

ODISHA ELECTRICITY REGULATORY COMMISSION
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PUBLIC NOTICE

Case No. 82 of 2023

Hearing of Application for approval of Capital Expenditure for improvement of reliability in Berhampur City in compliance to the directions of the Commission in the vesting order dated 28.12.2020 passed in Case No.83 of 2020 as well as the OERC (Terms and Conditions for determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022.

M/s. TP Southern Odisha Distribution Ltd. (TPSODL) has filed an application before this Commission for approval of Capital Expenditure for improvement of reliability in Berhampur City in its Licensed area of supply. The Commission has registered it as **Case No.82 of 2023** and has decided to dispose of this case through a public hearing. The petition along with all Annexures submitted by M/s. TPSODL in this regard is available in OERC website (www.oriarc.org) and also in TPSODL's website www.tpsouthernodisha.com. The persons/ organizations those who are interested to participate in the above proceeding may file their objections/suggestions, if any, on the present petition of M/s. TPSODL by **07.10.2023** with a copy to the petitioner. M/s. TPSODL is directed to file its rejoinder to the objections/suggestions of the Respondents by **16.10.2023** with a copy to the Respondents. The Commission will hear the matter on **17.10.2023 at 11.00A.M.**

By Order of the Commission

Dated. .09.2023

-Sd-

S E C R E T A R Y

BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION,
BIDYUT NIYAMAK BHAWAN.

Plot No-4, CHUNOKOLI, SHAILASHREE VIHAR, BHUBANESWAR-751021



Case No: _____ / 2023

File No TPSODL/Regulatory /2023/70/ ____

MATTER OF: Petition for Approval of the Capital Expenditure for improving Reliability in Berhampur City

And

IN THE MATTER OF: TP Southern Odisha Distribution Ltd. (Formerly Southco),
Corporate Office, Kamapally, Courtpeta, Berhampur, Ganjam
District, Odisha 760004. *Petitioner*

AFFIDAVIT

I Vidyadhar Hari Wagle, aged about 56 years, S/o. Late Hari Prabhakar Wagle working as the Chief Regulatory Affairs, do hereby solemnly affirm and state as follows:

- a) That, I am an authorized representative of the TPSODL, the Petitioner in the instant case and competent to swear this affidavit for and on behalf of the Petitioner.
- b) That, I have gone through the contentions in this application and understood the contents thereof.
- c) That, the facts stated in the application are true to the best of my knowledge and behalf.

P.C. PATNAIK
NOTARY
BERHAMPUR (GM.)
No. A-4052
Time. 12:26 AM/PM
Date. 25.5.2023

Deponent

Verified that the contents of above affidavit are true and correct, no part it is false and nothing material has been concealed there-form.

Verified at on this day of 2023

Deponent

Identified by

Advocate

The Declarant having been identified by
S. S. Mohapatra P.O. Adv. [Signature]
Solely affirmed before me on this.....
the.....25.5.2023 ofMay.....2023
12:26 AM/PM having been
to adover & explain declarant who
seemed to have properly understood the
contents of the there of moving the affidavit.

[Signature]
NOTARY
Berhampur (Gm.) Odisha



August 25, 2023

File No TPSODL/Regulatory /2023/70 / 7350

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

Dear Sir

**Sub: Petition for Approval of the Capital Expenditure for improving Reliability
in Berhampur City**

The City of Berhampur in TPSODL Licensed Area has witnessed a substantial growth in load this year and such growth rate is expected to continue even in the next summer.

Further, the network of TPSODL in the city area is not adequately strengthened to meet its load and this has put the reliability of power supply in jeopardy. In pursuit of mitigating the power interruption, meeting the load growth in the next two to three years, TPSODL is filing a petition to incur capital investment towards improvement of reliability in Berhampur City, for the approval of the Hon'ble Commission. The petition is provided in the **Appendix**

We trust our submissions are in order

Yours faithfully

A handwritten signature in blue ink, appearing to read 'VH Wagle', is written over a light blue circular stamp.

(Vidyadhar H Wagle)
Chief Regulatory Affairs



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

Appendix

Case No: _____/2023

IN THE MATTER OF: Application for approval of Capital Investment Plan in for Network Strengthening in Berhampur City in the Licensed Area of TP Southern Odisha Distribution Ltd.

And

IN THE MATTER OF: TP Southern Odisha Distribution Ltd. (Formerly Southco Utility), Corporate Office, represented by its Chief Regulatory Affairs , Registered Officer at Kamapally, Courtpeta, Berhampur, Ganjam, Odisha 760004

Petitioner

IN THE MATTER OF: All Concerned Stake Holders. Respondents

IN THE MATTER OF: All Concerned Stake Holders. Respondents

A. Background for Submission of the Petition

1. TPSODL has been from time to time submitting its Capital Investment Plan to be executed in its entire Licensed Area to the Hon'ble Commission. However, it is noticed that the load growth of Berhampur city has been substantial in the current year of 2023. As the existing network of TPSODL in the city area is not adequately equipped at present, the reliability in the city was compromised. It is expected that such load growth would continue in the next two to three years too

2



2. TPSODL had submitted the Capital Investment Plan for FY 2023-24 in January 2023 i.e much prior to summer of 2023. Such capital expenditure included schemes to improve the reliability and meet load growth to the extent of Rs 147 Crores across Licensed Area. A part of such schemes was towards improvement of reliability in the City area too.
3. However keeping in mind the importance of Berhmapur City, its expected load growth in the near future, the preparedness of the present condition of the network in the city, TPSODL is proposing to incur additional capital expenditure towards meeting the load of Berhmapur City and towards the same. In this regard, TPSODL is filing this present petition for an amount of Capital Expenditure to the extent of **Rs 69.05 Crores**. This also include an amount of **Rs 1.39 Crores** towards capital expenditure required to meet the unprecedented demand of the summer of 2023.
4. The summary of the Capital Investment Proposal is as given in the table below

Table 1 Summary of the Capital Investment Proposal

S. No.	Capex Head	Activity	UoM	Quantity	Total proposed Cost (Rs. Cr)	
1	Network Reliability	33 KV New Lines for reliable power supply	Ckm	0.65	0.36	
		Upgradation of 33 KV Line	Ckm	22.8	4.27	
		11 KV New Lines for reliable power supply	Ckm	8.17	3.22	
		Upgradation of 11 KV Line	Ckm	49.6	4.58	
		AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (AB Switch, HG Fuse, LA) & Installation of LV protection at DSS				6.80
		Network refurbishment for safety Enhancement (Intermediate poles for vulnerable location, provision for Earthing & Cradle guard at major road crossings, Populated area, School area)				2.58
		Sub-Total Network Reliability (2)				21.81
2	Load Growth	Augmentation of Power Transformer	Nos.	5	9.22	
		Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Nos.	101	13.36	
		Augmentation and addition of LT ABC line	Km.	207.17	23.28	
		Sub Total- Load Growth (3)				45.85
3		Emergency CAPEX			1.39	
		Total (1+2+3)			69.05	

5. The detailed justification for the above schemes along with the breakup of the expenditure is given in **Annexure 1- Detailed Project Report**

6. The Bill of Quantities (BOQ) is given in **Annexure 2- Bill of Quantities**

B. Employee Costs and Interest During Construction to be capitalised

7. It is submitted that Employee Cost associated with the projects or capex schemes would also form a part of the Capex and would be eventually capitalized with the capital expenditure scheme. The above cost submitted for approval does not include such Employee Costs capitalised or Interest During Construction. We wish to submit that the Employee Costs to be capitalized would in term depend on the employees working on the scheme and the time spent by them on the same.

8. Considering the Capitalisation for FY 2022-23, we have worked out the share of Employee Costs to be capitalized and also the IDC to be capitalized. The same are as shown in the table below:



Table 2 Employee Cost Capitalisation and IDC for FY 2022-23

Sr No	Particulars	Rs Cr	% of Base Capitalisation
1	Base Capitalisation (i.e without EDC and IDC)	315.02	
2	Employee Cost Capitalisation (EDC)	28.37	9.0%
3	Interest During Construction	0.78	0.2%

9. On the basis of the above, the estimated capitalization from the above scheme is as given in the table below:

Table 3 : Total Capital Cost including EDC and IDC

Sr No	Particulars	Amt (Rs Cr)
1	Capex without Employee Costs and IDC	69.05
	<i>Add</i>	
2	Employee Costs	6.22
3	IDC	0.17
4	Total Including Employee Costs and IDC	75.44

C. Basis for estimation of Cost

10. The estimation of capital costs for large number of items have been made on the basis of Cost Data Book (CDB) published by the Government of Odisha for various items. The CDB has been published by the Government of Odisha for the FY 2018-19. Subsequently, in the meeting dated 23rd November 2021, it was decided that 6% p.a towards escalation may be considered till the rates are revised. The relevant extracts from the Minutes of the meeting are as given below



E. A Technical Committee to be constituted under the Chairmanship of EIC-cum- PCEI, to look into the revision of rates. EIC(Electricity) clarified that pending finalization of the rates, price escalation of 6% per year may be allowed.

11. Accordingly, the escalation rate of 6% p.a from FY 2018-19 i.e a total escalation of 30 % till FY 2023-24 has been considered for estimation of capital expenditure for items covered by the CDB. For items, which are not covered by the CDB, the rates discovered by TPSODL through the last competitive bidding conducted has been considered. The rates so discovered have been escalated suitably to reflect the present market conditions. The expenditure of items which do not have the reference of the discovered rates since the same are being placed for the first time, budgetary quotes have been used.
12. For a few items where the above references are not available, engineering estimates have been made by TPSODL to arrive at the capital expenditure.
13. The Hon'ble Commission in their letter No OERC/Engg-09/2022/893 dated 3rd July 2023 had clarified that 6% supervision charges cannot levied for schemes which are executed by the Discoms for themselves (i.e not on behalf of consumers). Accordingly, TPSODL has not considered such charges while preparation of the scheme value.

D. Proposed Funding of the Capex

14. The Capital Expenditure is proposed to be funded through a Debt to Equity mix in the ratio of 70:30. The Debt raised for this Capital Expenditure would be long term debt and the Equity would be subscribed by Tata Power and Gridco in the ratio of 51% and 49% respectively. Further, Gridco is expected to subscribe to its share of 49% through transfer of assets owned by the Government i.e make contribution in kind and Tata Power would subscribe in the form of cash to the extent of its share of 51%. Accordingly, since cash resources need to be raised in the form of cash to meet the expenditure, the resources need to be raised additionally for compensating the Gridco Equity in Kind. Accordingly, the Debt and Equity



required for meeting the capital expenditure (without considering employee cost and IDC that would be capitalized is as follows:

Table 4 : Proposed funding of Capital Expenditure

Sr No	Particulars	Amount (Cr)
1	A. Proposed Capex Plan –	75.44
2	B. Add- GRIDCO capex (in Kind) (i.e. equivalent to GRIDCO share of 49% in 30% Equity) @ 17.23 % of Sr No 1	13.00
3	Total Capex (A+B)	88.44
Funding of the above Capex		
4	70% through Debt	61.9
5	30% through Equity	26.5
5a	TPC share @ 51%	13.531
5b	GRIDCO share @ 49%	13.00

E. Approval of the Board

15. TPSODL is in the process of obtaining the Board Approval and will submit the same to the Hon'ble Commission. The next Board meeting is scheduled in October 2023. In light of the urgency of this Capital Expenditure required to be completed, the Hon'ble Commission is requested to approve the proposal in this petition on the basis that such Board Approval would be obtained by TPSODL

F. Prayers to the Hon'ble Commission

16. TPSODL prays for the following to the Hon'ble Commission
- Approve the Capital Expenditure plan and breakup as proposed in **Table 1 Summary of the Capital Investment Proposal** i.e for an amount of **Rs 69.05 Crores** (excluding IDC and Employee Cost Capitalisation) for executing schemes envisaged for improvement of reliability in Berhampur City.
 - Pass any other orders as the Hon'ble Commission may think appropriate



Index

Annexure 1- Detailed Project Report	10	1
TPSODL Network Overview	10	1.1
Key Information about TPSODL including City Circle	10	1.2
Issues identified in Berhampur City Area	13	1.3
Schemes already undertaken in 2023	14	1.4
Schemes further planned to be undertaken to meet the future requirement	14	1.5
Augmentation of Power Transformers	15	1.5.1
33 KV New Line Proposal	16	1.5.2
Upgradation 33 KV Lines	17	1.5.3
New 11 KV Lines	18	1.5.4
Upgradation of 11 KV Lines	19	1.5.5
Augmentation/ Addition of Distribution Transformer	22	1.5.6
Augmentation and addition of LT AB Lines	23	1.5.7
LV Protection at DSS	24	1.5.8
Safety Improvement in the City	25	1.5.9
Cradle Guard (At Major Road crossings, in Populated area, School area)	25	1.5.9.1
Intermediate poles for unsafe to safe location	26	1.5.9.2
33 KV & 11 KV Isolator & Line AB Switch	26	1.5.10
Summary of various activities	27	1.5.11
Annexure 2- Bill of Quantities	31	2

Tables

Table 1 Summary of the Capital Investment Proposal	3
Table 2 Employee Cost Capitalisation and IDC for FY 2022-23	5
Table 3 : Total Capital Cost including EDC and IDC	5
Table 4 : Proposed funding of Capital Expenditure	7
Table 5 : Details of Distribution lines (Ckt Km)	10
Table 6 : Details of Power Transformers (PTR)	11
Table 7 : Information on Berhampur City Circle	11
Table 8 : Expenditure incurred to meet the urgent requirement in 2023	14
Table 9 : Augmentation of Power Transformers	15
Table 10 : New 33 KV Lines for Berhampur city	17
Table 11 : Upgradation of 33 KV Lines	17
Table 12 : New 11 KV Lines planned in Berhampur City	18
Table 13 : Upgradation of 11 KV Lines (1/2)	20
Table 14 : Upgradation of 11 KV Lines (2/2)	21
Table 15 : Upgradation of 11 KV Lines (2/2)	22
Table 16 : Augmentation and addition of LT Cables	23
Table 17 : LT Protection on DSS (1/2)	24



Table 18 : LT Protection on DSS (2/2)	25
Table 19 : Equipment for Safety in City Area	26
Table 20 : AB Switches and Isolators at 33 KV and 11 KV.....	27
Table 21 : Summary of Activities (1/3).....	27
Table 22 : Summary of Activities (2/3).....	29
Table 23 : Summary of Activities (3/3).....	30

Figures

Figure 1: Layout of Berhampur City.....	12
Figure 2: Location of Berhmapur City from sea.....	12
Figure 3: Location of Berhmapur City in Google Map.....	12

1 Annexure 1- Detailed Project Report

1.1 TPSODL Network Overview

17. TPSODL has a wide geographical area of 48,751 Sq KM. spread across 8 districts of Odisha state namely Ganjam, Gajapati, Boudh, Kandhamala, Rayagada, Koraput, Nabarangpur and Malkangiri and serves the consumer base of about 24.13 Lakhs. For operational simplicity the area is divided into 6 Circles viz. City, Berhampur, Aska, Bhanjanagar, Jeyapore & Rayagada Circles. In order to have the smooth operation of electrical network and to provide satisfactory services to its consumers, above circles are further sub divided into 19 Divisions and 51 Sub-division.

1.2 Key Information about TPSODL including City Circle

18. The information of TPSODL in terms of its Assets used for consumers are given in the following tables

Table 5 : Details of Distribution lines (Ckt Km)

SN	Description	City	Berhampur	Aska	Bhanjanagar	Rayagada	Jeyapore	Grand Total
1	33KV LINES	147	363	244	893	814	1410	3553
2	11 KV LINES	1241	3500	2746	10274	8233	17233	43250
3	LT. BARE LINES	337	1088	706	1311	2738	2339	9139
4	LT LINE	1023	3434	1677	7126	3931	13503	30736
	AB CABLE							



Table 6 : Details of Power Transformers (PTR)

Sr No	Circle	Units	10 MVA	8 MVA	7.5 MVA	5 MVA	3.15 MVA	1.6 MVA	Total
1	City	No.	3	12	1	23	6	2	47
2	Berhampur	No.	0	14	0	47	11	1	73
3	Aska	No.	1	5	0	40	9	3	58
4	Bhanjanagar	No.	0	7	0	57	27	6	97
5	Jeyapore	No.	0	8	0	88	48	15	159
6	Rayagada	No.	0	9	1	60	24	7	101
7	TOTAL QUANTITY	No.	4	55	2	315	125	34	535
8	TOTAL CAPACITY	MVA	40	440	15	1575	393.8	54.4	2518.2

Table 7 : Information on Berhampur City Circle

District –	Ganjam
Circle –	Berhampur City
Division –	03 – (BED-I, BED-II & BED-III)
Sub-Division-	07 – (Medical, Gopalpur, Industrial, SSD-I, SSD-III, SSD-IV & Kanisi)
Total Sections –	18
Total FCC -	62
Total Area-	591 Sq. kM
Total PSS-	20
Total 11 kV Feeders-	83 – (Urban – 41, Semi Urban/Rural – 42)
Total DT-	2528 - (3Ph - 2216, 1Ph – 312)
Total Consumers-	231242

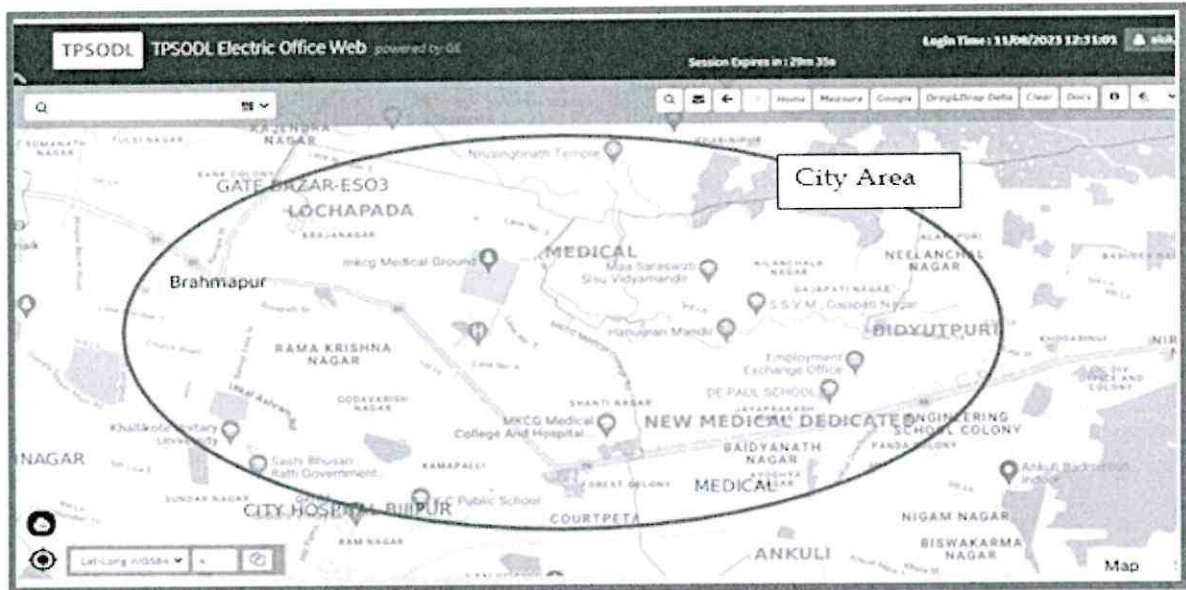
Figure 3: Location of Berhampur City in Google Map



Figure 2: Location of Berhampur City from sea



Figure 1: Layout of Berhampur City



1.3 Issues identified in Berhampur City Area

19. There was a sudden load growth observed in summer'23 which caused frequent interruption of power supply to consumers. Overloading conditions in electrical networks during this summer and expected load growth in Summer'24 can lead to a variety of issues, primarily stemming from increased demand for electricity due to higher temperatures and increased use of cooling systems. During site visits, it has been observed that conductor of multiple sizes is used in different section which restricts the circuit capacity. This also leads to conductor heating and high losses.
20. It is observed that some sections of lines are of undersized conductor of 34 & 55 sq.mm and there are multiple joints in the run of the line. Such de rated old conductor cause conductor snapping.
21. Hence to meet current load and anticipated future load growth, upgradation of only part of section which has undersized conductor is proposed . The size of the conducted is proposed to be enhanced to 100 and 148 sq.mm for identified sections of the lines. Further, refurbishment of the lines is also planned.

22. To mitigate the above mentioned issues, several schemes were identified and only prioritized schemes are proposed in this petition .

1.4 Schemes already undertaken in 2023

23. TPSODL had proposed a Capital Expenditure of Rs 338.34 Crore for FY 2023- 24 and the Hon'ble commission in its order dated 19.06.2023 had approved an amount of Rs. 338.33 Crore.

24. During Summer of 2023, we had to undertake few urgent measures to address overloading and reliability issues. These measures required an additional budget of Rs. 1.39 Cr. as per details given below.

Table 8 : Expenditure incurred to meet the urgent requirement in 2023

Sr No	Division	Voltage	Description of Works	UoM	Qty.	Cost in Rs Crs
1	BED-III	33	Link Line by 148 sq.m. Conductor from Hinjili Feeder with Nimakhandi Feeder	GKM	0.7	0.22
2	BED-II	11	Refurbishment by 100 sq.m. Conductor- NK Nagar P55 to Goshali nuageon	GKM	0.77	0.09
3	BED-I	11	Ambapua 70 Meter Link line and 2 nos. Cutpoint	-	-	0.01
4	BED-I	11	11 KV line AB switch at Courtbeta Feeder	Set	4	0.11
5	BED-I	33	Busbar Extension with Isolator at Medical P55	Set	1	0.24
6	BED-I	11	Link Line by 100 sq.m. Ankuil P55 Structure to Delhi Public School	GKM	0.4	0.11
7	BED-I	11	4-way RMU at Ankuil P55	Set	1	0.18
8	BED-III	11	11KV Link Line in Halidipadar to Randha Feeder	GKM	1.2	0.43
*Including 100mtr. NH Crossing using HDD method						
Total						1.39

25. Out of the above 8 schemes, one of them is completed and the balance of 7 schemes are under progress . We request Honorable commission to kindly approve additional Capex of Rs. 1.39 Cr. incurred in addition to Rs 338.34 Cr already approved for FY24.

1.5 Schemes further planned to be undertaken to meet the future requirement

1.5.1 Augmentation of Power Transformers

26. There is an exorbitantly high load growth observed this summer and some of the Power Transformers are expected to further experience load growth in Summer'24. To avoid these overloading issues, TPSODL had undertaken the assessment of the loading of the Power Transformers and found that some of the Power Transformers are overloaded & to meet the estimated peak load, it is required to augment few of the overloaded Transformers. In addition, few new Power Transformer are also Proposed considering the current peak and load growth for the next two years.
27. To carry out the detailed Study of the power transformer loadings, inputs were collected from each of the 33/11 kV substations and loading pattern of PTR were analyzed. Future load growth has also been considered and Power Transformers with peak load more than 80% capacity have been identified for planning of mitigation strategies. In some of the PSS, the percentage loading on Power Transformers is not uniform. Though one transformer is overloaded, another transformer is partly loaded. In such cases, it is planned to shift load from overloaded transformer to other transformer with lower load. Augmentation of Power Transformer is planned where spare capacity is not available with other Transformers in the same PSS.
28. The Augmentation of PTR proposed is as given below

Table 9 : Augmentation of Power Transformers

Activity	Location	Qty in Nos.	Cost -Rs Lakh/ Transformer	Estimated Cost in Rs. Cr
Augmentation of PTR to 12.5 MVA (from 8 MVA)	1)N.K Nagar PSS-01 Nos.	1	184.37	1.84
	2)Nimakhandi PSS-01 Nos.	1	184.37	1.84
	3)Goodshed PSS-01 Nos.	1	184.37	1.84
	4) Medical Old PSS-01 Nos.	1	184.37	1.84
	5) Corporation Road-01 Nos.	1	184.37	1.84
Total		5		9.22

29. The augmentation of PTR will help consumers as mentioned below:

- Reduce over-burdening of existing PTRs thereby reducing forced outages.
- Optimization of PTR loading.
- Reduction of technical loss.
- Reduction of PTR failure which is costly asset.
- Improve the operational efficiency.
- Reliable power supply by ensuring N-1 capacity at PSS level.
- Existing PTR freed after Augmentation will be reused at other location of PSS for mitigation of old and overloaded PTR after necessary testing & life-enhancement measures as per requirement. This will help in Multiple swapping and Cost optimization.

