

BEFORE THE ODISHA ELECTRICITY REGULATORY COMMISSION
PLOT NO. 4, SHAILASHREE VIHAR, CHANDRASEKHARPUR
BHUBANESWAR-751023

CASE NO.
FILING NO. 1

IN THE MATTER OF: An application under condition 10 of License Conditions of Odisha Power Transmission Corporation Limited (OPTCL) approved by Odisha Electricity Regulatory Commission vide order dated 27.10.2006 passed in Case No.22 of 2006.

**AND
IN THE MATTER OF:** Investment proposal of OPTCL taken up from FY 2026-27 to FY 2027-28 for construction of 01 no. 400/220kV GSS and 01 no. 220/132/33kV GSS on availing equity/loan assistance from suitable funding agency.

**AND
IN THE MATTER OF:** Odisha Power Transmission Corporation Ltd.
Janpath, Bhubaneswar-751 007

--- Applicant/ Petitioner

Vs.

- 1. The Chief Executive Officer**
TP Western Odisha Distribution Ltd.
At/PO: Burla, Dist: Sambalpur-768017
- 2. The Chief Executive Officer**
TP Southern Odisha Distribution Ltd.
Kamapalli, Courtpeta, Berhampur, Ganjam, Odisha-760004
- 3. The Chief Executive Officer**
TP Northern Odisha Distribution Ltd.
At/PO: Januganj, Remuna Golei, Dist. Balasore-756019
- 4. The Chief Executive Officer**
TP Central Odisha Distribution Ltd
IDCO Tower, 2nd Floor, Janpath, Bhubaneswar-751022
- 5. The Additional Chief Secretary to Government**
Department of Energy, Government of Odisha,
2nd floor, Kharavel Bhawan,
Gopabandhu Marg, Keshari Nagar, Bhubaneswar-751001

--- Respondents



Naba Kishore Barik

The above named applicant, Odisha Power Transmission Corporation Ltd.

MOST RESPECTFULLY SHOWETH:

1. That Odisha Power Transmission Corporation Ltd. (hereinafter referred to as "OPTCL") is a deemed Transmission Licensee under fifth proviso of section 14 of the Electricity Act, 2003 (hereinafter referred to as the "Act") and as notified by the Government of Odisha in the Transfer Scheme vide Notification No. 6892 dated 09.06.2005.
2. That Odisha Electricity Regulatory Commission (hereinafter referred to as the "Commission") vide order dated 27.10.2006 passed in Case No.22 of 2006 approved the License Conditions of OPTCL, the deemed Transmission Licensee, which came into force from 1st November 2006.
3. That in terms of licence condition 10.1 of the aforesaid licensee conditions, unless otherwise directed by the Commission, the licensee shall obtain prior approval of the Commission for making investment in the licensed business, if such investment is above the limits laid down at licence condition 23.1.

As per license condition 23.1, the Hon'ble Commission has specified the term "Major Investment" as any planned investment in or acquisition of transmission facilities, the cost of which, when aggregated with all other investments or acquisitions (if any) forming part of the same overall transaction, equals or exceeds Rs.10 Crore.

4. That as mentioned under aforesaid licence condition 7.1 and as per provisions contained in section 40 of the Electricity Act, 2003, OPTCL, as a Transmission Licensee, is duty bound to make investment to build, maintain and operate an efficient, co-ordinated and economical intra-state transmission system.
5. That in the above backdrop and in compliance of the requirement under licence condition 10, OPTCL is filing this investment proposal before the Hon'ble Commission for approval towards following projects on availing equity/loan assistance from suitable funding agency.

Particulars	Numbers
400/220kV GSS	01
220/132/33kV GSS	01



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6. The highlights of the proposal are given as under:

Grid Substations:

- 2X500 MVA ICT + 2x125 MVAr Bus Reactor + 2x80 MVAr Line Reactor, 400/220KV AIS Grid substation at **Baisinga, Mayurbhanj** with associated lines
- 2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at **Panikoili, Jajpur** with associated lines

7. Total investment of the above said projects **Rs. 594.17 Cr.** and the details of estimated cost ,source of funding and OERC approvals in Transmission Plan are as under

8.

