Point with 90 Degree Angle)				
N	**Sub-Total (L+M)**				**2,01,451.72**
O	CESS 1% of N				2,014.52
P	**Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle**				**2,03,466.23**

	11 Kv Line Length In KM with 40 Mtr. Span			1	
	(Ref. Drawing No.- PD-1346-TPCODL-COM-LINE-8030)				
	MATERIALS FOR 11 KV Pin Points With WPB				
Sl. No.	***Description of Materials***	***Unit***	***Unit Rate***	***Total Quantity***	***Total Amount***
1	WPB (GI) Pole 160x152 11 Mtr. Long for SP	EA	28,835.00	15	4,32,525.00
2	11 KV V cross Arm(GI)	EA	851.00	15	12,765.00
3	Top bracket 100x50X6 mm GI Channel(GI)	EA	81.00	15	1,215.00
4	Danger Plate	EA	180.00	15	2,700.00
5	Back Clamp for danger Plate and barbed wire	KG	78.00	23.10	1,801.80
6	GI barbed wire anticlimbing device	KG	74.00	45.00	3,330.00
7	11 KV pin insulator polymer	EA	140.00	45	6,300.00
8	NON METALLIC TIES-11KV 100 SQMM CVRD AAAC	EA	110.00	45	4,950.00
9	Spike (GI) (2 Nos of spike per Set in each Pole)	SET	220.00	30	6,600.00
10	Earthing of Support (Coil Type)	EA	164.00	15	2,460.00
11	GI Nut , Bolt & Washer of different sizes	KG	74.00	20.58	1,522.92
12	100 SQ.MM. AAAC XLPE Covered Conductor-11kV	M	131.00	3090.00	4,04,790.00
13	Midspan Joint for 100 sq.mm AAAC XLPE Covered Conductor-11 kV	EA	450.00	3	1,350.00
A1				**Total Cost of materials**	**8,82,309.72**
A2				**Applicable Taxes to make it Landed Cost @18%**	**1,58,815.75**
A				**Total landed Cost (A=A1 + A2)**	**10,41,125.47**
B				Stock, Storage & Insurance i.e 3% of A	31,233.76
C				**Sub Total (A+B)**	**10,72,359.23**
D				Contigency @ 3% of C	32,170.78
E				Tools & Plants @ 2% of C	21,447.18
F				Transportation @ 7.5% of C	80,426.94
G				Erection Charges @ 5% on Trf/Breaker/WPB/ H-Pole (With Applicable Taxes @ 18% to make it Landed Cost)	26,284.54
H				C (except Trf/Breaker/WPB/ H-Pole/HT stay set/GI Pipe/PSC pole/GI Pipe earthing) (With Applicable Taxes @ 18% to make it Landed Cost)	54,666.83
I				Erection Charges @ 20% of PSC pole (With Applicable Taxes @ 18% to make it Landed Cost)	-
J				**Sum of (C to I)**	**12,87,355.52**
	Civil & Services				
1	Concreting of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	6.75	44,879.74
2	Couping of Pole @ 1:1.5:3(M-20 Grade)	M3	6,648.85	1.69	11,219.93
3	GIS Mapping, indexing/numbering of Poles	EA	836.00	15	12,540.00
4	Painting of Pole in Black & Yellow strips/Zebra	EA	283.34	15	4,250.10
5	GIS coordinate mapping, drawing preparation and submission of the same for New/Existing line	CKM	10,470.00	1	10,470.00
K1				**Total Civil & Services**	**83,359.77**
K2				**Applicable Taxes to make it Landed Cost @18%**	**15,004.76**
K				**Total landed Cost (K=K1+ K2)**	**98,364.53**
L				**Total Material+Services (J+K)**	13,85,720.05
M				Other overheads (Including 6% supervision charges) (for 11 KV Pin Points With WPB)	
N				**Sub-Total (L+M)**	**13,85,720.05**
O				CESS 1% of N	13,857.20
P				**Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB**	**13,99,577.25**
	Gross Total Summary				
1				Gross Total Material +Services (N+O) for DP Without AB Switch	3,49,204.62
2				Gross Total Material +Services (N+O) for DP With AB Switch	9,25,825.12
3				Gross Total Material +Services (N+O) for 11 KV Cut Point with 180 Degree Angle	1,81,866.43
4				Gross Total Material +Services (N+O) for 11 KV Cut Point with 90 Degree Angle	2,03,466.23
5				Gross Total Material +Services (N+O) for 11 KV Pin Points With WPB	13,99,577.25
Q				**Gross Total Material +Services**	**30,59,939.65**
R				Inspection Fee of Over Head Line (HT) - Rs. 375 up to 1 km.	375.00
S				Inspection Fee of Over Head Line (HT) - Rs. 225/ Additional Km	
T				Inspection Fee of Drawing Checking and Approval	
U				**Total Inspection Fees (R+S+T)**	**375.00**
V				GST @ 18% on Total Inspection Fees (U)	67.50
W				Total Inspection Fees including GST (U+V)	442.50
X				**Gross Total Material, Services and Inspection Fees (Q+W)**	**30,60,382.15**