1.5.2 33 KV New Line Proposal

30. In TPSODL, 33kV network is the backbone of power supply system and spread across vast area of TPSODL and connected with various 33/11kV PSS from where the power is transformed at 11kV for further distribution. 33kV network is lengthy and radial in nature at most of the places. To summarize, we found following issues which needs to be addressed to strengthen the existing network.

- Lengthy and radial connectivity of the network.
- Absence of N-1 redundancy at least to critical installations.
- Circuit capacity restricted to lower size of conductor in existing line.

31. Due to lack of alternate source, it is not possible for the field teams to transfer the load during shutdown of radial feeder and thus all consumers connected to the affected feeders remain out of service till the field team locate and repair the fault. Further while considering the proposal for 33kV new line, RLP pole is considered for providing cyclone resilient infrastructure within 0-60 km of the coastal belt.

32. The new lines identified are as follows

Table 10 : New 33 KV Lines for Berhampur city

Circle	Division	33 kV Feeder	Location From	Location To	Length (CKM)	Proposed Conductor Size (Sq.mm)	Cost per unit- Line (Rs Lakh /Km)	Civil (Rs Lakhs)	Estimated Cost of Line in Rs. Cr.
City	BED-2	33 kV Berhapur-1	Shubham Vihar	Rama Krushna Nagar	0.35	148	31.75		0.11
City	BED-3	33 kV Kanisi	Shree	Near New	0.30	148	31.75	15	0.25
Total					0.65				0.36

1.5.3 Upgradation 33 KV Lines

33. During site visits, it has been observed that conductor of multiple sizes is existing in different sections of the lines which restricts the circuit capacity. This also leads to conductor heating and high losses. Hence it is required to upgrade the conductor size for the identified lines to carry the present as well as anticipated loading considering load growth for future. The following lines on 33 KV have been identified for upgradation

Table 11 : Upgradation of 33 KV Lines

Sr No	Circle	Division	33 kV Feeder	Location From	Location To	Length (CKM)	Proposed Conductor Size (Sq.mm)	No. of Bay	Cost per unit- Line (Rs Lakh /Km)	Cost per Bay (Rs Lakh/Bay)	Estimated Cost of Line in Rs. Cr.
1	City	BED-2	Berhampur-II	Nk Nagar PSS	Goodshed	7	148	2	15.83	33.12	1.77
2	City	BED-2	Berhampur-II	Ambagada	Nk Nagar PSS	6.2	148		15.83		0.98
3	CITY	BED-3	Kanisi	Andhapasara Road	Nk Nagar PSS	1.4	148		15.83		0.22
4	CITY	BED-3	Kanisi	Back Side Of Spectrum Apartment	33 Kv Four Pole Structure,	0.2	148		15.83		0.03
5	CITY	GSED	Chikiti	Barahi 4-Pole Structure	Chikiti PSS	8	148		15.83		1.27
6	Total					22.8					4.270

Benefits of New lines and upgradation

- Improve 11KV Network Reliability.
- Minimize Breakdown
- Reduced Technical Losses.

1.5.4 New 11 KV Lines

34. In TPSODL, 11KV feeders are important asset for a distribution utility which are feeding to various 11/0.415KV DSS from where the power is distributed to end consumers. There are 43247 Ckt. KMs of 11KV feeders under its operational area. As per the site survey it is found that the 11KV network is lengthy as well as radial in nature. Due to lack of availability of alternate 11KV feeder connectivity, it is not possible for the field teams to transfer the load during shutdown of radial feeder and thus all consumers connected to the affected feeders remain out of service till the field team locate and repair the fault. Analyzing the above view, 11KV new link line is to be planned in phased manner to provide N-1 arrangement for critical 11KV feeder in Urban areas. This will also help in diversion of load of overloaded feeders for optimal use of the network. One Number Ring Main Units(RMU) is planned for ease of operation and faster restoration.

35. The new 11 KV Lines (along with RMU or Bay) at certain places is as provided in the following table

Table 12 : New 11 KV Lines planned in Berhampur City



Sr No	Division	11kV Feeder	Location From	Location To	Length (CKM)	Proposed Conductor Size (Sq.mm)	No. of Bay/RMU	Cost (Rs Lakh /Km)	Cost (Rs/Bay or Rs/RMU)	Cost (Rs Cr)
1	BED-1	Lanjipalli	Chandan Nagar 5Th Ln Tapping	Chandan Nagar 500KVA DSS	0.8	100		26.79		0.21
2	BED-1	Courtpeta	Courtpeta	Mkcg Fdr	1.5	100		26.79		0.40
3	BED-1	Gopalpur	Baxipalli	Panthaniwas	1	100		26.79		0.27
4	BED-1	Siddharthnagar	Back Side Of Boys Hostel	Siddharth Nagar Colony	0.05	100		26.79		0.01
5	BED-1	City Hospital Medical	Medical PSS	Medical Padia 500KVA DSS	1	100	1	26.79	18.478	0.45
6	BED-1	Nilanchal Nagar	Bidyutpuri PSS	14Th Lane	0.5	100		26.79		0.13
7	BED-1	Nilanchal Nagar	Bidyutpuri PSS	Nilachalnagar II Lane	0.5	100	1	26.79	24.32	0.38
8	BED-1	Ayodhyanagar	New Medical PSS	Medical Square	0.5	100		26.79		0.13
9	BED-2	Old Berhampur	Haridakhan di Petrol Pump	Binayak Acharya College T-Off Point	0.6	100		26.79		0.16
10	BED-2	Gosani Nuagam	Back Side New Police Station	Ray Project Neherunagar	0.32	100		26.79		0.09
11	BED-2	Gosani Nuagam	Near Fisheries S/S 500 kVA	Goodshed Htc 1402/120/17	1	100		26.79		0.27
12	BED-2	HIG	NK Nagar	Near PSS	0.1	UG 3C*400 Sq. mm XLPE		110.30		0.13
13	BED-2	Gosani Nuagam	Gosani Nuagam(Railway crossing)	Goodshed(Railway crossing)	0.3	UG 3C* 400 Sq. mm XLPE using HDD method		110.30		0.58
Total					8.17					3.22

Note: The estimated Cost for Sr No 12 and Sr No 13 includes the approx. cost for ROW permission of Rs 2 Lakhs (Sr No 12) for National Highway and Rs 25 Lakhs (Sr No 13) for Railway Crossing

1.5.5 Upgradation of 11 KV Lines

36. It is observed that many of 11kV feeder lines are having some sections with 34 Sqmm Conductor. These sections restrict the loading capacities of these feeders and also results into frequent conductor snapping due to ageing and multiple joints. There are also issues observed such as tilted pole, low clearance due to high span, damaged insulators etc. Hence network refurbishment and upgradation is planned as under in identified part of the section of the lines

Table 13 : Upgradation of 11 KV Lines (1/2)

Sr No	Division	11KV Feeder	Location From	Location To	Length (CKM)	Proposed Conductor Size (sqmm)	Cost (Rs Lakh /km)	Estimated Cost of Line in Rs. Cr.
1	BED-1	11 KV CITY HOSPITAL	Vishal 4-Pole	Palur Bunglow	1.30	100	9.17	0.12
2	BED-1	11 KV CITY HOSPITAL	State Bank	Gandhi Nagar	1.70	100	9.17	0.16
3	BED-1	11 KV CITY HOSPITAL	State Bank	Gandhi Nagar	4.40	100	9.17	0.40
4	BED-2	11KV	N K Nagar PSS	Mango Market	0.40	100	9.17	0.04
5	BED-2	11 KV OLD	Binayak	Kathamentu Chhak	1.00	100	9.17	0.09
6	BED-2	HOUSING BOARD	Premnagar	Prem Nagar 3rd Line End	0.25	100	9.17	0.02
7	BED-2	HOUSING BOARD	Prem Nagar	Khaspasahi	1.50	100	9.17	0.14
8	BED-2	GANDHINAGAR-I	Pataleswar	Sana Bazar Chhak	0.40	100	9.17	0.04
9	BED-2	HOUSING BOARD	NK Nagar PSS	Prem Nagar Main Road	0.60	100	9.17	0.06
10	BED-2	HIG	Line Ab Switch	Om Vihar Tapping Of Hig Near Rajarani	0.80	100	9.17	0.07
11	BED-2	11 KV OLD	PSS Ambagada	Haridakhandi Kall Mandir Line Ab Switch	2.00	148	10.81	0.22
12	BED-2	HIG	Mango Market (C.P.)	New Police Station Gosainnugam	4.00	100	9.17	0.37
13	BED-2	GANDHINAGAR-I	NK Nagar PSS	Prem Nagar Main Road	0.20	100	9.17	0.02
14	BED-2	HOUSING BOARD	Prem Nagar	Prem Nagar 7Th Lane 1St Extension	0.40	100	9.17	0.04
15	BED-2	GANDHINAGAR-I	Gandhi Nagar	Kanjibari Sahi Fuse Cell	1.50	100	9.17	0.14
16	BED-2	11 KV F-3 SANA BAZAR	Rukmuni	Mahamayee Cinema Hall	0.50	100	9.17	0.05
17	BED-2	CITY HOSPITAL	Brajraj Nagar	Jagannath Vihar 5/5	0.50	100	9.17	0.05
18	BED-2	ASKAROAD	Ambagada	Aska Road Truck Union	0.50	100	9.17	0.05
19	BED-2	11 KV OLD	BERHAMPUR	Kathamentu Chhak Bharat Kuada	2.00	100	9.17	0.18
20	BED-2	11 KV OLD	BERHAMPUR	Haridakhandi Kall Mandir	1.50	100	9.17	0.14

Table 14 : Upgradation of 11 KV Lines (2/2)

Sr No	Division	11kV Feeder	Location From	Location To	Length (CKM)	Proposed Conductor Size (Sq.mm)	Cost (Rs Lakh /Km)	Estimated Cost of Line in Rs. Cr.
21	BED-2	11KV Gosaninuagam	LIC SSTN	Neherunagar 13	0.40	100	9.17	0.04
22	BED-2	ASKAROAD	Binayak High School	Aga Sahi	0.75	100	9.17	0.07
23	BED-2	CITY HOSPITAL Ambagada	Raja Sahi	Vegetable Market	0.60	100	9.17	0.06
24	BED-1	Gopalpur	PSS	Penha Niwas	4.00	100	9.17	0.37
25	BED-1	ANKULI	Industrial Chowk	Nigam Nagar Tapping Point Dp	0.30	100	9.17	0.03
26	BED-1	ANKULI	Industrial Chowk	Paschimeswar Temple Via Kumbharapali, Laxmi Nagar & High School Rd	2.50	100	9.17	0.23
27	BED-1	Courtpeta	Chakk	Govt Office	4.00	100	9.17	0.37
28	BED-1	HILL PATNA	Railway Crossing	Bazar Chakk	0.40	100	9.17	0.04
29	BED-1	Tata Benz	New Bus-Stand	Six Pole(Rmu)	1.00	100	9.17	0.09
30	BED-1	Tata Benz	Kali Mandir	Natabar Nagar Line	1.00	100	9.17	0.09
31	BED-1	11 KV CITY HOSPITAL Medical	Microwave	Six Pole(Rmu)	1.50	100	9.17	0.14
32	BED-1	11 KV CITY HOSPITAL Medical	Rmu	Four Pole(Stv) Babaji Tota Sahi	0.80	100	9.17	0.07
33	BED-1	11 KV CITY HOSPITAL Medical	Four Pole	Swarnamayee Nagar	1.50	100	9.17	0.14
34	BED-1	11 KV CITY HOSPITAL Medical	Four Pole (Babaji Tota Sahi)	Congress Office	0.50	100	9.17	0.05
35	BED-1	OLD BUSSTAND	Medical Psc	New Bus-Stand	0.80	100	9.17	0.07
36	BED-1	OLD BUSSTAND	Chandramani Peta	Telephone Bhawan	0.70	100	9.17	0.06
37	BED-1	OLD BUSSTAND	Vishal Mart	Spectrum Hotel	0.40	100	9.17	0.04
38	BED-1	OLD BUSSTAND	Telephone Bhawan	Khalasi Sahi	1.00	100	9.17	0.09
39	BED-1	KAMPALLI	Phd Campus Tapping	Towards Bda Complex	0.20	100	9.17	0.02
40	BED-1	SIDDHARTHANAGAR	Vijay Vihar Taping	Nanda Factory, Bhabinipur Rd	1.80	100	9.17	0.17
Total					49.60			4.58

Benefits of New lines and upgradation

- Improve 11KV Network Reliability.
- Minimize Breakdown
- Reduced Technical Losses.

1.5.6 Augmentation/Addition of Distribution Transformer

37. To cater to increasing load demand, DTR augmentation and new DSS at load center is required to avoid overloading of transformer which can lead to transformer failures and power interruptions. Also, to ensure reliable power supply to our consumers, Distribution Transformers need to be kept at optimum loading to avoid any mechanical stress on the transformers due to overloading.

38. As per standard practice, DTR need to be loaded up to 80% and any DTR above 80% loading needs to be considered for mitigation. To avoid these overloading issues where the load growth is high, it is required to augment/new DSS in identified location. It will provide benefit to consumers by providing reliable power supply due to reduction in forced Outages.

39. In this proposal, TPSODL intends to carry out Distribution Transformers augmentation and introduce new DSS for those DTRs where LT network lengths are high resulting into under voltages at customer end. In addition to New Distribution transformer new 11 kV Line Extension for New DTRs is also required along with LT Cable.

40. The Augmentation of DTs and also the Addition of DTs along with 11 KV extension and LT Cable extension/Augmentation is as given in the table below

Table 15 : Upgradation of 11 KV Lines (2/2)



Sr No	Activity	Qty in Nos.	11 KV Line Extension for New DTRs (CKM)	Cost of Transformer	Cost (Rs/Km) for 11 KV	Estimated Cost in Cr.
1	Augmentation of DTR -Aug to 100 KVA	11		5.31	16.95	0.58
2	Augmentation of DTR-Aug to 250 KVA	2		9.07	16.95	0.18
3	Augmentation of DTR-Aug to 500 KVA	19		15.99	16.95	3.04
4	Addition of New DTR - 100 KVA	31	10.7	6.60	16.95	3.86
5	Addition of New DTR - 250 KVA	34	9.45	9.68	16.95	4.89
6	Addition of New DTR - 500 KVA	4	0.67	17.23	16.95	0.80
Total			20.82			13.36

Benefits of Distribution Transformer proposals

- The proposal will help in Mitigation of overloading DTRs. Thus, it will lead into lower interruption and good quality power hence leading to satisfaction of our consumers in upcoming Summer'24
- Improve Voltage Profile at consumer end.
- Reduction of technical loss
- Improve the operational efficiency

1.5.7 Augmentation and addition of LT AB Lines

41. The LT AB cable has been proposed for augmentation to address addition of LT feeders due to DTR augmentation or new addition. The augmentation of DTR requires augmentation of associated LT AB cable to cater the additional load to be served to consumers seamlessly.

Table 16 : Augmentation and addition of LT Cables

Sr No	Activity	Unit Cost	Total Qty	Estimated Cost in Rs Cr.
1	Augmentation of LT ABC line(35 to 50 sqmm)	5.76	0.70	0.04
2	Augmentation of LT ABC line(50 to 95 sqmm)	8.19	89.91	7.36
3	Addition of LT ABC(95 sqmm)	13.70	112.51	15.42
4	Addition of LT ABC(50 sqmm)	11.28	4.05	0.46
Total			207.17	23.28

Benefits from Augmentation and addition of LT Cables

- Improve voltage Profile
- Reliability Improvement

1.5.8 LV Protection at DSS

42. Analysis of distribution transformer's failure data for the last few years suggest that effective HV & LV protection might have reduced the transformer failures. For example, if there is no effective protection on LV side, during fault on the load side, the fault current will pass through the transformer for a longer duration till the fault is isolated by upstream network. Since the magnitude of the fault current is high, it is likely to produce mechanical and thermal stresses in the transformer causing premature failure of the transformer.

43. During site visit it was observed that there are no LT Protection at DTR secondary side for majority of DTRs so any fault occurred during in LT shifts to 11kV System tripping 11kV feeder. The Tripping on 11kV feeders impacts reliability indices SAIFI and SAIDI and all connected consumers are also affected due to shut down.

44. LT protection is being provided since last two years in Berhampur urban area and the same is proposed under this Capex proposal for few balance DTRs to improve reliability of respective 11kV feeders as below.

Table 17 : LT Protection on DSS (1/2)



Sr No	Activity	Unit Cost (Rs lakhs)	Total Qty	Estimated Cost in Cr.
1	DSS Refurbishment	3.67	12	0.44
2	11 KV A B Switch	0.38	148	0.56
3	11 KV LA	0.26	155	0.41
4	11 KV HG Fuse	0.36	122	0.44
5	LT Feeder Pillar	1.00	9	0.09
6	Total			1.93

Table 18 : LT Protection on DSS (2/2)

Sr No	Activity	Unit Cost (Rs Lakhs)	Total Qty	Total Cost in Cr.
1	LV Protection for 100 KVA Distribution Sub-Station	0.71	50	0.36
2	LV Protection for 250 KVA Distribution Sub-Station	1.57	40	0.63
3	LV Protection for 500 KVA Distribution Sub-Station	2.66	50	1.33
	Total		140	2.31

1.5.9 Safety Improvement in the City

1.5.9.1 Cradle Guard (At Major Road crossings, in Populated area, School area.)

45. Cradle guards are provided in overhead MV/HV/LV feeders, by which a live conductor, when accidentally gets broken, is prevented to come in contact with public or animals and vehicles. With cradle guards in place, whenever a live conductor breaks, it first touches the cradle guard thus completing the electrical circuits necessary for the operation of the protection relays installed at substations. This in-turn trips the circuit breaker and danger to any living object is averted.

46. At present, most of the network is overhead and there is no provision of guard or cradle wire installed beneath the overhead conductors for most of the feeders. This poses serious safety threat to the general public and possibility of conductor parting cannot be ruled out. In such a scenario, cradle guard will help in avoiding accidents

caused by snapping of conductors of overhead MV feeders. TPSODL proposes to put in place the cradle wire/guard wire at public places, road crossings etc.

1.5.9.2 Intermediate poles for unsafe to safe location

47. There have been several irregularities in the span length of present networks where the span length also found more at some places. These large span lengths have resulted in:

- Sagging of conductors.
- Low ground clearances - vertical clearance of conductor from ground is lower than the permissible limits of 5.5 m (for LT Lines) and 5.8 m (for HT Lines).
- Accidents due to sagging & low ground clearances.

48. To overcome such scenarios, where the span length is on the higher side, it is of utmost importance to provide intermediate poles in between the spans. The addition of intermediate poles will address the issue of sagging, low ground clearances & accidents caused due to this.

49. To ensure safe and reliable power supply to end consumers TPSODL proposes addition of intermediate poles in 33kV and 11kV lines in phased manner emphasizing critical areas such as schools, hospitals, markets and other key installations.

Table 19 : Equipment for Safety in City Area

Sr No	Particulars	No	Unit Rate (Rs Lakhs)	Amount (Rs Cr)
1	Cradle Guard	46	0.97	0.45
2	33KV Intermediate Pole	32	0.74	0.24
3	11KV Intermediate Pole	336	0.60	2.02
Total				2.70

1.5.10 33 KV & 11 KV Isolator & Line AB Switch

50. AB switch is an essential element of any overhead power line, used to connect or disconnect the power system when tripped, for maintenance, to isolate the faulty



section, and to restore the supply to healthy section to improve reliability. There is also requirement of 33KV and 11KV Isolator in PSS.