SUMMARY OF INVESTMENT, COST AND SOURCE OF FUNDING

Sl. No.	NAME OF TRANSMISSION REINFORCEMENT WORKS	ESTIMATED COST (Rs. Cr.)	SOURCE OF FUNDING SCHEME	Approved by OERC in Trans. Plan
1	2X500 MVA ICT + 2x125 MVAr Bus Reactor + 2x80 MVAr Line Reactor, 400/220KV AIS Grid substation at Baisinga, Dist-Mayurbhanj with associated lines	361.74	Equity:Debt (30:70)	New proposal (approved in 32 nd meeting of the National Committee on Transmission (NCT) on 12.08.2025).
2	2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at Panikoili, Dist-Jajpur with associated lines	232.43	Equity:Debt (30:70)	New proposal
TOTAL		594.17		

- **Baisinga GSS Funding:** EFC proposal for the proposed project will be submitted shortly to Govt. of Odisha for 30% equity support from Government and 70% loan component by OPTCL for implementation of the transmission infrastructure project.
- **Panikoili GSS funding:** As per the EFC proposal under 220kV Grid Substation and DC line scheme, 30% equity support will be provided by Govt. of Odisha and remaining 70% will be arranged by availing loan from suitable funding agency.



7. That the information on the above proposed investment with regard to the following:
- Executive Summary
 - Technical Considerations
 - Techno-Economic justification
 - Implementation
 - Prior consultation with DISCOMs
 - Environmental Considerations
 - NPV & IRR

are filed along with this application as **ANNEXURE- 1 & 2** for kind perusal and approval of the Hon'ble Commission.

8. That in compliance of the requirements under aforesaid license condition 10.4, the Detailed Project Report (DPRs) containing the relevant information related to the above mentioned projects are filed along with this application.
9. That, OPTCL hereby submits the justification for creation of each of the proposed **02 nos.** projects in the respective DPRs and in the information document filed along with this application.

PRAYER

The applicant, Odisha Power Transmission Corporation Ltd., Bhubaneswar most respectfully requests the Hon'ble Commission to approve the investment proposal filed herein for implementation of the projects.

By the applicant
Through

Naga Lakshmi Bhatia

Sr.GM, RT&C

Bhubaneswar

Date 21/04.2026



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--- Respondents



AFFIDAVIT VERIFYING THE APPLICATION

Sri Naba Kishore Barik, son of Shyam Sundar Barik, aged about 59 years, residing at Cuttack, do solemnly affirm and say as follows:

1. I am the Senior General Manager, Regulation, Tariff and Commercial, OPTCL, duly authorized by the said applicant to make this affidavit on its behalf.
2. The Statements made in Paragraphs 1 to 9 herein above are based on official information and I believe them to be true.

Naga Chandra Bhaik

Bhubaneswar
Date: 21/04.2026

DEPONENT



SWORN BEFORE ME

N. Mohanty

**N. MOHANTY
NOTARY
Regd. No.ON 20/94
382, Bhoi Nagar,
Bhubaneswar-751022**

21-04-2026

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1. EXECUTIVE SUMMARY

OPTCL has technically and economically justified requirements for the immediate implementation of additional system reinforcement of its transmission network to meet the system needs for the years immediately beyond 2024. The proposed projects to be implemented by OPTCL on availing loan assistance from suitable funding agency is the immediate priority and long-term system reinforcement required for the State. The proposed addition will improve the security and supply standards of the OPTCL transmission network and reduce transmission loss. The requirement for OPTCL to undertake such investment to provide an efficient, coordinated and economical system of transmission is called for in condition 7.1 of license conditions of OPTCL (effective from 1st November 2006) approved by the Hon'ble Commission vide order dated 27.10.2006 passed in Case No.22 of 2006 and as per provisions contained in section 40 of the Electricity Act, 2003. The technical, economic and environmental aspects of the investment have been considered in compliance with condition 10 for major investments of aforesaid license conditions. The proposed investment has been taken into account as regards the fundamental requirements to:

- Ensure that the quality of supply to consumers is maintained / improved.
- Enable OPTCL to receive an economic return.

In the light of the above requirements, the proposed investment has been developed and justified based upon:

- Comparative load flow studies using application of planning criteria to meet various combinations of load and generation patterns currently available and anticipated beyond 2024.
- Comparative loss evaluation and also comparison with the capital expenditure of the scheme proposed after capitalization.