51. The major advantage of installing Isolators and AB switches in 33kV and 11kV feeders is that field engineers would have flexibility to isolate the section locally instead of switching off entire feeder. In case of any tripping, maintenance engineer can isolate the faulty section and restore the supply of remaining consumers thereby improving the reliability.
52. The AB Switches and Isolators to be installed at 33 KV and 11 KV in the city area are as follows:

Table 20 : AB Switches and Isolators at 33 KV and 11 KV

Sr No	Particulars	No	Unit Rate (Rs Lakhs)	Amount (Rs Cr)
1	33 KV AB Switches	5	3.69	0.18
2	11 KV AB Switches	61	2.67	1.63
3	33 KV Isolators	5	4.41	0.22
4	11 KV Isolators	10	2.80	0.28
Total				2.31

1.5.11 Summary of various activities

53. The Summary of proposals is as provided in the tables below

Table 21 : Summary of Activities (1/3)



Sr No	Capex Head	Activity	Sub-Activity	Unit Cost (in Rs Lakhs)	UOM	Total Qty	Total Costing Rs. (Cr.)
1	Network Reliability	33 KV New Lines for reliable power supply and civil works of Rs 0.15 Crores	New 33 KV Lines RLP - 148sqmm	31.75	Ckm	0.65	0.36
2	Network Reliability	Upgradation of 33 KV Line	New 33 KV Bay at P55 -H- Pole	39.12	Nos.	2	0.66
3	Network Reliability	Upgradation of 33 KV Line	33KV Line Augmentation - 148sqmm	15.83	Ckm	22.8	3.61
4	Network Reliability	AB Switch for 33 KV & 11 KV Lines, P55 Refurbishment (isolator) & D55 Switch, HG Fuse, LAJ & installation of LV protection at D55	33KV AB Switch	3.69	SET	5	0.18
5	Network Reliability	AB Switch for 33 KV & 11 KV Lines, P55 Refurbishment (isolator) & D55 Switch, HG Fuse, LAJ & installation of LV protection at D55	33 KV Isolator	4.41	SET	5	0.22
6	Network Reliability	Network refurbishment for safety protection at D55	Intermediate Pole 15 mtr-33 KV	0.74	Nos	32	0.24
7	Network Reliability	11 KV New Lines for reliable power supply	11 KV New Link Line-RLP 100 Sqmm	26.79	Ckm	7.77	2.08
8	Network Reliability	11 KV New Lines for reliable power supply	11 KV UG Cable	110.50	Km	0.4	0.71
9	Network Reliability	11 KV New Lines for reliable power supply	11 KV RMU	18.48	Nos	1	0.18
10	Network Reliability	AB Switch for 33 KV & 11 KV Lines, P55 Refurbishment (isolator) & D55 Switch, HG Fuse, LAJ & installation of LV protection at D55	11 KV Isolator	2.80	SET	10	0.28
11	Network Reliability	11 KV New Lines for reliable power supply	11 KV Bay	24.52	Nos	1	0.24
12	Network Reliability	Upgradation of 11 KV Line	Upgradation of 11 KV Line-100sqmm	9.17	Ckm	47.60	4.37
13	Network Reliability	Upgradation of 11 KV Line	Upgradation of 11 KV Line-148sqmm	10.81	Ckm	2.00	0.22
14	Network Reliability	AB Switch for 33 KV & 11 KV Lines, P55 Refurbishment (isolator) & D55 Switch, HG Fuse, LAJ & installation of LV protection at D55	11KV AB Switch	2.67	SET	61	1.63
15	Network Reliability	Network refurbishment for safety protection at D55	Cradle Guard	0.97	Nos	46	0.45

Table 22 : Summary of Activities (2/3)

Sr No	Capex Head	Activity	Sub-Activity	Unit Cost (In Rs)	UOM	Total Qty	Total Costing Rs. (Cr.)
16	Network Reliability	Network refurbishment for safety Enhancement (Intermediate poles for vulnerable location, provision for Earthing & Cradle guard at major road crossings, Populated area, School area)	Intermediate Pole 11 mtr-11 KV	0.60	Nos	336	2.02
17	Network Reliability	Network refurbishment for safety Enhancement (Intermediate poles for vulnerable location, provision for Earthing & Cradle guard at major road crossings, Populated area, School area)	11 KV Pole Earthing	0.0044	No	695	0.03
18	Network Reliability	Network refurbishment for safety Enhancement (Intermediate poles for vulnerable location, provision for Earthing & Cradle guard at major road crossings, Populated area, School area)	11 KV Pole Couping	0.0112	No	751	0.08
19	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	LV Protection for 100 KVA Distribution Sub-Station	0.71	Nos	50	0.36
20	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	LV Protection for 250 KVA Distribution Sub-Station	1.57	Nos.	40	0.63
21	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	LV Protection for 500 KVA Distribution Sub-Station	2.66	No	50	1.33
22	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	DSS Refurbishment	3.67	Nos.	12	0.44
23	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	11 KV ABS 400 Amp	0.38	Nos.	148	0.56
24	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	11 KV LA DH Class	0.26	Nos.	155	0.41
25	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	11 KV 400 Amp HG Fuse	0.56	Nos.	122	0.44
26	Network Reliability	AB Switch for 33 KV & 11 KV Lines , PSS Refurbishment(Isolator) & DSS Refurbishment (Replacement of damaged AB Switch, HG Fuse, LA) & Installation of LV protection at DSS	LT Feeder Pillar	1.00		9	0.09
27	Load Growth	Augmentation of Power Transformer	Augmentation of PTR- 12.5 MVA	184	Nos.	5	9.22
28	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	11 KV Line Extension for New DTRs WPB Pole	16.95	Ckm	20.82	3.53
29	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Augmentation of LT ABC line(35 to 50 sqmm)	5.76	Ckm	0.70	0.04
30	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Augmentation of LT ABC line(50 to 95 sqmm)	8.19	Ckm	89.91	7.36



Table 23 : Summary of Activities (3/3)

v	Capex Head	Activity	Sub-Activity	Unit Cost (in Rs.)	NOM	Total Qty	Total Costing Rs. (Cr.)
31	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Addition of LT ABC(50	11.28	Km	4.05	0.46
32	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Addition of LT ABC(95	13.70	Km	112.51	15.42
33	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Augmentation of DTR - Aug to 100 KVA	5.31	Nos.	11	0.58
34	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Augmentation of DTR - Aug to 250 KVA	9.07	Nos.	2	0.18
35	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Augmentation of DTR - Aug to 500 KVA	15.99	Nos.	19	3.04
36	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Addition of New DTR - 100 KVA	6.60	Nos.	31	2.05
37	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Addition of New DTR - 250 KVA	9.68	Nos.	34	3.29
38	Load Growth	Augmentation / addition of Distribution Transformer and 11 KV Line Extension for New DTRs	Addition of New DTR - 500 KVA	17	Nos.	4	0.69
Grand Total							67.66



2 Annexure 2- Bill of Quantities

BILL OF QUANTITIES
(BOQ)

SI No	Cost Estimate for PTR-12.5 MVA Description of Item	Unit	Quantity	Augmentation of Old PTR Unit Rate(In Rs.)	Amount(In Rs.)
1	12.5MVA 33/11KV Power Transformer with OLTC	EA	1	1,26,69,410.00	1,26,69,410.00
2	CONDUCTOR AAA 232 SQMM	Mtr	15.00	203.45	3,051.75
3	CLAMP PG FOR 232 SQMM AAA COND	No	15.00	1,495.00	22,425.00
4	12 bolted (M-12) "T" clamp for 232 mm ² conductor	No	6.00	1,248.00	7,488.00
5	GI Nut, Bolt & Washer of different sizes	Kg	20.00	101.40	2,028.00
6	50X6 mm GI flat	Kg	32	97.50	3,120.00
7	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .long	No	4	1,365.00	5,460.00
8	33KV Post Insulator	No	3	2,054.00	6,162.00
				Total Cost of materials	1,27,19,144.75
				Stock, Storage & Insurance i.e 3%	3,81,574.34
				Sub Total A	1,31,00,719.09
				Contingency @ 3%	3,93,021.57
				Tools & Plants @ 2%	2,62,014.38
				Transportation @ 7.5%	9,82,553.93
				Erection Transformer/Breaker/WP/B/H Pole/Joist Poles @ 5%	6,52,474.62
				Erection Other @ 10%	5,122.68
				Erection PSC Pole @ 20%	
				Sub Total B	1,53,95,906.27
Civil & Services					
	Dismantling of 5/7.5/8 MVA Power TRF	EA	1	79,695.00	79,695.00
	Dismantling of Steel Structure and Nut & Bolts	KG	100	78.75	7,875.00
	ITC of Earthing pipe with E/C	EA	4	2,415.00	9,660.00
				Total Civil Part	97,230.00
				Sub-Total C	1,54,93,136.27

Power Transformer-12.5 MVA

SI No	Cost Estimate for PTR-12.5 MVA		1	Augmentation of Old PTR	
	Description of Item	Unit		Quantity	Unit Rate (In Rs.)
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total D	1,54,93,136.27
				GST @ 18% of Sub-Total	27,88,764.53
				CESS @ 1% of Sub-Total	1,54,931.36
				Sub-Total E	1,84,36,832.17
				Inspection Fee	
				Drawing Approval	
				Grand Total	1,84,36,832.17

Cost Estimate for 33KV New Line with RLP pole					1	Unit Rate(In Rs.)	Amount(In Rs.)
Sl No	Description of Item	Unit	Quantity				
1	RLP -Suspension Type 10.478Mtr. Long 514.31KG	EA	17		55,644.54	9,45,957.18	
2	POLE W/PB GI 160X160 13 MTR	EA	4		40,427.00	1,61,708.00	
3	Top Channel 100X50X5mm,each channel length 3.25 mtr	Kg	62.14		97.50	6,058.65	
4	Double Pole Beating Channel 75X40X4.8mm.,each channel length 2.8 Mtr	Kg	99.96		97.50	9,746.10	
5	50X50X6mm GI Bracing Angle, 4.5Kg./mtr., each angle length 3.432 mtr.	Kg	61.78		97.50	6,023.16	
6	Straight Cross Arm Channel 100X50X5mm, each channel length 1.7 Mtr.	Kg	65.01		97.50	6,338.28	
7	Straight Cross Arm Top Channel 100X50X5mm,each channel length 0.306 Mtr.	Kg	11.70		97.50	1,140.89	
8	Fish Plate 50X8 mm.,each 0.280 mtr. Length	Kg	12.31		97.50	1,200.11	
9	Danger Plate, 1 no	No	4		104.00	416.00	
10	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	1.20		97.50	117.35	
11	Back Clamp for danger Plate, 1 no for RLP	Kg	5.12		97.50	498.74	
12	GI barbed wire antclimbing device	Kg	12		104.00	1,248.00	
13	Back Clamp for Barbed wire antclimbing device 25X3mm. Flat length of 0.510mtr	Kg	4.81		97.50	469.40	
14	Back Clamp for Barbed wire antclimbing device for RLP	Kg	20.46		97.50	1,994.97	
15	33KV,10KN pin insulator polymer	No	57		624.00	35,568.00	
16	33KV H/W fitting(8&S) 120KN,4 Bolt	Set	18		650.00	11,700.00	
17	Hardware fitting (suspension clamp, D shackle)	EA	51		2,083.20	1,06,243.20	
18	33KV Disc insulator (8&S) 120KN polymer	No	138		1,872.00	2,58,336.00	
19	Earthing of Support (Coil Type)	No	21		215.80	4,531.80	
20	No-8 GI wire (Dia 4.6mm) 0.131 KG/Mtr.	Kg	5.50		97.50	536.45	
21	CLAMP PG FOR 148 SQMM AAA COND	No	18		806.00	14,508.00	
22	GI Nut, Bolt & Washer of different sizes	Kg	22.02		101.40	2,232.73	
23	H.T. Stay clamp	Pair	8		162.50	1,300.00	
24	H.T 33KV Stay set (complete)	Set	8		1,365.00	10,920.00	
25	H.T Stay insulator	No	16		65.00	1,040.00	
26	7/8 SWG Stay Wire	Kg	120		97.50	11,700.00	
27	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long	No	1		1,365.00	1,365.00	
28	CONDUCTOR 148 SQ.MM. AAA	Mtr	3090.00		106.60	3,29,394.00	
29	50X6 mm GI flat	Kg	48		97.50	4,680.00	
30	Black Paint	Ltr	19		286.00	5,434.00	
31	Yellow Colour Paint for Background	Ltr	38		260.00	9,880.00	
	Total Cost of materials				19,52,286.00	19,52,286.00	
	Stock, Storage & Insurance i.e 3%				58,568.58	58,568.58	
	Sub Total A				20,10,854.58	20,10,854.58	
	Contingency @ 3%				60,325.64	60,325.64	
	Tools & Plants @ 2%				40,217.09	40,217.09	
	Transportation @ 7.5%				1,50,814.09	1,50,814.09	
	Erection Transformer/Breaker/WPB/H Pole/Joint Poles @ 5%						
	Erection Other @ 10%				82,707.13	82,707.13	
	Erection PSC Pole @ 20%						
	Sub Total B				23,44,918.53	23,44,918.53	

Cost Estimate for Bay 33kV at Existing PSS						
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)	
1	Lightning Arrester (30kV,10kA) (Station Class,Class 3) with Surge Counter	EA	3	7,506.94	22,520.82	
2	33kV 1250 Amp Outdoor VCB	EA	1	2,18,644.07	2,18,644.07	
3	CT 33kV 1P O/D OIL 600-300-150/1-1-1A	EA	3	32,605.93	97,817.79	
4	CRP WITH TRF DIFF-INBUILT O/C & EF RELAY	EA	1	3,93,570.00	3,93,570.00	
5	PT 33kV/O/D OIL FILLED	No	3	24,700.00	74,100.00	
6	33kV,1250A Double break (Turn & Twist centre rotating) isolator with earth switch with PI(Polymer)	Set	1	1,31,157.00	1,31,157.00	
7	50x6 mm GI flat	Kg	300	97.50	29,250.00	
8	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long	No	7	1,365.00	9,555.00	
9	13 MTR GI H POLE	EA	2	92,740.36	1,85,480.72	
10	Top Channel 100X50X5mm, each channel length 4.3 mtr.	Kg	82,216	97.50	8,016.06	
11	Double Pole Belting Channel 75X40X4.8mm., each channel length 4.3 Mtr	Kg	122,808	97.50	11,973.78	
12	50X50X6mm, GI Bracing Angle, 4.5Kg./mtr., each angle length 4.927 mtr.	Kg	88,686	97.50	8,646.89	
13	Insulator Support Channel 75X40X4.8mm., each channel length 4.3 Mtr.	Kg	30,702	97.50	2,993.45	
14	Isolator Support Channel 75X40X4.8mm., each channel length 4.3 Mtr.	Kg	61,404	97.50	5,986.89	
15	Isolator Operating Down Pipe Support Channel 75X40X4.8mm., of length 0.8 mtr.	Kg	5,712	97.50	556.92	
16	Down Pipe Diagonal Support Angle 50X50X6mm, each angle length 0.388mtr.	Kg	1,75	97.50	170.24	
17	Down Pipe Base Support Angle 50X50X6mm, each angle length 0.34mtr.	Kg	1,53	97.50	149.18	
18	Isolator Support Side Channel 100X50X5mm, each channel length 0.5 mtr.	Kg	9,56	97.50	932.10	
19	Fish Plate 50X8 mm, each 0.280 mtr. Length	Kg	5,28	97.50	514.33	
20	Danger Plate, 1 no	No	2	104.00	208.00	
21	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	1,20	97.50	117.35	
22	GI barbed wire antilimbing device	Kg	6	104.00	624.00	
23	Back Clamp for Barbed wire antilimbing device 25X3mm. flat, length of 0.510mtr	Kg	2,41	97.50	234.70	
24	GI Nut, Bolt & Washer of different sizes	Kg	107.00	101.40	10,849.80	
25	CONDUCTOR AAA 232 SQMM	Mtr	300	203.45	61,035.00	

1,77,02,804.94

33kV Bay at Existing PSS

Cost Estimate for Bay 33kV at Existing PSS					
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
26	33kV Disc insulator (B&S) 120KN polymer	No	12	1,872.00	22,464.00
27	33kV H/V fitting(B&S) 120KN,4 Bolt	Set	12	650.00	7,800.00
28	33kV,10KN pin insulator polymer	No	3	624.00	1,872.00
29	CLAMP PG FOR 232 SQMM AAA COND	No	6	1,495.00	8,970.00
30	12 bolted (M-12) "T" clamp for 232 mm ² conductor	No	6	1,248.00	7,488.00
31	Chequered plate for Cable Trench	Sqm	40	5,250.00	2,10,000.00
32	4 Core x 2.5 mm2	Mtr	350.00	145.60	50,960.00
33	7 Core x 2.5 mm2	Mtr	300.00	236.60	70,980.00
34	10 Core x 2.5 mm2	Mtr	250.00	335.40	83,850.00
35	Black Paint	Ltr	1	286.00	286.00
36	Yellow Colour Paint for Background	Ltr	2	260.00	520.00
				Total Cost of materials	17,40,294.08
				Stock, Storage & Insurance i.e 3%	52,208.82
				Sub Total	17,92,502.90
				Contingency @ 3%	53,775.09
				Tools & Plants @ 2%	35,850.06
				Transportation @ 7.5%	1,34,437.72
				Erection Transformer/Breaker/WPB/H	11,260.17
				Pole/Joist Poles @ 5%	
				Erection Other @ 10%	1,36,558.25
				Erection PSC Pole @ 20%	
				Sub Total A	21,64,384.18
	Civil & Services				
	Installation of WPB 160X 152 , 13Mtr pole	EA	2	7,980.00	15,960.00
	ITC of VCB with CT, PT & CRP for 33kV	EA	1	13,860.00	13,860.00
	ITC of Earthing Pipe with EC	EA	7	2,415.00	16,905.00
	EXCATON OF CBL TRENCH	M3	66.69	735.00	49,017.15
	Providing and laying Reinforced Cement Concrete (RCC)	M3	7.295625	8,400.00	61,283.25
	PCC 1:3:6	M3	5.85	5,386.50	31,511.03
	Brick work with F.P.S. bricks	M3	6.975	7,084.35	49,413.34
	12 mm Cement Plaster of mix - 1:6	M2	123.99	291.90	36,192.68

33kV Bay at Existing PSS

Cost Estimate for Bay 33KV at Existing PSS					
SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
	SITC of of prefabricated RCC Slabs (950x450x75)M30	EA	67	5,150.25	3,45,066.75
				Total Civil Part	6,19,209.20
				Sub-Total B	27,83,593.38
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-total	27,83,593.38
				GST @ 18% of Sub-Total	5,01,046.81
				CESS @ 1% of Sub-Total	27,835.93
				Sub-Grand Total	33,12,476.12
				Inspection Fee	
				Drawing Approval	
				Grand Total	33,12,476.12

33KV Bay at Existing PSS

SI No	Source	Cost Estimate for 33kV line Upgradation		Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
		Description of Item					
1	RC	POLE WPB GI 160X160 13 MTR	EA	13	40,427.00	5,25,551.00	
2	CDB	Straight Cross Arm Channel 100X50X5mm, each channel length 1.7 Mtr.	Kg	97.51	97.50	9,507.42	
3	CDB	Straight Cross Arm Top Channel 100X50X5mm,each channel length 0.30	Kg	17.55	97.50	1,711.34	
4	CDB	Fish Plate 50X8 mm.,each 0.280 mtr. Length	Kg	3.26	97.50	317.77	
5	CDB	Danger Plate, 1 no	No	13	104.00	1,352.00	
6	CDB	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	3.91	97.50	381.39	
7	CDB	GI barbed wire anticlimbing device	Kg	39	104.00	4,056.00	
8	CDB	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of	Kg	15.65	97.50	1,525.56	
9	CDB	33kV,10kN pin insulator polymer	No	38	624.00	23,712.00	
10	CDB	33kV V cross Arm (GI) for WPB Pole	No	10	2,340.00	23,400.00	
11	CDB	GI Back Clamp for 33kV 'V' Cros Arm for WPB Pole	No	10	195.00	1,950.00	
12	CDB	Top bracket 100X50X5mm GI channel for 33kV	No	12	195.00	2,340.00	
13	CDB	33kV H/W fitting(B&S) 120KN,4 Bolt	Set	12	650.00	7,800.00	
14	CDB	33kV Disc insulator (B&S) 120KN polymer	No	12	1,872.00	22,464.00	
15	CDB	Earthing of Support (Coil Type)	No	13	215.80	2,805.40	
16	CDB	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	3.41	97.50	332.09	
17	CDB	CLAMP PG FOR 148 SQMM AAA COND	No	12	806.00	9,672.00	
18	CDB	GI Nut , Bolt & Washer of different sizes	Kg	96.5	101.40	9,785.10	
19	CDB	H.T. Stay clamp	Pair	4	162.50	650.00	
20	CDB	H.T 33kV Stay set (Complete)	Set	4	1,365.00	5,460.00	
21	CDB	H.T Stay Insulator	No	8	65.00	520.00	
22	CDB	7/8 SWG Stay Wire	Kg	60	97.50	5,850.00	
23	CDB	CONDUCTOR 148 SQ.MM. AAA	Mtr	3090	106.60	3,29,394.00	
24	CDB	Black Paint	Ltr	6.5	286.00	1,859.00	
25	CDB	Yellow Colour Paint for Background	Ltr	13	260.00	3,380.00	
					Total Cost of materials	9,95,776.07	
					Stock, Storage & Insurance i.e 3%	29,873.28	
					Sub Total A	10,25,649.35	
					Contingency @ 3%	30,769.48	
					Tools & Plants @ 2%	20,512.99	
					Transportation @ 7.5%	76,923.70	
					Erection Transformer/Breaker/WPB/H Pole/Joist Rates @ 5%		
					Erection Other @ 10%.	46,608.12	
					Erection PSC Pole @ 20%		
					Sub Total B	12,00,463.64	

Sl No	Source	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
		Civil & Services				
		Installation of WPB 160X 152 , 13Mtr pole	EA	13	7,980.00	1,03,740.00
		Fixing of 33KV Stay set with Concreting	EA	4	2,362.50	9,450.00
		Dismantling of RSI/ WPB pole(150x150mm/R	EA	2	1,417.50	2,835.00
		Dismantling/ Removal of Insulators with All Fittings	EA	20	105.00	2,100.00
		Dismantling of 11KV 'V' Cross arm & retu	EA	2	43.47	86.94
		Dismantling of Steel Structure and Nut & Bolts	KG	50	78.75	3,937.50
		Dismantling of 80/100 mm2 AAA Conductor& retu	Kg	461.028	15.75	7,261.19
		Total Civil Part				1,29,410.63
		Sub-Total C				13,29,874.27
		Other Over Head (including Supervision charges)@ 6%				-
		Sub-Total D				13,29,874.27
		GST @ 18% of Sub-Total				2,39,377.37
		CESS @ 1% of Sub-Total				13,298.74
		Sub-Total E				15,82,550.38
		Inspection Fee				
		Drawing Approval				
		Grand Total				15,82,550.38

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
Cost Estimate for 33kV Line AB Switch, 400 Amp					
1	POLE WPB GI 160X160 13 MTR	EA	2	40,427.00	80,854.00
2	Top Channel 100X50X5mm, each channel length 4.3 mtr.	Kg	82.22	97.50	8,016.06
3	AB Switch mounting Channel 100X50X5mm GI channel 3.5mtr long	Kg	66.92	97.50	6,524.70
4	Double Pole Belting Channel 75X40X4.8mm., each channel length 4.3 Mtr	Kg	122.81	97.50	11,973.78
5	50X50X6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 4.927 mtr.	Kg	88.69	97.50	8,646.89
6	AB Switch Side Support Channel 100X50X5mm,each channel length 0.35	Kg	6.69	97.50	652.47
7	Channel Support for down Pipe 75X40X4.8mm., each channel length 0.8	Kg	5.71	97.50	556.92
8	Fish Plate 50X8 mm.,each 0.280 mtr. Length	Kg	5.28	97.50	514.33
9	Danger Plate, 1 no	No	2	104.00	208.00
10	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	0.60	97.50	58.68
11	GI barbed wire anticlimbing device	Kg	6	104.00	624.00
12	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr	Kg	2.41	97.50	234.70
13	33kV,10kN pin insulator polymer	No	3	624.00	1,872.00
14	33kV H/W fitting(B&S) 90KN,4 Bolt	Set	6	650.00	3,900.00
15	33kV Disc insulator (B&S) 90 KN polymer	No	6	1,495.00	8,970.00
16	33kV AB Switch 400A 3Pole 50Hz Horizontal Type	Set	1	24,791.00	24,791.00
17	Lightning Arrester (30kV,10kA) (Station Class,Class 2)	No	3	13,455.00	40,365.00
18	Earthing of Support (Coil Type)	No	2	215.80	431.60
19	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	0.52	97.50	51.09
20	CLAMP PG FOR 148 SQMM AAA COND	No	6	806.00	4,836.00
21	GI Nut , Bolt & Washer of different sizes	Kg	96.5	101.40	9,785.10
22	H.T. Stay clamp	Pair	4	162.50	650.00
23	H.T 33kV Stay set (Complete)	Set	4	1,365.00	5,460.00
24	H.T Stay Insulator	No	8	65.00	520.00
25	7/8 SWG Stay Wire	Kg	60	97.50	5,850.00
26	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	No	1	1,365.00	1,365.00
27	CONDUCTOR 148 SQ.MM. AAA	Mtr	20.00	106.60	2,132.00
28	50x6 mm GI flat	Kg	6	97.50	585.00
29	Black Paint	Ltr	1	286.00	286.00
30	Yellow Colour Paint for Background	Ltr	2	260.00	520.00
Total Cost of materials					2,31,234.31

33kV AB Switch 400 Amp

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Stock, Storage & Insurance i.e 3%	6,937.03
				Sub Total A	2,38,171.34
				Contingency @ 3%	7,145.14
				Tools & Plants @ 2%	4,763.43
				Transportation @ 7.5%	17,862.85
				Erection Transformer/Breaker/WPB/H	
				Pole/Joint Poles @ 5%	
				Erection Other @ 10%	13,980.12
				Erection PSC Pole @ 20%	
				Sub Total B	2,81,922.88
	Civil & Services				
	Installation of WPB 160X 152 , 13Mtr pole	EA	2	7,980.00	15,960.00
	Fixing of 33KV Stay set with Concreting	EA	4	2,362.50	9,450.00
	ITC of Earthing pipe with E/C	EA	1	2,415.00	2,415.00
				Total Civil Part	27,825.00
				Sub-Total C	3,09,747.88
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total D	3,09,747.88
				GST @ 18% of Sub-Total	55,754.62
				CESS @ 1% of Sub-Total	3,097.48
				Sub-Total E	3,68,599.98
				Inspection Fee	
				Drawing Approval	
				Grand Total	3,68,599.98

33KV AB Switch 400 Amp

Cost Estimate for 33kV Line Isolator with 13mtr. WPB pole				
Sl No	Description of Item	Unit	Quantity	Amount(In Rs.)
1	WPB 160x152 (30.44kg/Mtr.) 13 mtr	No	2	80,854.40
2	Top Channel 100X50X5mm, 9.56 KG/Mtr., each channel length 4.3 mtr.	Kg	82.22	8,016.06
3	Insulator Support Channel 75X40X4.8mm., 7.14KG/Mtr., each channel length 4.3 Mtr., 1 no's channel required	Kg	30.70	2,993.45
4	Isolator Support Channel 75X40X4.8mm., 7.14KG/Mtr., each channel length 4.3 Mtr., 2 no's channel required	Kg	61.40	5,986.89
5	Double Pole Belting Channel 75X40X4.8mm., 7.14KG/Mtr., each channel length 4.3 Mtr	Kg	122.81	11,973.78
6	50X50X6mm.GI Bracing Angle, 4.5Kg./mtr., each angle length 4.927. mtr.	Kg	88.69	8,646.89
7	Isolator Operating Down Pipe Support Channel 75X40X4.8mm., 7.14KG/Mtr., each channel length 0.8 Mtr., 1 no reqd	Kg	5.71	556.92
8	Down Pipe Diagonal Support Angle, 4.5Kg./mtr., each angle length 0.388mtr., 1 nos angle required	Kg	1.75	170.24
9	Down Pipe Base Support Angle, 4.5Kg./mtr., each angle length 0.34mtr., 1 nos. angle required	Kg	1.53	149.18
10	Isolator Support Side Channel 100X50X5mm., 9.56 KG/Mtr., each channel length 0.5 mtr., 2 no's channel required	Kg	9.56	932.10
11	Fish Plate 50X8 mm., 0.97kg/Mtr., each 0.280 mtr. Length	Kg	1.63	158.89
12	Danger Plate, 1 no	No	2	208.00
13	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr 1 no	Kg	0.60	58.68
14	GI barbed wire anticlimbing device	Kg	6	624.00
15	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat, 0.59Kg/Mtr. Flat of 0.510 mtr length 4 no's	Kg	2.41	234.70
16	Earthing of Support (Coil Type)	EA	2	431.60
17	33KV H/W fitting(B&S) 90KN,4 Bolt	Set	6	3,900.00
18	33KV Disc insulator (B&S) 90 KN polymer	No	6	8,970.00
19	33KV-800A Double Break (Turn and Twist center rotating)isolator without earth switch with PI(Polymer)	Set	1	1,09,915.00
20	Lightning Arrester (30kV,10kA) (Station Class,Class 2)	EA	3	10,137.00
21	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	Kg	0.524	51.09
22	PG Clamp for 148 mm ² AAAC conductor	No	6	4,836.00
23	GI Nut, Bolt & Washer of different sizes	Kg	25	2,535.00
24	H.T. Stay clamp	Pair	4	650.00
25	H.T. Stay set (Complete)	Set	4	5,460.00
26	H.T. Stay Insulator	No	4	260.00
27	7/8 SWG Stay Wire	Kg	97.50	5,850.00
28	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr Long	No	1	1,365.00
29	AAA conductor, 148 mm ²	Km	0.02	2,132.00
30	50x6 mm GI flat	Kg	6	585.00
31	Black Paint	Ltr	1	286.00
32	Yellow Colour Paint for Background	Ltr	2	440.00
	Total Cost of materials			2,79,367.84
	Stock, Storage & Insurance i.e 3%			8,381.04
	Sub Total			2,87,748.88
	Contingency @ 3%			8,632.47
	Tools & Plants @ 2%			5,754.98
	Transportation @ 7.5%			21,581.17
	Erection Transformer/Breaker/WPB/H			
	Erection Other @ 10%.			18,972.85

Cost Estimate for 33KV Line Isolator with 13mtr. W/PB pole						
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)	
				Erection PSC Pole @ 20%		
				Sub Total		3,42,690.34
	Civil & Services					
	Fixing of complete 33KV line stay set includes Turn Buckle Assembly, Stay Rod & Stay plate, Stay Insulator, Stay Wire, Stay clamps with Nuts & bolts BA will do the excavation, C.C foundation 1:2:4 size (500mmx500mmx800mm)	No.	4	2,362.50		9450.00
	Erection of 13 Mtr long W/PB Pole including providing & laying of 1:1.5:3, M20 Grade C.C-500x500x2200mm & cooping of 500x500x450 mm, zebra painting (In Black & Yellow Strips/Zebra)	No	2	7,980.00		15960.00
	Installation of Earthing pipe with 40mm dia. 3 Mtr long GI Pipe & include supply of all required material like Salt, Charcoal, Nuts-Bolt, PVC Pipe PCC & brick work for earthing chamber (Size: 2'x2') & RCC or other suitable slab cover	No	1	2,415.00		2415.00
				Total Civil Part		27,825.00
				Sub-Total		3,70,515.34
				Other Over Head (Including Supervision charges.) @ 6%		-
				Sub-total		3,70,515.34
				GST @ 18% of Sub-Total		66,692.76
				CESS @ 1% of Sub-Total		3,705.15
				Sub-Grand Total		4,40,913.25
				Inspection Fee		
				Drawing Approval		
				Grand Total		4,40,913.25

33KV Line Isolator-13mtr

Cost Estimate for 33kV Intermediate Pole					
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	POLE WPB GI 160X160 13 MTR	EA	1	40,427.00	40,427.00
2	33kV V cross Arm (GI) for WPB Pole	No	1.00	2,340.00	2,340.00
3	GI Back Clamp for 33kV 'V' Cross Arm for WPB Pole	No	1.00	195.00	195.00
4	Top bracket 100X50X5mm GI channel for 33kV	No	1.00	195.00	195.00
5	Danger Plate, 1 no	No	1	104.00	104.00
6	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	0.30	97.50	29.34
7	GI barbed wire anticlimbing device	Kg	3	104.00	312.00
8	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat, length of 0.510m	Kg	1.20	97.50	117.35
9	33kV,10kN pin insulator polymer	No	3	624.00	1,872.00
10	Earthing of Support (Coil Type)	No	1	215.80	215.80
11	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	0.262	97.50	25.55
12	GI Nut , Bolt & Washer of different sizes	Kg	1.45	101.40	147.03
13	Black Paint	Ltr	0.5	286.00	143.00
14	Yellow Colour Paint for Background	Ltr	1	260.00	260.00
				Total Cost of materials	46,383.06
				Stock, Storage & Insurance i.e 3%	1,391.49
				Sub Total A	47,774.56
				Contingency @ 3%	1,433.24
				Tools & Plants @ 2%	955.49
				Transportation @ 7.5%	3,583.09
				Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%	
				Erection Other @ 10%	571.97
				Erection PSC Pole @ 20%	
				Sub Total B	54,318.34
	Civil & Services				
	Installation of WPB 160X 152 , 13Mtr pole	EA	1	7,980.00	7,980.00
				Total Civil Part	7,980.00
				Sub-Total C	62,298.34
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total D	62,298.34
				GST @ 18% of Sub-Total	11,213.70
				CESS @ 1% of Sub-Total	622.98
				Sub-Total E	74,135.03
				Inspection Fee	
				Drawing Approval	
				Grand Total	74,135.03

Cost Estimate for 11kV New Line with RLP pole					
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	RLP - Suspension Type 9.978Mtr. Long 449.14KG	EA	17	48,543.15	8,25,233.55
2	POLE WPB GI 160X160 11 MTR	EA	4	34,321.52	1,37,286.08
3	Top Channel 100X50X5mm, each channel length 2.3 mtr.	Kg	43.98	97.50	4,287.66
4	Double Pole Bracing Channel 75X40X4.8mm,each channel length 2.0 Mtr.	Kg	71.40	97.50	6,961.50
5	50X50X6mm GI Bracing Angle, each angle length 2.671 mtr	Kg	48.08	97.50	4,687.61
6	Straight Cross Arm Channel 100X50X5mm, each channel length 1.2 mtr.	Kg	65.01	97.50	6,338.28
7	Straight Cross Arm Top Channel 100X50X5mm,each channel length 0.306 Mtr.	Kg	11.70	97.50	1,140.89
8	Fish Plate 50X8 mm, each 0.280 mtr. Length	Kg	12.31	97.50	1,200.11
9	Danger Plate, 1 no	No	4	104.00	416.00
10	Back Clamp for danger plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	1.20	97.50	117.35
11	Back Clamp for danger Plate, 1 no for RLP	Kg	5.12	97.50	498.74
12	GI barbed wire anticlimbing device	Kg	12	104.00	1,248.00
13	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510m	Kg	4.81	97.50	469.40
14	Back Clamp for Barbed wire anticlimbing device for RLP	Kg	20.46	97.50	1,994.97
15	11kV,5KN pin insulator polymer	No	57	260.00	14,820.00
16	11kV H/W fitting(B&S) 70KN,3 Bolt	Set	18	455.00	8,190.00
17	Hardware fitting (suspension clamp,D shackle)	EA	51	2,083.20	1,06,243.20
18	11kV Disc insulator (B&S) 70KN polymer	No	138	1,495.00	2,06,310.00
19	Earthing of Support (Coil Type)	No	21	215.80	4,531.80
20	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	5.50	97.50	536.45
21	CLAMP PG FOR 100 SQMM CONDUCTOR	No	18	754.00	13,572.00
22	GI Nut, Bolt & Washer of different sizes	Kg	19.52	101.40	1,979.73
23	H.T Stay clamp	Pair	8	162.50	1,300.00
24	H.T 11kV Stay set (Complete)	Set	8	1,365.00	10,920.00
25	H.T Stay Insulator	No	16	65.00	1,040.00
26	7/10 SWG Stay Wire	Kg	120	97.50	11,700.00
27	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long	No	1	1,365.00	1,365.00
28	CONDUCTOR 100 SQMM AAA	Mtr	3090.00	71.50	2,20,935.00
29	50x6 mm GI flat	Kg	48	97.50	4,680.00
30	Black Paint	Ltr	19	286.00	5,434.00
31	Yellow Colour Paint for Background	Ltr	38	260.00	9,880.00
	Total Cost of materials				16,15,317.32
	Stock, Storage & Insurance i.e 3%				48,459.52
	Sub Total A				16,63,776.84
	Contingency @ 3%				49,913.31
	Tools & Plants @ 2%				33,275.54
	Transportation @ 7.5%				1,24,783.26
	Erection Transformer/Breaker/WPB/H				
	Pole/Joist Poles @ 5%				
	Erection Other @ 10%.				62,949.34
	Erection PSC Pole @ 20%				
	Sub Total B				19,34,698.28
	Civil & Services				

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
	Installation of WPB 160 X152, 11Mtr pole	EA	4	6,300.00	25,200.00
	Inst 11KV/complte stay set with concrete	EA	8	2,362.50	18,900.00
	Excavation by mechanical means	M3	18.7	315.00	5,890.50
	Reinforcement Steel for piles	Kg	765	73.17	55,975.05
	Metal sheet liner for Pile	Kg	850	97.00	82,450.00
	Providing and laying Reinforced Cement Concrete(RCC)	M3	11.9	10500.00	1,24,950.00
	Nut bolting of foundation and installation of insulators	No	17	47.25	803.25
	ITC of Earthing pipe with E/C	EA	1	2,415.00	2,415.00
				Total Civil Part	3,16,583.80
				Sub-Total C	22,51,282.08
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total D	22,51,282.08
				GST @ 18% of Sub-Total	4,05,230.78
				CESS @ 1% of Sub-Total	22,512.82
				Sub-Total E	26,79,025.68
				Inspection Fee	
				Drawing Approval	
				Grand Total	26,79,025.68

45,26,834.11

Standard BoQ and Estimate for 11kV 3C, 400sqmm UG Cable along with 11kV RMU

Supply Portion					
Sl. No.	Description of Items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Supply of materials for 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable with accessories		1		
a	Length of 11kV 3C, 400sqmm cable (open trench)	km	0		
b	Length of 11kV 3C, 400sqmm cable (HDD)	km	1		
1.1	Supply of 11kV, 3Core, 400sqmm, XLPE insulation armoured UG cable (SC rating of cable in KA-37.7KA and SC rating of Armour in KA-15KA)	km	2.00	23,65,250.00	47,30,500.00
1.2	Supply of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, Aluminium UG cable for 3Core (Set)	Set	6	32,912.10	1,97,472.60
1.3	Supply of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	0	12,456.60	-
1.4	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	4	18,075.20	72,300.80
1.5	Supply of HDPE PE 80-PN8 pipe of 160mm diameter (for 400sqmm HT cable laying)	km	-0.13	7,75,400.00	(99,251.20)
2	Supply of 11kV RMU				
a	No. of 11kV 3Way RMU (LLV)	nos.	0		
b	No. of 11kV 4Way RMU (LLVV)	nos.			
c	No. of 11kV 3Way RMU (LLV+M)	nos.			
d	No. of 11kV 4Way RMU (LLVV+M)	nos.			
2.1	Supply of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	3,99,034.00	-
2.2	Supply of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	0	5,57,710.00	-
2.3	Supply of RMU 3W 11kV 630A with metering unit (LV+M)	Nos.	0	5,76,739.00	-
2.4	Supply of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	8,13,749.00	-
3	Earthing				
3.1	Earthing Conductor: 50X6 mm (2.4kg./mtr.) GI Flat for equipment, structure etc.)	kg	0.00	97.50	-
3.2	Pipe Earthing 40mm. GI Pipe	Nos.	0	1,365.00	-
4	FRTU and OFC for RMU SCADA Automation				
4.1	Supply of 12 core fibre optic cable single mode, duct type, fibre armoured laid along UG cable.	km		56,515.00	-
4.2	Supply of HDPE PLB duct of size 32/26mm for laying of OFC Cables.	km		77,990.00	-
4.3	Supply of Straight through connectors (Plastic coupler) and accessories for OFC connection.	Set		6,766.00	-

11kV Underground Cable

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
4.4	Supply of end Connector and accessories for OFC connection at RMU,	Set	0	7,535.00	-
4.5	Supply of Standard FRTU 4Way with FRTU networking Equipment consisting of Fibre Optic switch (Mono mode along with associate LIU unit for connection of FO Cable. for 3 Way & 4 way RMU.	Nos.	0	4,35,542.00	-
	Sub Total (Supply Portion) (in Rs.)				49,01,022.20
Erection Portion					
Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method and HDD method				
1.1	Laying, Commissioning, Testing of 11kV, 3core, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable by open trench method.	km	0.00	94,500.00	-
1.2	Erection of Straight through jointing kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	12	2,400.00	28,800.00
1.3	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	0	1,900.80	-
1.4	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	8	1,900.80	15,206.40
1.5	Supply, Installation, Laying, Commissioning, Testing of 11kV, 3core, 1Run, 400sqmm, aluminium, XLPE insulation armoured (extruded type) UG cable in HDD method with HDPE pipe (160mm dia, PN8 PE80) for laying of individual run of UG cable at main road and unaccessible place.	km	1	28,00,000.00	28,00,000.00
1.6	Laying of 160mm dia PE 80-PN8, HDPE pipe inside open trench.	km	-0.26	1,04,114.67	(26,653.36)
2	Erection, Commissioning, Wiring and Testing of 11kV RMU				
2.1	Erection of 11kV RMU 3 Way, 2 Iso & 1 Brk 630A (LLV)	Nos.	0	9,639.00	-
2.2	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	0	9,639.00	-
2.3	Erection of RMU 3W 11kV 630A with metering unit (LLV+M)	Nos.	0	15,000.00	-
2.4	Erection of RMU 4W 11kV 630A with metering unit (LLVV+M)	Nos.	0	15,000.00	-
3	FRTU and OFC for RMU SCADA Automation				
3.1	Laying of 12 core fibre optic cable single mode, duct type, fibre armoured in HDPE PLB duct of size 32/26mm for laying of OFC Cables.laid along 11kV UG cable. through open trench	km	0.0	27,296.35	-

11kV Underground Cable

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
3.2	Laying of 12 core fibre optic cable single mode, duct type, fibre armoured in HDPE PLB duct of size 32/26mm for laying of OFC Cables laid along 11kV UG cable through HDD.	km	0.0	1,22,488.27	-
3.3	Erection of Straight through connectors (Plastic coupler) and accessories for OFC connection.	Set	0.0	612.54	-
3.4	Erection of end Connector and accessories for OFC connection at RMU.	Set	0.0	1,225.07	-
3.5	Erection, Commissioning, Testing of Standard FRTU 4Way with FRTU networking Equipment consisting of Fibre Optic switch (Mono mode along with associate LIU unit for connection of FO Cable. for 3 Way & 4 way RMU.	Nos.	0.0	6,124.36	-
Sub Total (Erection Portion) (in Rs.)					28,17,353.04
Civil Portion					
Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1	Civil works with supply of all materials like cement, MS for rod, brick, coarse & fine aggregates and labour, T&P, etc for UG Cable Trench				
1.1	Earth work excavation of soil (1mtr. width X 1mtr. depth)	Cum	0	700.00	-
1.1.a	Earth work excavation of soil	Cum	0	1,720.00	-
1.1.b	Earth work excavation of hard rock	Cum	0	171.55	-
1.2	Shifting of excavated soil to a lead distance of 10km	Cum			
1.3	Filling with fine river sand after laying of cable inside the trench	Cum	0	2,500.00	-
1.4	Back filling with excavated soil outside and above the trench	Cum	0	202.00	-
1.5	Damage of asphalt/tar road and other utilities and reconstructing to bring to its original shape after laying of cable in open trench (1mtr. width)	km	0.3	26,43,670.63	7,93,101.19
2	Civil works for Prefabricated RCC foundation with supply of all materials				
2.1	Prefabricated RCC foundation of 11kV RMU	Nos.	0	23,145.30	-
3	Supply of GI Fencing with Gate around each RMU	sqmtr	0	3,600.00	-
4	Installation of Earth Pit, Charcoal, Salt etc. including construction of earthing chamber (Size: 2'x2') and RCC slab cover	Set	0	2,407.00	-
5	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	64	1,463.40	93,657.60
6	Supply and Erection of Cable Route Marker along the cable route at an interval of 30mtrs with civil works	Nos.	66	1,012.00	66,792.00
Sub Total (Civil Portion) (in Rs.)					9,53,550.79

11kV Underground Cable

Sl. No.	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
A	Sub Total (Supply Portion)				49,01,022.20
B	Stock, Storage & Insurance @ 3 % of A				1,47,030.67
C	Sub Total (A+B)				50,48,052.87
D	Contingency @ 3 % of C				1,51,441.59
E	Tools & Plants Charges @ 2% of C (considered for earthing items)				-
F	Transportation @ 7.5% of C				3,78,603.96
G	Erection Charges @ 10% of earthing items				-
H	Total (C+D+E+F+G)				55,78,098.42
I	Sub Total (Erection Portion + Civil Portion)				37,70,903.83
J	Total Cost (H+I)				93,49,002.25
K	Other Overhead /(including Supervision Charges) @ 6 % of J				-
L	Total Estimated Capital Cost i.e. (J+K)				93,49,002.25
M	GST @ 18% of L				16,82,820.41
N	Grand Total (L+M)				1,10,31,822.66
O	Inspection Fee of UG Line (HT) - Rs. 250/ km.				
P	Inspection Fee of UG Line (HT) - Rs. 100/ Additional Km				
Q	Inspection Fee of RMU - Rs. 2000/ RMU				
R	Inspection Fee of Drawing Checking and Approval				
S	Final decision by electrical Inspector				
T	Gross Total Material, Services and Inspection Fees (N+O+P+Q+R+S)				1,10,31,822.66

Standard BOQ for 11KV 4WAY RMU

Supply Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1.3	401000858	Supply of Indoor termination kits Heat Shrinkable type suitable for 11KV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	4	12,456.60	49,826.40
1.4	401000859	Supply of Outdoor termination kits Heat Shrinkable type suitable for 11KV, 3Core, 400 sqmm, HT UG cable for 3Core (Set)	Set	4	18,075.20	72,300.80
2		Supply of 11KV RMU				
<i>b</i>		No. of 11KV 4Way RMU (LLVV)	<i>nos.</i>	1		
2.2	601001132	Supply of 11KV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	6,97,696.00	6,97,696.00
3		Earthing				
3.1	601000679	Earthing Conductor: 50X6 mm (2.4kg./mtr.) GI Flat for equipment, structure etc.)	kg	13.20	97.50	1,287.00
3.2	601001158	Pipe Earthing 40mm. GI Pipe	Nos.	2	1,365.00	2,730.00
4		FRTU for RMU SCADA Automation				
<i>a</i>		No. of FRTU	<i>nos.</i>	1		
4.1	101001412	Pre-Wired FRTU Panel with FRTU	No.	1	1,21,744.00	1,21,744.00
4.2	101001422	Managed Layer2 Ethernet Switch (FRTU Panel)	No.	1	1,00,000.00	1,00,000.00
4.3	101000995	Networking Accessories	No.	1	72.00	72.00
4.4	101001388	CMR with Mounting Base for Digital Inputs	Nos.	32	650.00	20,800.00
4.5	301002481	Interposing Relay for Digital Output	Nos.	16	467.94	7,487.04
4.6	101001389	Battery Charger	Nos.	1	15,385.00	15,385.00
4.7	101001390	Battery	Nos.	1	8,333.00	8,333.00
4.8	701002061	4G Modern cum Router	Nos.	1	18,500.00	18,500.00
4.9	401001331	Instrumentation Cable 12 C X 0.5 mm2, Armored cable for Status and Indications	Mtr.	40	204.87	8,194.80
4.10	401001333	Instrumentation Cable 7 C X 1.5 mm2, Armored for Control Output	Mtr.	40	305.58	12,223.20
4.11	401001334	Instrumentation Cable 5 P X 1.0 mm2, Armored for Analog Input	Mtr.	40	275.23	11,009.20

Revised 11KV 4WAY RMU

Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
4.12	401001338	4 C X 2.5 mm2 Copper cable for extension of CT & PT	Mtr.	20	165.25	3,305.00
4.13	401001362	2 C X 4 mm2 Cable for DC Power Supply	Mtr.	10	150.00	1,500.00
4.14	401001339	4P X 0.36 mm2, Armored Communication Cable for MFM	Mtr.	20.0	148.43	2,968.60
4.15	401001335	Armored CAT6 SFTP Cable	Mtr.	20	45.87	917.40
4.16	401001340	Un-Armored CAT6 SFTP Cable	Mtr.	20	89.45	1,789.00
4.17	201000441	Multi Function Meter	Nos.	2	18,651.00	37,302.00
		Sub Total (Supply Portion) (in Rs.)				11,95,370.44
Erection Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
1.3	900027	Erection of Indoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	4	1,900.80	7,603.20
1.4	900027	Erection of Outdoor termination kits Heat Shrinkable type suitable for 11kV, 3Core, 400sqmm, aluminium UG cable kits for 3core (set)	Set	4	1,900.80	7,603.20
2		Erection, Commissioning, Wiring and Testing of 11kV RMU				
2.2	200106	Erection of 11kV RMU 4 Way, 2 Iso & 2 Brk 630A (LLVV)	Nos.	1	9,639.00	9,639.00
3		FRTU and OFC for RMU SCADA Automation				
3.1	600048	Services of FRTU Panel, Communication and Other Supplied System	EA	1.0	16,000.00	16,000.00
		Sub Total (Erection Portion) (in Rs.)				40,845.40
Civil Portion						
Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
2		Civil works for Prefabricated RCC foundation with supply of all materials				
2.1	800020	Prefabricated RCC foundation of 11kV RMU	Nos.	1	23,145.30	23,145.30
3	900054	Supply of GI Fencing with Gate around each RMU	sqmtr	20	3,600.00	72,000.00