A total investment of **Rs. 594.17 Cr.** for the transmission schemes is proposed as follows:

Grid Substations:

- 2X500 MVA ICT + 2x125 MVAr Bus Reactor + 2x80 MVAr Line Reactor, 400/220KV AIS Grid substation at **Baisinga, Dist-Mayurbhanj** with associated lines
- 2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at **Panikoili, Dist-Jajpur** with associated lines

SUMMARY OF INVESTMENT, COST AND SOURCE OF FUNDING

Sl. No.	NAME OF TRANSMISSION REINFORCEMENT WORKS	ESTIMATED COST (Rs. Cr.)	SOURCE OF FUNDING / SCHEME	Approved by OERC in Trans. Plan
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2	2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at Panikoili, Dist-Jajpur with associated lines	232.43	Equity:Debt (30:70)	New proposal
TOTAL		594.17		

2. TECHNICAL CONSIDERATIONS

2.1 Planning Criteria

Maintenance of quality power supply to consumers and reduction of technical losses are achieved by application of appropriate planning criteria.

The following criteria have been considered when investigating the proposed new sub-stations as well as transmission lines with respect to the acceptable range of voltages permitted at different points of the system under both normal and contingency situation:

- At all loads under normal steady state operating conditions, the voltages at all points on the main nodal points of the interconnected system should be maintained within a tolerance of + 5% to -5% of the nominal voltage. At other locations and outgoing line circuits a higher voltage tolerance of +10% to - 10% can be accepted.
- The loading of all elements should not exceed their rated values for steady state conditions.

- Under a single contingency outage i.e. under outage of any one of power element of the transmission system, the system voltage at any point should not fall below 90% of the nominal value without any immediate corrective action.
- After system re-adjustment, following any single element outage, without considering any load shedding at important load centers, the voltages and loading of all elements should return to normal acceptable levels.
- Under any low load or loss of load situation, the 400kV system voltage should not be allowed to exceed +5% of the nominal value, whereas the 220kV & 132kV system voltage can be permitted to rise to a maximum of +10%.

2.2 Overall conclusions of the studies performed with proposed schemes

The System Studies concluded that under the normal steady state conditions, the immediate implementation of the additional proposed sub-stations as well as transmission lines would:

- Improve the system voltage profile at all points of the transmission system.
- Reduce the loading on certain important line sections of the transmission network thereby avoiding overloading of lines or avoiding the line sections being loaded close to their respective capacities.
- Reduce the overall transmission system losses.

The single contingency outage scenario studies indicated certain line outage situations that could lead to potential problems related to overloading of remaining system lines and collapse of system voltages at locations close to the tripped line in the proposed case.

2.3 Review of scheme proposed

2.3.1 2X500 MVA ICT + 2x125 MVA Bus Reactor + 2x80 MVA Line Reactor, 400/220KV AIS Grid substation at Baisinga, Dist-Mayurbhanj with associated lines

EXISTING SUPPLY SYSTEM

Presently Baisinga and its adjacent area is drawing power at 33kV from 33/11kV Primary S/S at Baisinga PSS through 33kV feeder from 220/132/33 kV Grid S/s at Balasore. The present 132kV load of Balasore GSS is 80 MW, 132KV Fecor – 55 MW, 132 KV Fecor Power-5MW, 132KV Dhamra Port -1& 2- 22MW, This present Primary S/s could not able to feed the future upcoming load of upcoming housing projects and industries coming up in these areas. Hence there is a

requirement for establishing one 400/220kV GIS Grid Sub-Station at Baisinga with associated line to feed the future load.

NEED OF THE PROJECT

At present, Balasore district is witnessing increasing demand due to industrial, commercial and urban growth, while Mayurbhanj district does not have any 220 kV or 400 kV level power source, despite being an important region of Odisha with significant mining potential, extensive reserve forest areas and a large tribal population. The absence of a nearby extra-high-voltage injection point has resulted in long radial power flow, voltage constraints, higher losses and limited reliability for both districts, particularly under peak demand and contingency conditions. Establishment of the 400/220 kV Grid Sub-Station at Baisinga will provide a strong EHV backbone for the Balasore–Mayurbhanj belt, enabling bulk power drawl from the WR–ER inter-regional corridor, strengthening the 220 kV network, and ensuring reliable and quality power supply to industrial, mining and associated infrastructure in Balasore, while simultaneously addressing the long-standing transmission deficiency of Mayurbhanj. The proposed project will improve N-1 system security, reduce overloading of existing substations, minimize transmission losses, and support inclusive socio-economic development by ensuring dependable power supply to forested and tribal areas, thereby making the project technically essential and strategically important for balanced regional development of both districts.