Sl. No.	SAP Code	Description of items	Unit	Quantity	Rate (in Rs.)	Amount (in Rs.)
4	6000044	Construction Earthing chamber including installation of earthing pipe. Making earthing chamber including excavation , soil treatment with bentonide powder , calculation of earth resistance, including installation of 3Mtr GI Pipe 40mm/50mm including welding of GI flat around pipe.	Set	2	3,700.00	7,400.00
5	800009	Supply and erection of GI Pipe of dia. 150mm, Class-B (8Mtr.)	Mtr	32	1,463.40	46,828.80
		Sub Total (Civil Portion) (in Rs.)				1,49,374.10
A		Sub Total (Supply Portion)				11,95,370.44
B		Stock, Storage & Insurance @ 3 % of A				35,861.11
C		Sub Total (A+B)				12,31,231.55
D		Contingency @ 3 % of C				36,936.95
E		Tools & Plants Charges @ 2% of C (considered for earthing items)				26.51
F		Transportation @ 7.5% of C				92,342.37
G		Erection Charges @ 10% of earthing items				132.56
H		Total (C+D+E+F+G)				13,60,669.94
I		Sub Total (Erection Portion + Civil Portion)				1,90,219.50
J		Total Cost (H+I)				15,50,889.44
K		Other Overhead /(including Supervision Charges) @ 6 % of J				
L		Total Estimated Capital Cost i.e. (J+K)				15,50,889.44
M		GST @ 18% of L				2,79,160.10
M-1		CESS @ 1% of L				15,508.89
N		Grand Total (L+M+M1)				18,45,558.43
O	6000060	Inspection Fee of UG Line (HT) - Rs. 375 upto 1 KM.				
P	6000061	Inspection Fee of UG Line (HT) - Rs. 225/ Additional Km				
Q	6000082	Inspection Fee of RMU - Rs. 1500/ RMU				1,500.00
R	6000062	Inspection Fee of Drawing Checking and Approval				750.00
S		Gross Total Material, Services and Inspection Fees (N+O+P+Q+R)				18,47,808.43

Cost Estimate for Bay 11kV at Existing PSS				
SI No	Description of Item	Unit	Quantity	Amount(In Rs.)
1	Lightning Arrester (11KV,10kA) (Station Class,Class 2)	No	3	13,845.00
2	11kV 1250 Amp Outdoor VCB	EA	1.00	1,96,000.00
3	11 KV multi core 1 PH CT with CTR (800-400-200/1-1-1)A 3 Core	EA	3.00	87,902.55
4	CRP with O/C & E/F relay for 11KV	EA	1.00	3,57,571.00
5	11 KV IVT(11 KV/V 3/110 V/V 3)	No	3	29,250.00
6	11KV 630 Amp Isolator without earth switch with P(Porcelain)	Set	1.00	56,212.00
7	50x6 mm GI flat	Kg	300	29,250.00
8	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	No	7.00	9,555.00
9	POLE WPB GI 160X160 11 MTR	EA	2	68,643.04
10	RCC base Plate	EA	0	-
11	Top Channel 100X50X5mm, each channel length 3.0 mtr.	Kg	57.36	5,592.60
12	Double Pole Belting Channel 75X40X4.8mm.,each channel length 2.8 Mtr	Kg	79.968	7,796.88
13	50X50X6mm.GI Bracing Angle, each angle length 2.671 mtr	Kg	48.078	4,687.61
14	AB Switch mounting Channel 100X50X5mm GI channel 3.0mtr long	Kg	21.42	2,088.45
15	AB Switch Side Support Channel 100X50X5mm,each channel length 0.35 mtr.	Kg	4.998	487.31
16	Isolator Operating Down Pipe Support Channel 75X40X4.8mm.,of length 0.8 mtr.	Kg	5.712	556.92
17	Down Pipe Diagonal Support Angle 50X50X6mm, each angle length 0.388mtr.	Kg	1.75	170.24
18	Down Pipe Base Support Angle 50X50X6mm, each angle length 0.34mtr.	Kg	1.53	149.18
19	Isolator Support Side Channel 100X50X5mm, each channel length 0.5 mtr.	Kg	9.56	932.10
20	Danger Plate, 1 no	No	2	208.00
21	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	1.20	117.35
22	GI barbed wire anticlimbing device	Kg	6	624.00
23	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr	Kg	2.41	234.70
24	GI Nut , Bolt & Washer of different sizes	Kg	100.00	10,140.00
25	CONDUCTOR 100 SQMM AAA	Mtr	310.00	22,165.00
26	11kV Disc insulator (B&S) 70KN polymer	No	12.00	17,940.00
27	11kV H/W fitting(B&S) 70KN,3 Bolt	Set	12.00	5,460.00
28	11kV,5kN pin insulator polymer	No	3.00	780.00

11kV Bay at Existing PSS

Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
29	CLAMP PG FOR 100 SQMM CONDUCTOR	No	6.00	754.00	4,524.00
30	12 bolted (M-12) "T" clamp for 232 mm ² conductor	No	6.00	1,248.00	7,488.00
31	Chequered plate for Cable Trench	Sqm	25.00	5,250.00	1,31,250.00
32	4 Core x 2.5 mm ²	Mtr	350.00	145.60	50,960.00
33	7 Core x 2.5 mm ²	Mtr	350.00	236.60	82,810.00
34	10 Core x 2.5 mm ²	Mtr	250.00	335.40	83,850.00
35	Black Paint	Ltr	1	286.00	286.00
36	Yellow Colour Paint for Background	Ltr	2	260.00	520.00
	Total Cost of materials				12,90,046.91
	Stock, Storage & Insurance i.e 3%				38,701.41
	Sub Total				13,28,748.32
	Contingency @ 3%				39,862.45
	Tools & Plants @ 2%				26,574.97
	Transportation @ 7.5%				99,656.12
	Erection				10,094.00
	Transformer/Breaker/WPB/H				
	Pole/Joist Poles @ 5%				
	Erection Other @ 10%.				1,04,549.42
	Erection PSC Pole @ 20%				
	Sub Total A				16,09,485.28
Civil & Services					
	Installation of WPB 160 X152, 11Mtr pole	EA	2	6,300.00	12,600.00
	ITC of VCB with CT, PT & CRP for 11KV	EA	1.00	13,860.00	13,860.00
	ITC of Earthing pipe with E/C	EA	7.00	2,415.00	16,905.00
	EXCATON OF CBL TRENCH	M3	44.46	735.00	32,678.10
	Providing and laying Reinforced Cement Concrete (RCC)	M3	4.896	8,400.00	41,123.25
	PCC 1:3:6	M3	3.900	5,386.50	21,007.35
	Brick work with F.P.S. bricks	M3	4.650	7,084.35	32,942.23

11KV Bay at Existing PSS

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
	12 mm Cement Plaster of mix - 1:6	M2	123.99	291.90	36,192.68
	SITC of prefabricated RCC Slabs (950x450x75)M30	EA	44	5,150.25	2,26,611.00
				Total Civil Part	4,33,919.61
				Sub-Total B	20,43,404.88
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-total	20,43,404.88
				GST @ 18% of Sub-Total	3,67,812.88
				CESS @ 1% of Sub-Total	20,434.05
				Sub-Grand Total	24,31,651.81
				Inspection Fee	
				Drawing Approval	
				Grand Total	24,31,651.81

Cost Estimate for 11KV Line Isolator with 11mtr. WPB pole					
SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	WPB 160X152 (30.44KG/Mtr.)11 mtr	No	2.00	34,321.52	68,643.04
2	Top Channel 100X50X5mm, 9.56 KG/Mtr., each channel length 3.25 mtr.	Kg	62.14	97.50	6,058.65
3	Double Pole Belting Channel 75X40X 4.8mm.,7.14KG/Mtr.,each channel length 3.0 Mtr., 4 no's channel required	Kg	85.68	97.50	8,353.80
4	50X50X6mm GI Bracing Angle, 4.5Kg./mtr., each angle length 3.512 mtr., 4 nos angle required	Kg	63.22	97.50	6,163.56
5	Fish Plate 50X8 mm., 0.97kg/Mtr., each 0.280 mtr. Length	Kg	3.96	97.50	386.57
6	Danger Plate, 1 no	No	2.00	104.00	208.00
7	Back Clamp for danger Plate 25X3 mm. flat, 0.59Kg/Mtr. Flat of 0.510mtr 1 no	Kg	0.60	97.50	58.68
8	GI barbed wire anticlimbing device	Kg	6.00	104.00	624.00
9	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat, 0.59Kg/Mtr. Flat of 0.510 mtr length 4 no's	Kg	2.41	97.50	234.70
10	Isolator Operating Down Pipe Support Channel 75X40X4.8mm.,7.14KG/Mtr.,each channel length 0.8 Mtr.,1 no required	Kg	5.71	97.50	556.92
11	Down Pipe Diagonal Support Angle, 4.5Kg./mtr., each angle length 0.388mtr., 1 nos angle required	Kg	1.75	97.50	170.24
12	Down Pipe Base Support Angle, 4.5Kg./mtr., each angle length 0.34mtr., 1 nos angle required	Kg	1.53	97.50	149.18
13	Isolator Support Side Channel 100X50X5mm, 9.56 KG/Mtr., each channel length 0.5 mtr., 2 no's channel required	Kg	9.56	97.50	932.10
14	50x6 mm GI flat	Kg	48.38	97.50	4,717.05
15	H/W fitting(B&S) 70KN,3 Bolt	Set	6.00	455.00	2,730.00
16	11kV Disc Insulator (B&S) 70KN polymer	No	6.00	1,495.00	8,970.00
17	Farthing of Support (Coil Type)	EA	2.00	215.80	431.60
18	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.- 2 Mtr. For connecting pole with Coil earthing	Kg	0.52	97.50	51.09
19	PG Clamp for 100 mm2 AAAC conductor	No	6.00	754.00	4,524.00
20	GI Nut, Bolt & Washer of different sizes	Kg	13.72	101.40	1,391.21
21	H. T. Stay clamp	Pair	4.00	162.50	650.00
22	H. T. Stay set (Complete)	Set	4.00	1,365.00	5,460.00
23	H. T. Stay Insulator	No	4.00	65.00	260.00
24	7/10 SWG Stay Wire	Kg	40.00	97.50	3,900.00
25	Lightning Arrester (9kV,10KA) DH Class	No	3.00	1,260.00	3,780.00
26	11kV,400 Amp without earth switch with PI(Polymer)	Set	1.00	39,793.00	39,793.00
27	11kV,5KN pin insulator polymer	No	3.00	260.00	780.00
28	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long	No	1.00	1,365.00	1,365.00
29	AAA conductor, 100 mm2	Km	0.02	71,500.00	1,430.00
30	Black Paint	Ltr	1.00	286.00	286.00
31	Yellow Colour Paint for Background	Ltr	2.00	220.00	440.00
				Total Cost of materials	1,73,498.37
				Stock, Storage & Insurance i.e 3%	5,204.95
				Sub Total	1,78,703.32
				Contingency @3%	5,361.10

Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Tools & Plants @ 2%	3,574.07
				Transportation @ 7.5%	13,402.75
				Erection Transformer/ Breaker/ WPB/ H Pole/ Joist Poles @ 5%	
				Erection Other @ 10%.	9,526.92
				Erection PSC Pole @ 20%	
				Sub Total	2,10,568.16
	Civil & Services				
	Fixing of complete 11KV line stay set includes Turn Buckle Assembly, Stay Rod & Stay plate, Stay Insulator, Stay Wire, Stay clamps with Nuts & bolts. BA will do the excavation, C.C foundation 1:2:4 size (500mmx500mmx800mm)	No.	4	2,362.50	9,450.00
	Erection of 11 Mtr long WPB Pole including providing & laying of 1:1.5:3, M20 Grade, C.C-500x500x1800mm & cooping of 500x500x450mm, zebra painting (In Black & Yellow Strips/Zebra)	No	2	6,300.00	12,600.00
	Installation of Earthing pipe with 40mm dia. 3 Mtr long GI Pipe & include supply of all required material like Salt, Charcoal, Nuts-Bolt, PVC Pipe PCC & brick work for earthing chamber (Size: 2'x2') & RCC or other suitable slab cover	No	1	2,415.00	2,415.00
				Total Civil Part	24,465.00
				Sub-Total	2,35,033.16
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-total	2,35,033.16
				GST @ 18% of Sub-Total	42,305.97
				CESS @ 1% of Sub-Total	2,350.33
				Sub-Grand Total	2,79,689.46
				Inspection Fee	
				Drawing Approval	
				Grand Total	2,79,689.46

SI No	Cost Estimate for 11kV Intermediate Pole		1	Amount(In Rs.)
	Description of Item	Unit	Quantity	Unit Rate(In Rs.)
1	POLE WPB GI 160X160 11 MTR	EA	1	34,321.52
2	RCC base Plate	EA	0	408.00
3	11kV V cross Arm (GJ) for WPB Pole	No	1.00	1,053.00
4	GI Back Clamp for 11kV 'V' Cros Arm for WPB Pole	No	1.00	104.00
5	Top bracket 100X50X5mm GI channel for 11kV	No	1.00	195.00
6	Danger Plate, 1 no	No	1	104.00
7	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	0.30	97.50
8	GI barbed wire anticlimbing device	Kg	3	104.00
9	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr	Kg	1.20	97.50
10	11kV,5kN pin insulator polymer	No	3	260.00
11	Earthing of Support (Coil Type)	No	1	215.80
12	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	0.262	97.50
13	GI Nut , Bolt & Washer of different sizes	Kg	1.45	101.40
14	Black Paint	Ltr	0.5	286.00
15	Yellow Colour Paint for Background	Ltr	1	260.00
				Total Cost of materials
				37,807.58
				Stock, Storage & Insurance i.e 3%
				1,134.23
				Sub Total A
				38,941.81
				Contingency @ 3%
				1,168.25
				Tools & Plants @ 2%
				778.84
				Transportation @ 7.5%
				2,920.64
				Erection
				Transformer/Breaker/WPB/H
				Pole/Joist Poles @ 5%
				Erection Other @ 10%
				317.56
				Erection PSC Pole @ 20%
				Sub Total B
				44,177.09
	Civil & Services			
	Installation of WPB 160 X152, 11Mtr pole	EA	1	6,300.00
				6,300.00
				Total Civil Part
				6,300.00
				Sub-Total C
				50,427.09

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Other Over Head (Including Supervision charges) @ 6%	-
				Sub-Total D	50,427.09
				GST @ 18% of Sub-Total	9,076.88
				CESS @ 1% of Sub-Total	504.27
				Sub-Grand Total	60,008.24
				Inspection Fee	
				Drawing Approval	
				Grand Total	60,008.24

Cost Estimate for Earthing of Existing Pole					
SI No	Description of Item	SP	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	Earthing of Support (Coil Type)	No	1.00	215.80	215.80
2	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	0.26	97.50	25.55
3	25x6 mm GI flat	Kg	0.00	97.50	-
4	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long	No	0.00	1,365.00	-
5	GI Nut , Bolt & Washer of different sizes	Kg	0.50	101.40	50.70
				Total cost of materials	292.05
				Stock, Storage & Insurance i.e 3%	8.76
				Sub Total A	300.81
				Contingency @ 3%	9.02
				Tools & Plants @ 2%	6.02
				Transportation @ 7.5%	22.56
				Erection	
				Transformer/Breaker/WPB/H	
				Pole/Joist Poles @ 5%	
				Erection Other @ 10%.	30.08
				Erection PSC Pole @ 20%	
				Sub Total B	368.49
	Civil & Services				
	ITC of Earthing pipe with E/C	EA	0.00	2,415.00	-
				Total Civil Part	-
				Sub-Total C	368.49
				Other Over Head (Including Supervision charges) @ 6%	
				Sub-Total C	368.49
				GST @ 18% of Sub-Total	66.33
				CESS @ 1% of Sub-Total	3.68
				Sub-Total D	438.50
				Inspection Fee	
				Drawing Approval	
				Grand Total	438.50

Earthing in Existing Pole

Cost Estimate for 11kV Line with 11mtr. WPB pole				
Sl No	Description of Item	Unit	Quantity	Amount(In Rs.)
1	POLE WPB GI 160X160 11 MTR	EA	20	34,321.52
2	Top Channel 100X50X5mm, each channel length 2.3 mtr.	Kg	43.98	97.50
3	Double Pole Bracing Channel 75X40X4.8mm,each channel length 2.0 Mtr.	Kg	71.40	97.50
4	50X50X6mm.GI Bracing Angle, each angle length 2.671 mtr	Kg	48.08	97.50
5	Straight Cross Arm Channel 100X50X5mm, each channel length 1.2 mtr.	Kg	68.83	97.50
6	Straight Cross Arm Top Channel 100X50X5mm,each channel length 0.306 Mtr.	Kg	17.55	97.50
7	Fish Plate 50X8 mm.,each 0.280 mtr. Length	Kg	15.83	97.50
8	Danger Plate, 1 no	No	20	104.00
9	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	6.02	97.50
10	GI barbed wire anticlimbing device	Kg	60	104.00
11	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr	Kg	24.07	97.50
12	11kV,5kN pin insulator polymer	No	59	260.00
13	11kV V cross Arm (GI) for WPB Pole	No	16	1,053.00
14	GI Back Clamp for 11kV 'V' Cros Arm for WPB Pole	No	16	104.00
15	Top bracket 100X50X5mm GI channel for 11kV	No	18	195.00
16	11kV H/W fitting(B&S) 70KN,3 Bolt	Set	18	455.00
17	11kV Disc insulator (B&S) 70KN polymer	No	18	1,495.00
18	Earthing of Support (Coil Type)	No	20	215.80
19	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	5.24	97.50
20	CLAMP PG FOR 100 SQMM CONDUCTOR	No	18	754.00
21	GI Nut , Bolt & Washer of different sizes	Kg	46.5	101.40
22	H.T Stay clamp	Pair	8	162.50
23	H.T 11kV Stay set (Complete)	Set	8	1,365.00
24	H.T Stay insulator	No	8	65.00
25	7/10 SWG Stay Wire	Kg	80	97.50
26	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	No	1	1,365.00
27	CONDUCTOR 100 SQMM AAA	Mtr	3090.00	71.50
28	50x6 mm GI flat	Kg	6	97.50
29	Black Paint	Ltr	10	286.00
30	Yellow Colour Paint for Background	Ltr	20	260.00
				Total Cost of materials
				10,70,646.48
				Stock, Storage & Insurance i.e 3%
				32,119.39
				Sub Total A
				11,02,765.87
				Contingency @ 3%
				33,082.98
11kV,11mtr WPB AAAC				

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Tools & Plants @ 2%	22,055.32
				Transportation @ 7.5%	82,707.44
				Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%	
				Erection Other @ 10%	36,487.86
				Erection PSC Pole @ 20%	
				Sub Total B	12,77,099.47
	Civil & Services				
	Installation of WPB 160 X152, 11Mtr pole	EA	20	6,300.00	1,26,000.00
	Inst 11KV/comple stay set with concrete	EA	8	2,362.50	18,900.00
	ITC of Earthing pipe with E/C	EA	1	2,415.00	2,415.00
				Total Civil Part	1,47,315.00
				Sub-Total C	14,24,414.47
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total D	14,24,414.47
				GST @ 18% of Sub-Total	2,56,394.60
				CESS @ 1% of Sub-Total	14,244.14
				Sub-Total E	16,95,053.22
				Inspection Fee	
				Drawing Approval	
				Grand Total	16,95,053.22

11KV,11mtr WPB AAC

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
Cost Estimate for 11kV Line Upgradation-100 Sqmm AAAC					
1	POLE WPB GI 160X160 11. MTR	EA	8	34,321.52	2,74,572.16
2	RCC base Plate	EA	0	408.00	-
3	Straight Cross Arm Channel 100X50X5mm, each channel length 1.2 mtr.	Kg	97.51	97.50	9,507.42
4	Straight Cross Arm Top Channel 100X50X5mm,each channel length	Kg	17.55	97.50	1,711.34
5	Fish Plate 50X8 mm.,each 0.280 mtr. Length	Kg	3.26	97.50	317.77
6	Danger Plate, 1 no	No	8	104.00	832.00
7	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	2.41	97.50	234.70
8	GI barbed wire anticlimbing device	Kg	24	104.00	2,496.00
9	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length	Kg	9.63	97.50	938.81
10	11kV,5kN pin insulator polymer	No	26	260.00	6,760.00
11	11kV V cross Arm (GI) for WPB Pole	No	6	1,053.00	6,318.00
12	GI Back Clamp for 11kV 'V' Cros Arm for WPB Pole	No	6	104.00	624.00
13	Top bracket 100X50X5mm GI channel for 11kV	No	8	195.00	1,560.00
14	11kV H/W fitting(B&S) 70KN,3 Bolt	Set	12	455.00	5,460.00
15	11kV Disc insulator (B&S) 70KN polymer	No	12	1,495.00	17,940.00
16	Earthing of Support (Coil Type)	No	8	215.80	1,726.40
17	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	2.10	97.50	204.36
18	CLAMP PG FOR 100 SQMM CONDUCTOR	No	12	754.00	9,048.00
19	GI Nut , Bolt & Washer of different sizes	Kg	96.5	101.40	9,785.10
20	H.T Stay clamp	Pair	4	162.50	650.00
21	H.T 11kV Stay set (Complete)	Set	4	1,365.00	5,460.00
22	H.T Stay Insulator	No	8	65.00	520.00
23	7/10 SWG Stay Wire	Kg	60	97.50	5,850.00
24	CONDUCTOR 100 SQMM AAA	Mtr	3090	71.50	2,20,935.00
25	Black Paint	Ltr	4	286.00	1,144.00
26	Yellow Colour Paint for Background	Ltr	8	260.00	2,080.00
				Total Cost of materials	5,86,675.06
				Stock, Storage & Insurance i.e 3%	17,600.25
				Sub Total A	6,04,275.31
				Contingency @ 3%	18,128.26
				Tools & Plants @ 2%	12,085.51
				Transportation @ 7.5%	45,320.65
				Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%	
				Erection Other @ 10%.	30,529.09

11kV Upgrad AAA Cond. 100mm

SI No	Cost Estimate for 11kV Line Upgradation-100 Sqmm AAAC Description of Item	Unit	Quantity	Unit Rate(In Rs.) Erection PSC Pole @ 20%	Amount(In Rs.)
				Sub Total B	7,10,338.81
	Civil & Services				
	Installation of WPB 160 X152, 11Mtr pole	EA	4	6,300.00	25,200.00
	Inst 11KV/comple stay set with concrete	EA	8	2,362.50	18,900.00
	Dismantling of RSJ/ WPB pole(150x150mm/R	EA	2	1,417.50	2,835.00
	Dismantling/ Removal of Insulators with All Fittings	EA	20	105.00	2,100.00
	Dismantling of 11KV 'V' Cross arm & retu	EA	2	43.47	86.94
	Dismantling of Steel Structure and Nut & Bolts	KG	50	78.75	3,937.50
	Dismantling of 80/100 mm2 AAA Conductor& retu	KG	461.028	15.75	7,261.19
				Total Civil Part	60,320.63
				Sub-Total C	7,70,659.44
				Other Over Head (Including Supervision charges)@ 6%	
				Sub-Total D	7,70,659.44
				GST @ 18% of Sub-Total	1,38,718.70
				CESS @ 1% of Sub-Total	7,706.59
				Sub-Total E	9,17,084.73
				Inspection Fee	
				Drawing Approval	
				Grand Total	9,17,084.73

11kV Upgrad AAA Cond. 100mm

Cost Estimate for 11kV Line Upgradation			Stringing of 148sqmm Conductor		
SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	POLE WPB GI 160X160 11 MTR	EA	8	34,321.52	2,74,572.16
2	RCC base Plate	EA	0	408.00	-
3	Straight Cross Arm Channel 100X50X5mm, each channel length 1.2 mtr.	Kg	97.51	97.50	9,507.42
4	Straight Cross Arm Top Channel 100X50X5mm,each channel length	Kg	17.55	97.50	1,711.34
5	Fish Plate 50X8 mm.,each 0.280 mtr. Length	Kg	3.26	97.50	317.77
6	Danger Plate, 1 no	No	8	104.00	832.00
7	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	2.41	97.50	234.70
8	GI barbed wire anticlimbing device	Kg	24	104.00	2,496.00
9	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length	Kg	9.63	97.50	938.81
10	11KV,5KN pin insulator polymer	No	26	260.00	6,760.00
11	11KV V cross Arm (GI) for WPB Pole	No	6	1,053.00	6,318.00
12	GI Back Clamp for 11kV 'V' Cros Arm for WPB Pole	No	6	104.00	624.00
13	Top bracket 100X50X5mm GI channel for 11kV	No	8	195.00	1,560.00
14	11KV H/W fitting(B&S) 70KN,3 Bolt	Set	12	455.00	5,460.00
15	11KV Disc insulator (B&S) 70KN polymer	No	12	1,495.00	17,940.00
16	Earthing of Support (Coil Type)	No	8	215.80	1,726.40
17	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	2.10	97.50	204.36
18	CLAMP PG FOR 148 SQMM AAA COND	No	12	806.00	9,672.00
19	GI Nut , Bolt & Washer of different sizes	Kg	96.5	101.40	9,785.10
20	H.T Stay clamp	Pair	4	162.50	650.00
21	H.T 11kV Stay set (Complete)	Set	4	1,365.00	5,460.00
22	H.T Stay Insulator	No	8	65.00	520.00
23	7/10 SWG Stay Wire	Kg	60	97.50	5,850.00
24	CONDUCTOR 148 SQ.MM. AAA	Mtr	3090	106.60	3,29,394.00
25	Black Paint	Ltr	4	286.00	1,144.00
26	Yellow Colour Paint for Background	Ltr	8	260.00	2,080.00
				Total Cost of materials	6,95,758.06
				Stock, Storage & Insurance i.e 3%	20,872.74
				Sub Total A	7,16,630.80
				Contingency @ 3%	21,498.92
				Tools & Plants @ 2%	14,332.62
				Transportation @ 7.5%	53,747.31

Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%	
				Erection Other @ 10%.	41,764.64
				Erection PSC Pole @ 20%	
				Sub Total B	8,47,974.28
	Civil & Services				
	Installation of WPB 160 X152, 11Mtr pole	EA	4	6,300.00	25,200.00
	Inst 11KVcomplete stay set with concrete	EA	8	2,362.50	18,900.00
	Dismantling of RSJ/ WPB pole(150x150mm/R	EA	2	1,417.50	2,835.00
	Dismantling/ Removal of Insulators with All Fittings	EA	20	105.00	2,100.00
	Dismantling of 11KV 'V' Cross arm & retu	EA	2	43.47	86.94
	Dismantling of Steel Structure and Nut & Bolts	KG	50	78.75	3,937.50
	Dismantling of 80/100 mm2 AAA Conductor& retu	Kg	461.028	15.75	7,261.19
				Total Civil Part	60,320.63
				Sub-Total C	9,08,294.92
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total D	9,08,294.92
				GST @ 18% of Sub-Total	1,63,493.08
				CESS @ 1% of Sub-Total	9,082.95
				Sub-Total E	10,80,870.95
				Inspection Fee	
				Drawing Approval	
				Grand Total	10,80,870.95

Sl No	Description of Item	POLE WPB GI 160X160 11 MTR	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
		Short Text		1		
1	POLE WPB GI 160X160 11 MTR	POLE WPB GI 160X160 11 MTR	EA	2	34,321.52	68,643.04
2	RCC base Plate	BASE PLATE FOR PSC POLE	EA	0	408.00	-
3	Top Channel 100X50X5mm, each channel length 3.25 mtr	100x50x6mm GI Channel	Kg	62.14	97.50	6,058.65
4	AB Switch mounting Channel 100X50X5mm GI channel 3.0mtr long	100x50x6mm GI Channel	Kg	57.36	97.50	5,592.60
5	Double Pole Belting Channel 75X40X 4.8mm., each channel length 3.0 Mtr.	75x40x6mm GI Channel	Kg	85.68	97.50	8,353.80
6	50X50X6mm GI Bracing Angle, each angle length 3.512 mtr	50x50x6mm GI Angle	Kg	63.22	97.50	6,163.56
7	AB Switch Side Support Channel 100X50X5mm, each channel length 0.35 mtr.	100x50x6mm GI Channel	Kg	6.69	97.50	652.47
8	Channel Support for down Pipe 75X40X4.8mm., each channel length 0.8 Mtr.	75x40x6mm GI Channel	Kg	5.71	97.50	556.92
9	Fish Plate 50X8 mm., each 0.280 mtr. Length	50x50x6mm GI Angle	Kg	5.28	97.50	514.33
10	Danger Plate, 1 no	Danger plate	No	2	104.00	208.00
11	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	75x40x6mm GI Channel	Kg	0.60	97.50	58.68
12	GI barbed wire antilimb device	GI Barbed wire	Kg	6	104.00	624.00
13	Back Clamp for Barbed wire antilimb device 25X3mm. flat, length of 0.510mtr	75x40x6mm GI Channel	Kg	2.41	97.50	234.70
14	11KV, 5kN pin insulator polymer	11KV Pin Insulator, Polymer	No	3	260.00	780.00
15	11KV H/W fitting (B&S) 70KN, 3 Bolt	H W fitting (B&S) 70KN, 3 bolt	Set	6	455.00	2,730.00
16	11KV Disc insulator (B&S) 70KN polymer	Disc Insulator (B&S) 70KN, Polymer	No	6	1,495.00	8,970.00
17	11KV AB Switch 400A 3pole 50Hz Horizontal Type	AB Switch (11KV, 400A, 3 Pole, 50 Hz)	Set	1	15,405.00	15,405.00
18	Lightning Arrester (9kV, 10KA) DH Class	Lightning Arrester (9KV, 10KA) Station Class	No	3	1,300.00	3,900.00
19	Earthing of Support (Coil Type)	Earthing Coil	No	2	215.80	431.60
20	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	No-8 GI wire (Dia 4.6 mm)	Kg	0.52	97.50	51.09
21	CLAMP PG FOR 100 SQMM CONDUCTOR	PG clamp for 100 mm ² AAA conductor	No	6	754.00	4,524.00
22	GI Nut, Bolt & Washer of different sizes	GI Nuts & Bolts of Assorted size	Kg	96.5	101.40	9,785.10
23	H.T Stay clamp	HT stay clamp (1.9kg/pair)	Pair	4	162.50	650.00
24	H.T 11KV Stay set (Complete)	HT stay set complete	Set	4	1,365.00	5,460.00
25	H.T Stay Insulator	HT Stay Insulator (Type C)	No	4	65.00	260.00
26	7/10 SWG Stay Wire	7/10 SWG G1 stay wire, Grade-2	Kg	40	97.50	3,900.00
27	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr Long	No	1	1,365.00	1,365.00
28	CONDUCTOR 100 SQMM AAA	100mm ² All Alloy Aluminium Conductor	Mtr	20.00	71.50	1,430.00
29	50x6 mm GI flat	GI Flat 50x6mm	Kg	6	97.50	585.00
30	Black Paint	Black paint	Ltr	1	286.00	286.00
31	Yellow Colour Paint for Background	Aluminium paint	Ltr	2	260.00	520.00
		Total Cost of materials				1,58,693.54
		Stock, Storage & Insurance i.e 3%				4,760.81
		Sub Total A				1,63,454.35
		Contingency @ 3%				4,903.63
		Tools & Plants @ 2%				3,269.09
		Transportation @ 7.5%				12,259.08
		Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%				

11kV AB Switch 200 Amp

Sl No	Description of Item	Short Text	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
					Erection Other @ 10%.	7,993.78
					Erection PSC Pole @ 20%	
					Sub Total B	1,91,879.92
	Civil & Services					
	Installation of WPB 160 X152, 11Mtr pole	Installation/Erection of 11 Mtr long, RS JOIST/WPB Pole including loading and unloading, transportation from site/feet upto 10 Km., excavation, refilling, flooding with water, ramming/compacting of foundation as per TpsODL specifications and drawing including removal & disposal of extra malba as per instruction of EIC. The scope of work include providing & laying of 1:1.5:3, M20, concrete of size - 500(B)x500(W)x1800(H), and cooping of 500(B)x500(W)x450(H). Scope of work also includes 5 days curing and zebra painting (In Black & Yellow Strips/Zebra) As per drawing.	EA	4	6,300.00	25,200.00
	Inst 11KVcomplete stay set with concrete	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5) Stay clamps with Nuts & bolts BA will do the excavation including excavation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TpsODL Drawing & Standard.	EA	2	2,362.50	4,725.00
	ITC of Earthing pipe with E/C	Installation of Earthing pipe with 40mm dia 3 Mtr long Class-B GI Pipe(linda)/Tata/Sail/Rini) with earth chamber as per TpsODL specification and drawing (Each pit resistance will be measured and recorded and shall be as per IS). Scope include supply of all required material like Salt, Charcoal, Nuts-Bolt, PVC Pipe PCC, and brick work for earthing chamber (Size: 2'x2') and RCC or other suitable slab cover(earth resistance measurement and with in limit to be achieved by BA). Scope of work also includes leveling & ramming of earth and removal of extra malba. Earthing Pipe is to be issued by TpsODL.	EA	1	2,415.00	2,415.00
					Total Civil Part	32,340.00
					Sub-Total C	2,24,219.92
					Other Over Head (Including Supervision charges)@ 6%	-
					Sub-Total D	2,24,219.92
					GST @ 18% of Sub-Total	40,359.59
					CESS @ 1% of Sub-Total	2,242.20
					Sub-Total E	2,66,821.70
					Inspection Fee	
					Drawing Approval	
					Grand Total	2,66,821.70

SI No	Cost Estimate for 11kV Cradle Guard in Existing Line	POLE WPB GI 160X160 11 MTR	1	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	POLE WPB GI 160X160 11 MTR	POLE WPB GI 160X160 11 MTR	EA	1	34,321.52	34,321.52	
2	RCC base Plate	BASE PLATE FOR PSC POLE	EA	0	408.00	-	
3	Cross arm of 75x40x4.8mm GI Channel 2.2 mtr long 4Nos	75x40x6mm GI Channel	Kg	62.83	97.50	6,126.12	
4	No. 10 GI wire cross lacing (0.08kg/mtr)	No-6 GI wire (Dia 4.8 mm)	Kg	1.78	97.50	173.16	
5	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	No-8 GI wire(Dia 4.6 mm)	Kg	33.26	97.50	3,243.05	
6	11kV V cross Arm (GI) for WPB Pole	11kV V cross arm(10.2kg each)	No	1.00	1,053.00	1,053.00	
7	GI Back Clamp for 11kV 'V' Cross Arm for WPB Pole	GI Back Clamp for V cross arm(11kV)(0.85 kg each)	No	1.00	104.00	104.00	
8	Top bracket 100X50X5mm GI channel for 11kV	Top bracket 100x50mm MS channel(2kg each)	No	1.00	195.00	195.00	
9	Danger Plate, 1 no	Danger plate	No	1	104.00	104.00	
10	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	75x40x6mm GI Channel	Kg	0.30	97.50	29.34	
11	GI Barbed wire anticlimbing device	GI Barbed wire	Kg	3	104.00	312.00	
12	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr	75x40x6mm GI Channel	Kg	1.20	97.50	117.35	
13	11kV,5KN pin insulator polymer	11kV Pin Insulator,Polymer	No	3	260.00	780.00	
14	Eye hook	EYE hook for XLPE Aerial bunched Cable	No	4	78.00	312.00	
15	Earthing of Support (Coil Type)	Earthing Coil	No	1	215.80	215.80	
16	GI Nut , Bolt & Washer of different sizes	GI Nuts & Bolts of Assorted size	Kg	12	101.40	1,216.80	
17	H.T Stay clamp	HT stay clamp(1.9kg/pair)	Pair	2	162.50	325.00	
18	H.T 11kV Stay set (Complete)	HT stay set complete	Set	2	1,365.00	2,730.00	
19	H.T Stay Insulator	HT Stay insulator(Type C)	No	4	65.00	260.00	
20	7/10 SWG Stay Wire	7/10 SWG GI stay wire,Grade-2	Kg	30	97.50	2,925.00	
21	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long	40mm nominal bore GI pipe(medium gauge)earthing device with 3 mtr Long	No	1	1,365.00	1,365.00	
22	50x6 mm GI flat	GI Flat 50x6mm	Kg	12	97.50	1,170.00	
23	Black Paint	Black paint	ltr	0.5	286.00	143.00	
24	Yellow Colour Paint for Background	Aluminium paint	ltr	1	260.00	260.00	
		Total Cost of materials				57,481.13	
		Stock, Storage & Insurance i.e 3%				1,724.43	
		Sub Total A				59,205.57	
		Contingency @ 3%				1,776.17	
		Tools & Plants @ 2%				1,184.11	
		Transportation @ 7.5%				4,440.42	
		Erection					
		Transformer/Breaker/WPB/H					
		Pole/Joist Poles @ 5%					
		Erection Other @ 10%.					
		Erection PSC Pole @ 20%					
		Sub Total B				68,166.88	
		Civil & Services					

Sl No	Description of Item	Short Text	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
	Installation of WP/B 160 X152, 11Mtr pole	Installation/ Erection of 11 Mtr Long, RS JOIST/WPB Pole including loading and unloading, transportation from site/rent upto 10 Km., excavation, refilling, flooding with water, ramming/compacting of foundation as per TPSODL specifications and drawing including removal & disposal of extra malba as per instruction of EIC. The scope of work include providing & laying of 1:1.5:3, M20, concrete of size - 500(Ø)x500(W)x1800(H), and coupling of 500(B)x500(W)x450(H). Scope of work also includes 5 days curing and zebra painting (In Black & Yellow Strips/Zebra). As per drawing.	EA	1	6,300.00	6,300.00
	Inst 11KV complete stay set with concrete	Fixing of complete 11KV line Complete stay set includes 1) Turn Buckle Assembly 2) Stay Rod & Stay plate 3) Stay Insulator 4) Stay Wire. 5) Stay clamps with Nuts & bolts BA will do the excavation including excavation, supply of 0.5Cum cement concrete foundation 1:2:4 size (500mmx500mmx800mm) using 20mm BHG metal with all labour and material as per TPSODL Drawing & Standard.	EA	2	2,362.50	4,725.00
	ITC of Earthing pipe with E/C	Installation of Earthing pipe with 40mm dia 3 Mtr Long Class-B GI Pipe(Jindal/Tata/Sail/Rini) with earth chamber as per TPSODL specification and drawing. Each pit resistance will be measured and recorded and shall be as per IS). Scope include supply of all required material like Salt, Charcoal, Nuts-Bolt ,PVC Pipe PCC, and brick work for earthing chamber (Size: 2'x2') and RCC or other suitable slab cover earth resistance measurement and with in limit to be achieved by BA). Scope of work also includes leveling & ramming of earth and removal of extra malba. Earthing Pipe is to be issued by TPSODL.	EA	1	2,415.00	2,415.00
		Total Civil Part				13,440.00
		Sub-Total C				81,606.88
		Other Over Head (Including Supervision charges) @ 6%				-
		Sub-Total D				81,606.88
		GST @ 18% of Sub-Total				14,689.24
		CESS @ 1% of Sub-Total				816.07
		Sub-Total E				97,112.19
		Inspection Fee				
		Drawing Approval				
		Grand Total				97,112.19

Cost Estimate for LT Line 4X50+1X50+1X16 mm2		1	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)	
1	POLE PSC 9 METER 300 KG	No	8	3,900.00	31,200.00	
2	1.1KV LT AB Cable 4x50+1x50+1x16mm2	KM	1.03	1,98,018.01	2,03,958.55	
3	RCC base Plate	EA	8.00	408.00	3,264.00	
4	BOARD DANGER 400/440 VOLT	EA	8.00	78.53	628.24	
5	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	2.41	97.50	234.70	
6	GI barbed wire anticlimbing device	Kg	24.00	104.00	2,496.00	
7	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr	Kg	2.41	97.50	234.70	
8	Pole clamp for EYE hook for XLPE Aerial bunched Cable	Pair	8.00	260.00	2,080.00	
9	Suspension Clamp	Pair	8.00	442.00	3,536.00	
10	Eye hook	No	0.00	78.00	-	
11	Conductor Dead End Clamp	No	0.00	84.50	-	
12	LT Stay Set (Complete)	Set	0	676.00	-	
13	LT Stay Insulator	No	0	39.00	-	
14	LT Stay clamp	Pair	0	143.00	-	
15	7/12 SWG Stay Wire	Kg	0	97.50	-	
16	Earthing of Support (Coil Type)	No	8	215.80	1,726.40	
17	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	2	97.50	204.36	
18	LT Distribution Box Polycarbonate	EA	13	925.00	12,025.00	
19	Cap cable end	EA	48	152.00	7,296.00	
20	IPC 50-150, 50-150 SQ.MM ST.LT Type A	EA	12	80.00	960.00	
21	IPC EP 95 LT ABC 16-95 & 1.5-16 SQMM ST.LT Type C	EA	3	80.00	240.00	
22	IPC KZ 2X150 LTABC 25-150 & 6-35(50) sqmm Type B	EA	3	80.00	240.00	
23	STEEL STRAP SIZE 20 MMX50 M LONG	EA	4	1,476.14	5,904.56	
24	BUCKLES FOR STEEL STRAP (1 EA = 100 NOS)	EA	4	490.67	1,962.68	
25	Cable 1.1KV AI 4CX25 Sq.mm Armoured	M	52	136.66	7,106.32	
26	Gland for 1.1KV AI 4CX25 Sq.mm	No	13	15.60	202.80	
27	GI Nut , Bolt & Washer of different sizes	Kg	4	101.40	405.60	
28	Lug AL Crimping 25 Sqmm XLPE Single hole	EA	52	4.77	248.04	
29	FRP CROSS ARM 1070MM 415V	No	26	949.00	24,674.00	
30	2C X 4sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	200	19.50	3,900.00	
31	2C X 10sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	100	19.50	1,950.00	
32	4C X 10sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	100	145.60	14,560.00	

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
33	Tie Plastic Black size 7.6mmX380mm	EA	40	6.65	266.00
34	Tie Plastic size 9mmX265mm	EA	60	22.33	1,339.80
35	Black Paint	Ltr	4	286.00	1,144.00
36	Yellow Colour Paint for Background	Ltr	8	260.00	2,080.00
	Total Cost of materials				3,36,067.75
	Stock, Storage & Insurance i.e 3%				10,082.03
	Sub Total A				3,46,149.79
	Contingency @ 3%				10,384.49
	Tools & Plants @ 2%				6,923.00
	Transportation @ 7.5%				25,961.23
	Erection Transformer/Breaker/W/PB/H				1,606.80
	Pole/Joist Poles @ 5%				
	Erection Other @ 10%.				8,598.58
	Erection PSC Pole @ 20%				6,427.20
	Sub Total B				4,06,051.09
	Civil & Services				
	Installation of PSC pole, 9Mtr	EA	8	6,300.00	50,400.00
	Fixing of LT stay set with Concreting	SET	0	2,362.50	-
	Dismantling of PSC pole (9mtr) & Return	EA	3	945.00	2,835.00
	Dismantling of LT ABC Cable with accesso	M	1030	23.63	24,333.75
	Total Civil Part				77,568.75
	Sub-Total C				4,83,619.84
	Other Over Head (Including Supervision charges)@ 6%				-
	Sub-Total D				4,83,619.84
	GST @ 18% of Sub-Total D				87,051.57
	CESS @ 1% of Sub-Total D				4,836.20
	Sub-Total E				5,75,507.62
	Inspection Fee				
	Drawing Approval				
	Grand Total				5,75,507.62

0.06

SI No	Source	Cost Estimate for LT Line 4X50+1X50+1X16 mm2	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	CDB		POLE PSC 9 METER 300 KG	No	33	3,900.00	1,28,700.00
2	RC		1.1KV LT AB Cable 4x50+1x50+1x16mm2	KM	1.03	1,98,018.01	2,03,958.55
3	RC		RCC base Plate	EA	33.00	408.00	13,464.00
4	RC		BOARD DANGER 400/440 VOLT	EA	33.00	78.53	2,591.49
5	CDB		Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	9.93	97.50	968.15
6	CDB		GI barbed wire anticlimbing device	Kg	99.00	104.00	10,296.00
7	CDB		Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr	Kg	9.93	97.50	968.15
8	CDB		Pole clamp for EYE hook for XLPE Aerial bunched Cable	Pair	33.00	260.00	8,580.00
9	CDB		Suspension Clamp	Pair	23.00	442.00	10,166.00
10	CDB		Eye hook	No	10.00	78.00	780.00
11	CDB		Conductor Dead End Clamp	No	10.00	84.50	845.00
12	CDB		LT Stay Set (Complete)	Set	10	676.00	6,760.00
13	CDB		LT Stay Insulator	No	10	39.00	390.00
14	CDB		LT Stay clamp	Pair	10	143.00	1,430.00
15	CDB		7/12 SWG Stay Wire	Kg	100	97.50	9,750.00
16	CDB		Earthing of Support (Coil Type)	No	33	215.80	7,121.40
17	CDB		No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	9	97.50	842.99
18	RC		LT Distribution Box Polycarbonate	EA	17	925.00	15,725.00
19	CDB		Cap cable end	EA	258	152.00	39,216.00
20	CDB		IPC 50-150, 50-150 SQ.MM ST.LT Type A	EA	12	80.00	960.00
21	CDB		IPC EP 95 LT ABC 16-95 & 1.5-16 SQMM ST.LT Type C	EA	3	80.00	240.00
22	CDB		IPC KZ 2X150 LTABC 25-150 & 6-35(50) sqmm Type B	EA	3	80.00	240.00
23	CDB		STEEL STRAP SIZE 20 MMX50 M LONG	EA	4	1,476.14	5,904.56
24	CDB		BUCKLES FOR STEEL STRAP (1 EA = 100 NOS)	EA	4	490.67	1,962.68
25	RC		Cable 1.1KV AI 4CX25 Sq.mm Armoured	M	68	136.66	9,292.88
26	CDB		Gland for 1.1KV AI 4CX25 Sq.mm	No	17	15.60	265.20
27	CDB		GI Nut , Bolt & Washer of different sizes	Kg	16.5	101.40	1,673.10
28	RC		Lug AL Crimping 25 Sqmm XLPE Single hole	EA	68	4.77	324.36
29	CDB		FRP CROSS ARM 1070MM 415V	No	34	949.00	32,266.00
30	CDB		2C X 4sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	200	19.50	3,900.00

New ABC-4X50+1X50+1X16mm2

SI No	Source	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
31	CDB	2C X 10sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	100	19.50	1,950.00
32	CDB	4C X 10sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	100	145.60	14,560.00
33	CDB	Tie Plastic Black size 7.6mmX380mm	EA	40	6.65	266.00
34	CDB	Tie Plastic size 9mmX265mm	EA	60	22.33	1,339.80
35	CDB	Black Paint	Ltr	16.5	286.00	4,719.00
36	CDB	Yellow Colour Paint for Background	Ltr	33	260.00	8,580.00
		Total Cost of materials			5,50,996.30	
		Stock, Storage & Insurance i.e 3%			16,529.89	
		Sub Total A			5,67,526.19	
		Contingency @ 3%			17,025.79	
		Tools & Plants @ 2%			11,350.52	
		Transportation @ 7.5%			42,564.46	
		Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%			6,628.05	
		Erection Other @ 10%			17,641.33	
		Erection PSC Pole @ 20%			26,512.20	
		Sub Total B			6,89,248.53	
		Civil & Services				
		Installation of PSC pole, 9Mtr	EA	33	6,300.00	2,07,900.00
		Fixing of LT stay set with Concreting	SET	10	2,362.50	23,625.00
		Dismantling of PSC pole (9mtr) & Return	EA	3	945.00	2,835.00
		Dismantling of LT ABC Cable with accesso	M	1030	23.63	24,333.75
		Total Civil Part				2,58,693.75
		Sub-Total C				9,47,942.28
		Other Over Head (Including Supervision charges) @ 6%				-
		Sub-Total D				9,47,942.28
		GST @ 18% of Sub-Total D				1,70,629.61
		CESS @ 1% of Sub-Total D				9,479.42
		Sub-Total E				11,28,051.32

New ABC-4X50+1X50+1X16mm2

Sl No	Source	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
					Inspection Fee	
					Drawing Approval	
					Grand Total	11,28,051.32

SI No	Cost Estimate for LT Line 4X95+1X95+1X16 mm2	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	POLE PSC 9 METER 300 KG		No	8	3,900.00	31,200.00
2	1.1KV LT AB Cable 4x95+1x95+1x16mm2		KM	1.03	3,68,637.85	3,79,696.99
3	RCC base Plate		EA	8.00	408.00	3,264.00
4	BOARD DANGER 400/440 VOLT		EA	8.00	78.53	628.24
5	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr		Kg	2.41	97.50	234.70
6	GI barbed wire anticlimbing device		Kg	24.00	104.00	2,496.00
7	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat,length of 0.510mtr		Kg	2.41	97.50	234.70
8	Pole clamp for EYE hook for XLPE Aerial bunched Cable		Pair	8.00	260.00	2,080.00
9	Suspension Clamp		Pair	8.00	442.00	3,536.00
10	Eye hook		No	8.00	78.00	624.00
11	Conductor Dead End Clamp		No	0.00	84.50	-
12	LT Stay Set (Complete)		Set	0	676.00	-
13	LT Stay Insulator		No	0	39.00	-
14	LT Stay clamp		Pair	0	143.00	-
15	7/12 SWG Stay Wire		Kg	0	97.50	-
16	Earthing of Support (Coil Type)		No	8	215.80	1,726.40
17	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.		Kg	2	97.50	204.36
18	LT Distribution Box Polycarbonate		EA	13	925.00	12,025.00
19	Cap cable end		EA	48	152.00	7,296.00
20	IPC 50-150, 50-150 SQ.MM ST.LT Type A		EA	12	80.00	960.00
21	IPC EP 95 LT ABC 16-95 & 1.5-16 SQMM ST.LT Type C		EA	3	80.00	240.00
22	IPC KZ 2X150 LTABC 25-150 & 6-35(50) sqmm Type B		EA	3	80.00	240.00
23	STEEL STRAP SIZE 20 MMX50 M LONG		EA	4	1,476.14	5,904.56
24	BUCKLES FOR STEEL STRAP (1 EA = 100 NOS)		EA	4	490.67	1,962.68
25	Cable 1.1KV AI 4CX25 Sq.mm Armoured		M	52	136.66	7,106.32
26	Gland for 1.1KV AI 4CX25 Sq.mm		No	13	15.60	202.80
27	GI Nut , Bolt & Washer of different sizes		Kg	4	101.40	405.60
28	Lug AL Crimping 25 Sqmm XLPE Single hole		EA	52	4.77	248.04
29	FRP CROSS ARM 1070MM 415V		No	26	949.00	24,674.00

Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Inspection Fee	
				Drawing Approval	
				Grand Total	8,18,772.47

Aug- ABC-4X95+1X95+1X16mm2

SI No	Description of Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
Cost Estimate for LT Line 4X95+1X95+1X16 mm2					
1	POLE PSC 9 METER 300 KG	No	33	3,900.00	1,28,700.00
2	1.1KV LT AB Cable 4x95+1x95+1x16mm2	KM	1.03	3,68,637.85	3,79,696.99
3	RCC base Plate	EA	33.00	408.00	13,464.00
4	BOARD DANGER 400/440 VOLT	EA	33.00	78.53	2,591.49
5	Back Clamp for danger Plate 25X3 mm. flat, length of 0.510mtr 1 no	Kg	9.93	97.50	968.15
6	GI barbed wire anticlimbing device	Kg	99.00	104.00	10,296.00
7	Back Clamp for Barbed wire anticlimbing device 25X3mm. flat, length of 0.510mtr	Kg	9.93	97.50	968.15
8	Pole clamp for EYE hook for XLPE Aerial bunched Cable	Pair	33.00	260.00	8,580.00
9	Suspension Clamp	Pair	23.00	442.00	10,166.00
10	Eye hook	No	10.00	78.00	780.00
11	Conductor Dead End Clamp	No	10.00	84.50	845.00
12	LT Stay Set (Complete)	Set	10	676.00	6,760.00
13	LT Stay Insulator	No	10	39.00	390.00
14	LT Stay clamp	Pair	10	143.00	1,430.00
15	7/12 SWG Stay Wire	Kg	100	97.50	9,750.00
16	Earthing of Support (Coil Type)	No	33	215.80	7,121.40
17	No-8 GI wire (Dia 4.6mm) 0.131 KG/ Mtr.	Kg	9	97.50	842.99
18	LT Distribution Box Polycarbonate	EA	17	925.00	15,725.00
19	Cap cable end	EA	258	152.00	39,216.00
20	IPC 50-150, 50-150 SQ.MM ST.LT Type A	EA	12	80.00	960.00
21	IPC EP 95 LT ABC 16-95 & 1.5-16 SQMM ST.LT Type C	EA	3	80.00	240.00
22	IPC KZ 2X150 LTABC 25-150 & 6-35(50) sqmm Type B	EA	3	80.00	240.00
23	STEEL STRAP SIZE 20 MMX50 M LONG	EA	4	1,476.14	5,904.56
24	BUCKLES FOR STEEL STRAP (1 EA = 100 NOS)	EA	4	490.67	1,962.68
25	Cable 1.1KV Al 4CX25 Sq.mm Armoured	M	68	136.66	9,292.88
26	Gland for 1.1KV Al 4CX25 Sq.mm	No	17	15.60	265.20
27	GI Nut, Bolt & Washer of different sizes	Kg	16.5	101.40	1,673.10
28	Lug AL Crimping 25 Sqmm XLPE Single hole	EA	68	4.77	324.36
29	FRP CROSS ARM 1070MM 415V	No	34	949.00	32,266.00
30	2CX 4sq. mm Armoured Aluminium Cable - XLPE Insulated New ABC-4X95+1X95+1X16mm2 (2)	Mtr	200	19.50	3,900.00

Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
31	2C X 10sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	100	19.50	1,950.00
32	4C X 10sq. mm. Armoured Aluminium Cable - XLPE Insulated	Mtr	100	145.60	14,560.00
33	Tie Plastic Black size 7.6mmX380mm	EA	40	6.65	266.00
34	Tie Plastic size 9mmX265mm	EA	60	22.33	1,339.80
35	Black Paint	Ltr	16.5	286.00	4,719.00
36	Yellow Colour Paint for Background	Ltr	33	260.00	8,580.00
				Total Cost of materials	7,26,734.73
				Stock, Storage & Insurance i.e 3%	21,802.04
				Sub Total A	7,48,536.77
				Contingency @ 3%	22,456.10
				Tools & Plants @ 2%	14,970.74
				Transportation @ 7.5%	56,140.26
				Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%	6,628.05
				Erection Other @ 10%	17,641.33
				Erection PSC Pole @ 20%	26,512.20
				Sub Total B	8,92,885.45
	Civil & Services				
	Installation of PSC pole, 9Mtr	EA	33	6,300.00	2,07,900.00
	Fixing of LT stay set with Concreting	SET	10	2,362.50	23,625.00
	Dismantling of PSC pole (9mtr) & Return	EA	3	945.00	2,835.00
	Dismantling of LT ABC Cable with accesso	M	1030	23.63	24,333.75
				Total Civil Part	2,58,693.75
				Sub-Total C	11,51,579.20
				Other Over Head (Including Supervision charges) @ 6%	-
				Sub-Total D	11,51,579.20
				GST @ 18% of Sub-Total D	2,07,284.26
				CESS @ 1% of Sub-Total D	11,515.79
				Sub-Total E	13,70,379.24
				Inspection Fee	
				Drawing Approval	
				Grand Total	13,70,379.24

New ABC-4X95+1X95+1X16mm2 (2)

SI No		Cost Estimate for 250kVA Distribution Transformer(3-ph)		1	Amount(In Rs.)	
Description of Item		Unit	Quantity	Unit Rate(In Rs.)		Amount(In Rs.)
1	250 KVA,11/0.43KV(AL) Transformer	No	0	3,48,985.00	-	-
2	POLE WPB GI 160X160 11 MTR	EA	0	34,321.52	-	-
3	RCC base Plate	EA	0	408.00	-	-
4	Top Channel 100X50X5mm, each channel length 2.8 mtr.	Kg	53.54	97.50	5,219.76	5,219.76
5	AB Switch Mounting Channel 75X40X4.8mm GI Channel 2.8 mtr lon	Kg	39.98	97.50	3,898.44	3,898.44
6	HG Fuse mounting channel 75X40X4.8mm of length 2.8 mtr	Kg	39.98	97.50	3,898.44	3,898.44
7	AB Switch Operating Pipe Channel Support 75X40X4.8 mm.,of length 0.625mtr	Kg	4.46	97.50	435.09	435.09
8	AB Switch Bottom Support Channel 75X40X4.8 mm of length 0.330 mtr.	Kg	4.71	97.50	459.46	459.46
9	Braking Support Channel for operating pipe 50X8mm of length 0.5 mtr.	Kg	1.57	97.50	153.08	153.08
10	Support Channel for TPMO operating Rod 75X40X4.8mm of length 0.388 mtr.	Kg	5.54	97.50	540.21	540.21
11	LTDB supporting channel 75X40X4.8mm of length 3.0 mtr	Kg	21.42	97.50	2,088.45	2,088.45
12	Lightning Arrester (9kV,10KA) DH Class	No	3	1,300.00	3,900.00	3,900.00
13	11KV AB Switch 400A 3pole 50Hz Horizontal Type	Set	1	15,405.00	15,405.00	15,405.00
14	HG Fuse(11KV,400A,3 Pole,50Hz) with PI	Set	1	14,989.00	14,989.00	14,989.00
15	LT Distribution Box with MCCB for 250KVA S/S	No	1	62,400.00	62,400.00	62,400.00
16	H.T Stay clamp	Pair	0	162.50	-	-
17	H.T 11kV Stay set (Complete)	Set	0	1,365.00	-	-
18	H.T Stay Insulator	No	0	65.00	-	-
19	7/10 SWG Stay Wire	Kg	0	97.50	-	-
20	1.1KV AL 1CX300 Sq.mm Un-armoured Cable	Mtr	64	496.60	31,782.40	31,782.40
21	Gland for 1.1KV AL 1CX300 Sq.mm	No	8	67.60	540.80	540.80
22	Lug AL Crimping 300 Sqmm XLPE Single hole	EA	8	750.00	6,000.00	6,000.00
23	11KV Disc insulator (B&S) 70KN polymer	No	3	1,495.00	4,485.00	4,485.00
24	11KV H/W fitting(B&S) 70KN, 3 Bolt	Set	3	455.00	1,365.00	1,365.00
25	CLAMP PG FOR 100 SQMM CONDUCTOR	No	3	754.00	2,262.00	2,262.00
26	CONDUCTOR 100 SQMM AAA	Mtr	15	71.50	1,072.50	1,072.50
27	GI Nut , Bolt & Washer of different sizes	Kg	20	101.40	2,028.00	2,028.00
28	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	No	5	1,365.00	6,825.00	6,825.00
29	25x6 mm GI flat	Kg	6	97.50	585.00	585.00
30	Black Paint	Ltr	0	286.00	-	-
31	Yellow Colour Paint for Background	Ltr	0	260.00	-	-
				Total Cost of materials	1,70,332.63	1,70,332.63
				Stock, Storage & Insurance i.e 3%	5,109.98	5,109.98
				Sub Total A	1,75,442.61	1,75,442.61
				Contingency @ 3%	5,263.28	5,263.28
				Tools & Plants @ 2%	3,508.85	3,508.85
				Transportation @ 7.5%	13,158.20	13,158.20
				Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%	-	-
	Dist. Transformer-250kVA-DSS					

					Erection Other @ 10%	16,841.29
					Erection PSC Pole @ 20%	
					Sub Total B	2,14,214.22
	Civil & Services					
	Installation of WPB 160 X152, 11Mtr pole	EA	0		6,300.00	-
	Inst 11KVcomplete stay set with concrete	EA	0		2,362.50	-
	Constr of TRF Plinth for 250-1000KVA	EA	0		31,878.00	-
	Construction of FRP fencing	Sqrm	20		4,095.00	81,900.00
	ITC of Earthing pipe with E/C	EA	5		2,415.00	12,075.00
				Total Civil Part		93,975.00
				Sub-Total C		3,08,189.22
				Other Over Head (including Supervision charges)@ 6%		-
				Sub-Total D		3,08,189.22
				GST @ 18% of Sub-Total		55,474.06
				CESS @ 1% of Sub-Total		3,081.89
				Sub-Total E		3,66,745.17
				Inspection Fee		
				Drawing Approval		
				Grand Total		3,66,745.17

Cost Estimate for 250KVA Distribution Transformer(3-ph)					
SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	250 KVA,11/0.43KV(AI) Transformer	No	1	3,48,985.00	3,48,985.00
2	POLE WPB GI 160X160 11 MTR	EA	0	34,321.52	-
3	RCC base Plate	EA	0	408.00	-
4	Top Channel 100X50X5mm, each channel length 2.8 mtr.	Kg	53.54	97.50	5,219.76
5	AB Switch Mounting Channel 75X40X4.8mm GI Channel 2.8 mtr lon	Kg	39.98	97.50	3,898.44
6	HG Fuse mounting channel 75X40X4.8mm of length 2.8 mtr	Kg	39.98	97.50	3,898.44
7	AB Switch Operating Pipe Channel Support 75X40X4.8 mm.,of length 0.625mtr	Kg	4.46	97.50	435.09
8	AB Switch Bottom Support Channel 75X40X4.8 mm of length 0.330 mtr.	Kg	4.71	97.50	459.46
9	Braking Support Channel for operating pipe 50X8mm of length 0.5 mtr.	Kg	1.57	97.50	153.08
10	Support Channel for TPMO operating Rod 75X40X4.8mm of length 0.388 mtr.	Kg	5.54	97.50	540.21
11	LTDB supporting channel 75X40X4.8mm of length 3.0 mtr	Kg	21.42	97.50	2,088.45
12	Lightning Arrester (9kV,10kA) DH Class	No	3	1,300.00	3,900.00
13	11kV AB Switch 400A 3pole 50Hz Horizontal Type	Set	1	15,405.00	15,405.00
14	HG Fuse(11KV,400A,3 Pole,50Hz) with PI	Set	1	14,989.00	14,989.00
15	LT Distribution Box with MCCB for 250KVA S/S	No	1	62,400.00	62,400.00
16	H.T Stay clamp	Pair	0	162.50	-
17	H.T 11KV Stay set (Complete)	Set	0	1,365.00	-
18	H.T Stay Insulator	No	0	65.00	-
19	7/10 SWG Stay Wire	Kg	0	97.50	-
20	1.1kV Al 1CX300 Sq.mm Un-armoured Cable	Mtr	64	496.60	31,782.40
21	Gland for 1.1kV Al 1CX300 Sq.mm	No	8	67.60	540.80
22	Lug AL Crimping 300 Sqmm XLPE Single hole	EA	8	750.00	6,000.00
23	11kV Disc insulator (B&S) 70KN polymer	No	3	1,495.00	4,485.00
24	11kV H/W fitting(B&S) 70KN,3 Bolt	Set	3	455.00	1,365.00
25	CLAMP PG FOR 100 SQMM CONDUCTOR	No	3	754.00	2,262.00
26	CONDUCTOR 100 SQMM AAA	Mtr	15	71.50	1,072.50
27	GI Nut , Bolt & Washer of different sizes	Kg	20	101.40	2,028.00
28	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	No	5	1,365.00	6,825.00
29	25x6 mm GI flat	Kg	6	97.50	585.00
30	Black Paint	Ltr	0	286.00	-

Dist. Transformer-250KVA-Aug

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
31	Yellow Colour Paint for Background	Ltr	0	260.00	-
				Total Cost of materials	5,19,317.63
				Stock, Storage & Insurance i.e 3%	15,579.53
				Sub Total A	5,34,897.16
				Contingency @ 3%	16,046.91
				Tools & Plants @ 2%	10,697.94
				Transportation @ 7.5%	40,117.29
				Erection	
				Transformer/Breaker/WP B/H Pole/Joist Poles @ 5%	17,972.73
				Erection Other @ 10%	16,841.29
				Erection PSC Pole @ 20%	
				Sub Total B	6,36,573.32
	Civil & Services				
	Installation of WPB 160 X152, 11Mtr pole	EA	0	6,300.00	-
	Inst 11KV/complete stay set with concrete	EA	0	2,362.50	-
	Const of TRF Plinth for 250-1000KVA	EA	1	31,878.00	31,878.00
	Construction of FRP fencing	Sqrm	20	4,095.00	81,900.00
	ITC of Earthing pipe with E/C	EA	5	2,415.00	12,075.00
				Total Civil Part	1,25,853.00
				Sub-Total C	7,62,426.32
				Other Over Head (Including Supervision charges) @ 6%	-
				Sub-Total D	7,62,426.32
				GST @ 18% of Sub-Total	1,37,236.74
				CESS @ 1% of Sub-Total	7,624.26
				Sub-Total E	9,07,287.32

Dist. Transformer-250KVA-Aug

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Inspection Fee	
				Drawing Approval	
				Grand Total	9,07,287.32

Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
Cost Estimate for 250KVA Distribution Transformer(3-ph)					
1	250 KVA,11/0.43KV(AI) Transformer	No	1	3,48,985.00	3,48,985.00
2	POLE WP/B GI 160X160 11 MTR	EA	2	34,321.52	68,643.04
3	RCC base Plate	EA	0	408.00	-
4	Top Channel 100X50X5mm, each channel length 2.8 mtr.	Kg	53.54	97.50	5,219.76
5	AB Switch Mounting Channel 75X40X4.8mm GI Channel 2.8 mtr lon	Kg	39.98	97.50	3,898.44
6	HG Fuse mounting channel 75X40X4.8mm of length 2.8 mtr	Kg	39.98	97.50	3,898.44
7	AB Switch Operating Pipe Channel Support 75X40X4.8 mm.,of length 0.625mtr	Kg	4.46	97.50	435.09
8	AB Switch Bottom Support Channel 75X40X4.8 mm of length 0.330 mtr.	Kg	4.71	97.50	459.46
9	Braking Support Channel for operating pipe 50X8mm of length 0.5 mtr.	Kg	1.57	97.50	153.08
10	Support Channel for TPMMO operating Rod 75X40X4.8mm of length 0.388 mtr.	Kg	5.54	97.50	540.21
11	LTDB supporting channel 75X40X4.8mm of length 3.0 mtr	Kg	21.42	97.50	2,088.45
12	Lightning Arrester (9KV,10KA) DH Class	No	3	1,300.00	3,900.00
13	11KV AB Switch 400A 3pole 50Hz Horizontal Type	Set	1	15,405.00	15,405.00
14	HG Fuse(11KV,400A,3 Pole,50Hz) with PI	Set	1	14,989.00	14,989.00
15	LT Distribution Box with MCCB for 250KVA S/S	No	1	62,400.00	62,400.00
16	H.T Stay clamp	Pair	2	162.50	325.00
17	H.T 11KV Stay set (Complete)	Set	2	1,365.00	2,730.00
18	H.T Stay Insulator	No	2	65.00	130.00
19	7/10 SWG Stay Wire	Kg	20	97.50	1,950.00
20	1.1KV AI ICX300 Sq.mm Un-armoured Cable	Mtr	64	496.60	31,782.40
21	Gland for 1.1KV AI ICX300 Sq.mm	No	8	67.60	540.80
22	Lug AL Crimping 300 Sqmm XLPE Single hole	EA	8	750.00	6,000.00
23	11KV Discinsulator (B&S) 70KN polymer	No	3	1,495.00	4,485.00
24	11KV H/W fitting(B&S) 70KN,3 Bolt	Set	3	455.00	1,365.00
25	CLAMP PG FOR 100 SQMM CONDUCTOR	No	3	754.00	2,262.00
26	CONDUCTOR 100 SQMM AAA	Mtr	15	71.50	1,072.50
27	GI Nut, Bolt & Washer of different sizes	Kg	20	101.40	2,028.00
28	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr Long	No	5	1,365.00	6,825.00
29	25x6 mm GI flat	Kg	6	97.50	585.00
30	Black Paint	Ltr	1	286.00	286.00
31	Yellow Colour Paint for Background	Ltr	2	260.00	520.00
32	Supply & Erection GI Fencing with Gate	EA	1	4,725.00	4,725.00
33	Three Phase DT(3 phase 4 wire LTCT Mtr)	EA	1	5,901.00	5,901.00
34	THREE PHASE WHOLE CURRENT MTR BOX	EA	1	529.00	529.00
35	MIETER SMART 3P4W LTCT 200/5A	EA	1	5,410.00	5,410.00
36	CABLE 1.1KV AL 4CX 150 SQMM XLPE ARMORED	Mtr	10	655.20	6,552.00
37	CABLE GLAND FOR 4C X 150 SQ.MM CC,DC	No	4	39.00	156.00

Sl No	Cost Estimate for 500KVA Distribution Transformer(3-ph)	Description of Item	Unit	Quantity	Augmentation Unit Rate(In Rs.)	Amount(In Rs.)
1	500 KVA,11/0.43KV(AI) Transformer		No	1	7,54,000.00	7,54,000.00
2	POLE W/PB GI 160X160 11 MTR		EA	0	34,321.52	-
3	RCC base Plate		EA	0	408.00	-
4	Top Channel 100X50X5mm, each channel length 2.8 mtr.		Kg	53.54	97.50	5,219.76
5	AB Switch Mounting Channel 75X40X4.8mm GI Channel 2.8 mtr long		Kg	39.98	97.50	3,898.44
6	HG Fuse mounting channel 75X40X4.8mm of length 2.8 mtr		Kg	39.98	97.50	3,898.44
7	AB Switch Operating Pipe Channel Support 75X40X4.8 mm.,of length 0.625mtr		Kg	4.46	97.50	435.09
8	AB Switch Bottom Support Channel 75X40X4.8 mm of length 0.330 mtr.		Kg	4.71	97.50	459.46
9	Braking Support Channel for operating pipe 50X8mm of length 0.5 mtr.		Kg	1.57	97.50	153.08
10	Support Channel for TPMMO operating Rod 75X40X4.8mm of length 0.388 mtr.		Kg	5.54	97.50	540.21
11	LTDB supporting channel 75X40X4.8mm of length 3.0 mtr		Kg	21.42	97.50	2,088.45
12	Lightning Arrester (9KV,10KA) DH Class		No	3	1,300.00	3,900.00
13	11KV AB Switch 400A 3pole 50Hz Horizontal Type		Set	1	15,405.00	15,405.00
14	HG Fuse(11KV,400A,3 Pole,50Hz) with PI		Set	1	14,989.00	14,989.00
15	LT Distribution Box with MCCB for 500KVA S/S		No	1	1,26,568.00	1,26,568.00
16	H.T Stay clamp		Pair	0	162.50	-
17	H.T 11KV Stay set (Complete)		Set	0	1,365.00	-
18	H.T Stay Insulator		No	0	65.00	-
19	7/10 SWG Stay Wire		Kg	0	97.50	-
20	1.1KV AI 1CX630 Sq.mm Un-armoured Cable		Mtr	64	622.70	39,852.80
21	Gland for 1.1KV AI 1CX630 Sq.mm		No	8	67.60	540.80
22	Lug AL Crimping 630 Sqmm XLPE Single hole		EA	8	750.00	6,000.00
23	11KV Disc insulator (B&S) 70KN polymer		No	3	1,495.00	4,485.00
24	11KV H/W fitting(B&S) 70KN 3 Bolt		Set	3	455.00	1,365.00
25	CLAMP PG FOR 100 SQMM CONDUCTOR		No	3	754.00	2,262.00
26	CONDUCTOR 100 SQMM AAA		Mtr	15	71.50	1,072.50
27	GI Nut , Bolt & Washer of different sizes		Kg	20	101.40	2,028.00
28	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long		No	5	1,365.00	6,825.00
29	25x6 mm GI flat		Kg	6	97.50	585.00
30	Black Paint		Ltr	0	286.00	-
31	Yellow Colour Paint for Background		Ltr	0	260.00	-
					Total Cost of materials	9,96,571.03

Dist. Transformer-500KVA-Aug

Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
	Stock, Storage & Insurance i.e 3%				29,897.13
	Sub Total A				10,26,468.16
	Contingency @ 3%				30,794.04
	Tools & Plants @ 2%				20,529.36
	Transportation @ 7.5%				76,985.11
	Erection				
	Transformer/Breaker/WPB/H				38,831.00
	Pole/Joist Poles @ 5%				
	Erection Other @ 10%.				24,281.84
	Erection PSC Pole @ 20%				
	Sub Total B				12,17,889.52
	Civil & Services				
	Installation of WPB 160 X152, 11Mtr pole	EA	0	6,300.00	-
	Inst 11KV/complte stay set with concrete	EA	0	2,362.50	-
	Constr of TRF Plinth for 250-1000KVA	EA	1	31,878.00	31,878.00
	Construction of FRP fencing	Sqm	20	4,095.00	81,900.00
	ITC of Earthing pipe with E/C	EA	5	2,415.00	12,075.00
	Total Civil Part				1,25,853.00
	Sub-Total C				13,43,742.52
	Other Over Head (Including Supervision charges)@ 6%				-
	Sub-Total D				13,43,742.52
	GST @ 18% of Sub-Total				2,41,873.65
	CESS @ 1% of Sub-Total				13,437.43
	Sub-Total E				15,99,053.60
	Inspection Fee				
	Drawing Approval				
	Grand Total				15,99,053.60

SI No	Cost Estimate for 500kVA Distribution Transformer(3-ph)	Description of Item	Unit	Quantity	New DT Unit Rate(In Rs.)	Amount(In Rs.)
1	500 KVA,11/0.43KV(AI) Transformer		No	1	7,54,000.00	7,54,000.00
2	POLE WP/B GI 160X160 11 MTR		EA	2	34,321.52	68,643.04
3	RCC base Plate		EA	0	408.00	-
4	Top Channel 100X50X5mm, each channel length 2.8 mtr.		Kg	53.54	97.50	5,219.76
5	AB Switch Mounting Channel 75X40X4.8mm GI Channel 2.8 mtr long		Kg	39.98	97.50	3,898.44
6	HG Fuse mounting channel 75X40X4.8mm of length 2.8 mtr		Kg	39.98	97.50	3,898.44
7	AB Switch Operating Pipe Channel Support 75X40X4.8 mm.,of length 0.625mtr		Kg	4.46	97.50	435.09
8	AB Switch Bottom Support Channel 75X40X4.8 mm of length 0.330 mtr.		Kg	4.71	97.50	459.46
9	Braking Support Channel for operating pipe 50X8mm of length 0.5 mtr.		Kg	1.57	97.50	153.08
10	Support Channel for TPMD operating Rod 75X40X4.8mm of length 0.388 mtr.		Kg	5.54	97.50	540.21
11	LTDB supporting channel 75X40X4.8mm of length 3.0 mtr		Kg	21.42	97.50	2,088.45
12	Lightning Arrester (9KV,10KA) DH Class		No	3	1,300.00	3,900.00
13	11kV AB Switch 400A 3pole 50Hz Horizontal Type		Set	1	15,405.00	15,405.00
14	HG Fuse(11KV,400A,3 Pole,50Hz) with PI		Set	1	14,989.00	14,989.00
15	LT Distribution Box with MCCB for 500KVA S/S		No	1	1,26,568.00	1,26,568.00
16	H.T Stay clamp		Pair	2	162.50	325.00
17	H.T 11kV Stay set (Complete)		Set	2	1,365.00	2,730.00
18	H.T Stay Insulator		No	2	65.00	130.00
19	7/10 SWG Stay Wire		Kg	20	97.50	1,950.00
20	1.1kV AI 1CX630 Sq.mm Un-armoured Cable		Mtr	64	622.70	39,852.80
21	Gland for 1.1kV AI 1CX630 Sq:mm		No	8	67.60	540.80
22	Lug AL Crimping 630 Sqmm X1PE Single hole		EA	8	750.00	6,000.00
23	11kV Discinsulator (B&S) 70KN polymer		No	3	1,495.00	4,485.00
24	11kV H/W fitting(B&S) 70KN,3 Bolt		Set	3	455.00	1,365.00
25	CLAMP PG FOR 100 SQMM CONDUCTOR		No	3	754.00	2,262.00
26	CONDUCTOR 100 SQMM AAA		Mtr	15	71.50	1,072.50
27	GI Nut, Bolt & Washer of different sizes		Kg	20	101.40	2,028.00
28	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. long		No	5	1,365.00	6,825.00
29	25x6 mm GI flat		Kg	6	97.50	585.00
30	Black Paint		Ltr	1	286.00	286.00
31	Yellow Colour Paint for Background		Ltr	2	260.00	520.00
		Total Cost of materials				10,71,155.07
		Stock, Storage & Insurance i.e 3%				32,134.65
		Sub Total A				11,03,289.72
		Contingency @ 3%				33,098.69
		Tools & Plants @ 2%				22,065.79
		Dist Transformer-500KVA new				

					Transportation @ 7.5%		82,746.73
					Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%		38,831.00
					Erection Other @ 10%.		24,281.84
					Erection PSC Pole @ 20%		
					Sub Total B		13,04,313.78
					Civil & Services		
			EA	2	Installation of WPB 160 X152, 11Mtr pole	6,300.00	12,600.00
			EA	2	Inst 11KVcomplete stay set with concrete	2,362.50	4,725.00
			EA	1	Constr of TRF Plinth for 250-1000KVA	31,878.00	31,878.00
			Sqm	20	Construction of FRP fencing	4,095.00	81,900.00
			EA	5	ITC of Earthing pipe with E/C	2,415.00	12,075.00
					Total Civil Part		1,43,178.00
					Sub-Total C		14,47,491.78
					Other Over Head (Including Supervision charges)@ 6%		-
					Sub-Total D		14,47,491.78
					GST @ 18% of Sub-Total		2,60,548.52
					CESS @ 1% of Sub-Total		14,474.92
					Sub-Total E		17,22,515.22
					Inspection Fee		
					Drawing Approval		
					Grand Total		17,22,515.22

SI No	Cost Estimate for 100KVA Distribution Transformer(3-ph)	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1		100 KVA, 11/0.43KV(AI) Transformer	No	1	1,52,100.00	1,52,100.00
2		POLE WPB GI 150X160 11 MTR	EA	2	34,321.52	68,643.04
3		RCC base Plate	EA	0	408.00	-
4		Top Channel 100X50X5mm, each channel length 2.8 mtr.	Kg	53.54	97.50	5,219.76
5		Transformer Base Channel 100X50X5mm, each channel length 2.8 mtr	Kg	53.54	97.50	5,219.76
6		AB Switch Mounting Channel 75X40X4.8mm GI Channel 2.8 mtr long	Kg	39.98	97.50	3,898.44
7		HG Fuse mounting channel 75X40X4.8mm of length 2.8 mtr	Kg	39.98	97.50	3,898.44
8		Transformer Belting angle 50X50X6mm of length 2.8mtr with side angle	Kg	25.20	97.50	2,457.00
9		Transformer Bottom fixing angle 50X50X6mm, each angle length 0.310 mtr	Kg	2.79	97.50	272.03
10		AB Switch Operating Pipe Channel Support 75X40X4.8 mm. of length 0.625mtr	Kg	4.46	97.50	435.09
11		AB Switch Bottom Support Channel 75X40X4.8 mm of length 0.330 mtr.	Kg	4.71	97.50	459.46
12		Braking Support Channel for operating pipe 50X8mm of length 0.5 mtr.	Kg	1.57	97.50	153.08
13		Support Channel for TPMO operating Rod 75X40X4.8mm of length 0.388 mtr.	Kg	5.54	97.50	540.21
14		LTDB supporting channel 75X40X4.8mm of length 3.0 mtr	Kg	21.42	97.50	2,088.45
15		Lightning Arrester (9KV, 10KA) DH Class	No	3	1,300.00	3,900.00
16		11KV AB Switch 200A 3pole 50Hz Horizontal Type	Set	1	9,555.00	9,555.00
17		HG Fuse(11KV,200A,3 Pole,50Hz) with PI	Set	1	7,956.00	7,956.00
18		LT Distribution Box with MCCB for 100KVA S/S	No	1	31,744.70	31,744.70
19		H.T Stay clamp	Pair	2	162.50	325.00
20		H.T 11KV Stay set (Complete)	Set	2	1,365.00	2,730.00
21		H.T Stay Insulator	No	2	65.00	130.00
22		7/10 SWG Stay Wire	Kg	20	97.50	1,950.00
23		1.1kV AI ICX150 Sq.mm Un-armoured Cable	Mtr	32	273.00	8,736.00
24		Gland for 1.1kV AI ICX150 Sq.mm	No	4	39.00	156.00
25		Lug AL Crimping 150 Sqmm XLPE Single hole	EA	4	750.00	3,000.00
26		11kV Disc Insulator (B&S) 70KN polymer	No	3	1,495.00	4,485.00
27		11kV H/W fitting(B&S) 70KN,3 Bolt	Set	3	455.00	1,365.00
28		CLAMP PG FOR 100 SQMM CONDUCTOR	No	3	754.00	2,262.00
29		CONDUCTOR 100 SQMM AAA	Mtr	15	71.50	1,072.50
30		GI Nut, Bolt & Washer of different sizes	Kg	20	101.40	2,028.00
31		40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	No	5	1,365.00	6,825.00
32		25x6 mm GI flat	Kg	6	97.50	585.00
33		Black Paint	Ltr	1	286.00	286.00
34		Yellow Colour Paint for Background	Ltr	2	260.00	520.00
		Total Cost of materials				3,34,995.96

Cost Estimate for 100KVA Distribution Transformer(3-ph)						
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)	
1	100 KVA,11/0.43KV(AI) Transformer	No	1	1,52,100.00	1,52,100.00	
2	POLE WPB GI 160X160 11 MTR	EA	0	34,321.52	-	
3	RCC base Plate	EA	0	408.00	-	
4	Top Channel 100X50X5mm, each channel length 2.8 mtr.	Kg	53.54	97.50	5,219.76	
5	Transformer Base Channel 100X50X5mm, each channel length 2.8 mtr	Kg	53.54	97.50	5,219.76	
6	AB Switch Mounting Channel 75X40X4.8mm GI Channel 2.8 mtr long	Kg	39.98	97.50	3,898.44	
7	HG Fuse mounting channel 75X40X4.8mm of length 2.8 mtr	Kg	39.98	97.50	3,898.44	
8	Transformer Belting angle 50X50X6mm of length 2.8mtr with side angle	Kg	25.20	97.50	2,457.00	
9	Transformer Bottom fixing angle 50X50X6mm, each angle length 0.310 mtr	Kg	2.79	97.50	272.03	
10	AB Switch Operating Pipe Channel Support 75X40X4.8 mm., of length 0.625mtr	Kg	4.46	97.50	435.09	
11	AB Switch Bottom Support Channel 75X40X4.8 mm of length 0.330 mtr.	Kg	4.71	97.50	459.46	
12	Braking Support Channel for operating pipe 50X8mm of length 0.5 mtr.	Kg	1.57	97.50	153.08	
13	Support Channel for TPMO operating Rod 75X40X4.8mm of length 0.388 mtr.	Kg	5.54	97.50	540.21	
14	LTDB supporting channel 75X40X4.8mm of length 3.0 mtr	Kg	21.42	97.50	2,088.45	
15	Lightning Arrester (9KV,10KA) DH Class	No	3	1,300.00	3,900.00	
16	11KV AB Switch 200A 3pole 50Hz Horizontal Type	Set	1	9,555.00	9,555.00	
17	HG Fuse(11KV,200A,3 Pole,50Hz) with PI	Set	1	7,956.00	7,956.00	
18	LT Distribution Box with MCCB for 100KVA S/S	No	1	31,744.70	31,744.70	
19	H.T Stay clamp	Pair	0	162.50	-	
20	H.T 11KV Stay set (Complete)	Set	0	1,365.00	-	
21	H.T Stay Insulator	No	0	65.00	-	
22	7/10 SWG Stay Wire	Kg	0	97.50	-	
23	1.1KV Al ICX150 Sq.mm Un-armoured Cable	Mtr	32	273.00	8,736.00	
24	Gland for 1.1KV Al ICX150 Sq.mm	No	4	39.00	156.00	
25	Lug Al Crimping 150 Sqmm X1PE Single hole	EA	4	750.00	3,000.00	
26	11KV Disc Insulator (B&S) 70KN polymer	No	3	1,495.00	4,485.00	
27	11KV H/W fitting(B&S) 70KN,3 Bolt	Set	3	455.00	1,365.00	
28	CLAMP PG FOR 100 SQMM CONDUCTOR	No	3	754.00	2,262.00	
29	CONDUCTOR 100 SQMM AAA	Mtr	15	71.50	1,072.50	
30	GI Nut, Bolt & Washer of different sizes	Kg	20	101.40	2,028.00	
31	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr . Long	No	5	1,365.00	6,825.00	
32	25x6 mm GI flat	Kg	6	97.50	585.00	
33	Black Paint	Ltr	0	286.00	-	
34	Yellow Colour Paint for Background	Ltr	0	260.00	-	

SI No	Description of Item	Unit	Quantity	Unit Rate (In Rs.)	Amount (In Rs.)
	Total Cost of materials				2,60,411.92
	Stock, Storage & Insurance i.e 3%				7,812.36
	Sub Total A				2,68,224.27
	Contingency @ 3%				8,046.73
	Tools & Plants @ 2%				5,364.49
	Transportation @ 7.5%				20,116.82
	Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%				7,833.15
	Erection Other @ 10%.				10,453.15
	Erection PSC Pole @ 20%				
	Sub Total B				3,20,038.61
	Civil & Services				
	Installation of WPB 160 X152, 11Mtr pole	EA	0	6,300.00	-
	Inst 11KVcomplete stay set with concrete	EA	0	2,362.50	-
	ITC of Earthing pipe with E/C	EA	5	2,415.00	12,075.00
	Constr of TRF Plinth for 250-1000KVA	EA	1	31,878.00	31,878.00
	Construction of FRP fencing	Sqm	20	4,095.00	81,900.00
	Supply & Erection G.I Fencing with Gate	EA	0	4,725.00	-
	Total Civil Part				1,25,853.00
	Sub-Total C				4,45,891.61
	Other Over Head (Including Supervision charges)@ 6%				-
	Sub-Total D				4,45,891.61
	GST @ 18% of Sub-Total				80,260.49
	CESS @ 1% of Sub-Total				4,458.92
	Sub-Total E				5,30,611.01
	Inspection Fee				
	Drawing Approval				
	Grand Total				5,30,611.01

Cost Estimate for Installation of DSS AB Switch, 400Amp					
SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	11kV AB Switch, 400A, 3pole, 50Hz, Horizontal Type	Set	1	15,405.00	15,405.00
2	AB Switch Mounting Channel 75X40X4.8 mm GI Channel (2800 mm long) (7.14Kg./Mtr)	Kg	39.98	97.50	3,898.44
3	AB Switch Operating Pipe Channel Support 75X40X4.8 mm GI Channel (625 mm long)(7.14Kg./Mtr)	Kg	4.46	97.50	435.09
4	AB Switch Side Support Channel 75X40X4.8 mm GI Channel(330 mm long)(7.14Kg./Mtr)	Kg	6.59	97.50	642.53
5	AB Switch Operating Pipe Diagonal Angle Support 50X50X6mm GI(388 mm long)(4.5Kg./Mtr)	Kg	1.75	97.50	170.24
6	AB Switch Operating Pipe Diagonal Base Angle Support 50X50X6mm GI(4.5Kg./Mtr)	Kg	1.53	97.50	149.18
				Total Cost of materials	20,700.47
				Stock, Storage & Insurance i.e 3%	621.01
				Sub Total	21,321.48
				Contingency @ 3%	639.64
				Tools & Plants @ 2%	426.43
				Transportation @ 7.5%	1,599.11
				Erection	
				Erection Other @ 10%	2,132.15
				Erection PSC Pole @ 20%	
				Sub Total	26,118.82
	Civil & Services				
	Dismantling of Steel Structure, Nuts & Bolt including loading, transportation, unloading & staking of dismantled material at a proper place in TPSODL store	Kg	50	78.75	3937.50
	Dismantling of 11 kV GO/AB Switch including removal of all Electric/Earth connections etc., loading, transportation, unloading and staking at a proper place in TPSODL store	EA	1	1,575.00	1575.00
				Total Civil Part	5,512.50
				Sub-Total	31,631.32
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total	31,631.32
				GST @ 18% of Sub-Total	5,693.64
				CESS @ 1% of Sub-Total	316.31
				Sub-Grand Total	37,641.27

DSS AB Switch-400Amp

SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
				Inspection Fee	
				Drawing Approval	
				Grand Total	37,641.27

Cost Estimate for Installation of 11kV Lightning Arrester		1		
SI No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)
1	Lightning Arrester (11kV,10kA) (Station Class,Class 2)	No	3.00	4,615.00
2	25x6 mm GI Flat	Kg	4.00	97.50
3	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. Long	No	1.00	1,365.00
4	GI Nut, Bolt & Washer of different sizes	Kg	1.00	101.40
	Total Cost of materials			15,701.40
	Stock, Storage & Insurance i.e 3%			471.04
	Sub Total A			16,172.44
	Contingency @ 3%			485.17
	Tools & Plants @ 2%			323.45
	Transportation @ 7.5%			1,212.93
	Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%			1,617.24
	Erection Other @ 10%.			1,617.24
	Erection PSC Pole @ 20%			19,811.24
	Sub Total B			19,811.24
	Civil & Services			
	IITC of Earthing pipe with E/C	EA	1.00	2,415.00
	Total Civil Part			2,415.00
	Sub-Total C			22,226.24
	Other Over Head (Including Supervision charges)@ 6%			-
	Sub-Total B			22,226.24
	GST @ 18% of Sub-Total			4,000.72
	CESS @ 1% of Sub-Total			222.26
	Sub-Total D			26,449.23
	Inspection Fee			
	Drawing Approval			
	Grand Total			26,449.23

Cost Estimate for Installation of MCCB-500KVA					
Sl No	Description of Item	Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
1	LT Distribution Box with MCCB for 500KVA S/S	No	1	1,26,568.00	1,26,568.00
2	1.1kV Al ICX630 Sq.mm Un-armoured Cable	Mtr	64.00	622.70	39,852.80
3	Gland for 1.1kV Al ICX630 Sq.mm	No	8.00	67.60	540.80
4	Lug AL Crimping 630 Sqmm XLPE Single hole	EA	8.00	750.00	6,000.00
5	25x6 mm GI flat	Kg	6.00	97.50	585.00
6	GI Nut, Bolt & Washer of different sizes	Kg	3.00	101.40	304.20
7	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr. long	No	1.00	1,365.00	1,365.00
				Total Cost of materials	1,75,215.80
				Stock, Storage & Insurance i.e 3%	5,256.47
				Sub Total A	1,80,472.27
				Contingency @ 3%	5,414.17
				Tools & Plants @ 2%	3,609.45
				Transportation @ 7.5%	13,535.42
				Erection Transformer/Breaker/WPB/H Pole/Joist Poles @ 5%	
				Erection Other @ 10%.	17,906.63
				Erection PSC Pole @ 20%	
				Sub Total B	2,20,937.94
	Civil & Services				
	I/T/C of Earthing pipe with E/C	EA	1.00	2,415.00	2,415.00
				Total Civil Part	2,415.00
				Sub-Total C	2,23,352.94
				Other Over Head (Including Supervision charges)@ 6%	-
				Sub-Total D	2,23,352.94
				GST @ 18% of Sub-Total	40,203.53
				CESS @ 1% of Sub-Total	2,233.53
				Sub-Total E	2,65,790.00
				Inspection Fee	
				Drawing Approval	
				Grand Total	2,65,790.00

Installation of MCCB-500KVA

Sl No	Source	Cost Estimate for Installation of MCCB-250kVA			Unit	Quantity	Unit Rate(In Rs.)	Amount(In Rs.)
		Description of Item						
1	CDB	LT Distribution Box with MCCB for 250KVA S/S	No	1		62,400.00	62,400.00	
2	CDB	1.1KV Al 1CX300 Sq.mm Un-armoured Cable	Mtr	64.00		496.60	31,782.40	
3	CDB	Gland for 1.1KV Al 1CX300 Sq.mm	No	8.00		67.60	540.80	
4	RC	Lug AL Crimping 300 Sqmm XLPE Single hole	EA	8.00		750.00	6,000.00	
5	CDB	25x6 mm GI flat	Kg	6.00		97.50	585.00	
6	CDB	GI Nut, Bolt & Washer of different sizes	Kg	2.00		101.40	202.80	
7	CDB	40mm nominal bore GI pipe (medium gauge) earthing device with 3 mtr .Long	No	1.00		1,365.00	1,365.00	
						Total Cost of materials	1,02,876.00	
						Stock, Storage & Insurance i.e 3%	3,086.28	
						Sub Total A	1,05,962.28	
						Contingency @ 3%	3,178.87	
						Tools & Plants @ 2%	2,119.25	
						Transportation @ 7.5%	7,947.17	
						Erection Transformer / Breaker/ WPB/H Pole/Joist Poles @ 5%		
						Erection Other @ 10%.	10,455.63	
						Erection PSC Pole @ 20%		
						Sub Total B	1,29,663.20	
						Civil & Services		
		ITC of Earthing pipe with E/C	EA	1.00		2,415.00	2,415.00	
						Total Civil Part	2,415.00	
						Sub-Total C	1,32,078.20	
						Other Over Head (Including Supervision charges)@ 6%		
						Sub-Total D	1,32,078.20	
						GST @ 18% of Sub-Total	23,774.08	
						CESS @ 1% of Sub-Total	1,320.78	
						Sub-Total E	1,57,173.06	
						Inspection Fee		
						Drawing Approval		
						Grand Total	1,57,173.06	