NEED OF 3.30 KM OF UG CABLE:

The establishment of the 400/220 kV GSS at Baisinga will provide a strong EHV backbone for the region and enable reliable power supply to both Balasore and Mayurbhanj districts. As part of the system strengthening scheme, connectivity between the proposed 400/220 kV GSS Baisinga and the existing 220/132/33 kV GSS Balasore is required at the 220 kV level to ensure effective load sharing and integration of the new power source with the existing transmission network.

However, the Balasore Grid Sub-Station is located within a densely populated urban area surrounded by residential houses, commercial establishments and developed civic infrastructure, resulting in severe Right of Way (RoW) constraints for construction of a conventional overhead transmission line corridor. Acquisition of sufficient land and clearance for tower erection in the town area is extremely difficult and may lead to significant implementation challenges including land acquisition disputes, public safety concerns and project delays.

In view of the above constraints, it is technically proposed that the 220 kV connectivity between the proposed 400/220 kV GSS Baisinga and the existing 220/132/33 kV GSS Balasore shall be implemented through Underground (UG) cabling for the portion passing through the urban stretch of Balasore town. Adoption of UG cabling will eliminate the requirement of tower erection and overhead conductor stringing within the congested township area, thereby overcoming the RoW limitations and minimizing social and environmental disturbances.

PROVISION OF LINE REACTOR AND BUS REACTOR:

The proposed 400 kV transmission system is planned to be connected through the **Jamshedpur (New) – Balasore 400 kV D/C Quad transmission line**, having an approximate route length of **174 km**. Considering the length of the line, it falls under the category of **long Extra High Voltage (EHV) transmission lines**, which are known to generate substantial **capacitive charging reactive power**, particularly during light load or no-load operating conditions. This capacitive charging effect results in a tendency of **voltage rise at the receiving end of the transmission line**, commonly referred to as the **Ferranti effect**, which may lead to overvoltage conditions at the 400 kV bus and associated equipment if not properly controlled.

In order to mitigate this phenomenon and maintain the system voltage within permissible operational limits, it is proposed to provide **line reactors at the 400 kV line bays**. The line reactors will absorb a portion of the charging reactive power generated by the long transmission line, thereby reducing the possibility of excessive voltage rise and ensuring stable operation of the transmission corridor during light load conditions as well as during line energization.

Further, **bus reactors of suitable rating are proposed at the 400 kV bus of the substation** to provide additional reactive power absorption capability at the bus level. The bus reactors will help in maintaining the **voltage profile of the 400 kV bus within acceptable limits**, particularly during low demand periods when the reactive power generation from the connected transmission lines is relatively high. This arrangement will also reduce unnecessary reactive power circulation in the network and improve overall **system voltage regulation, grid stability, and operational reliability**.

The provision of both **line reactors and bus reactors** in the proposed 400/220 kV Grid Sub-Station at Baisinga is therefore technically essential for **reactive power management, voltage control, and secure operation of the long-distance 400 kV transmission system**, in line with standard **EHV transmission planning practices and grid operation requirements**.

SCOPE OF NEW PROPOSAL

The proposed “**Supply, Erection and Commissioning of 2 X 500 MVA, 400/220 KV Grid Sub-Station with Automation System with SAS at Baisinga, Dist- Mayurbhanj with associated 220 kV D/C Transmission line from existing 220/132/33 kV GSS, Balasore to proposed 400/220 kV GSS, Baisinga (Approx. line length: 11.50 km O/H + 3.30 km UG cable) along with 02 nos. of 220 kV feeder bay extension at Balasore GSS**”. The total scope of works as envisaged in the proposed project is as detailed below.

400/220 KV Grid Sub-Station with Automation System with SAS at Baisinga, Dist- Mayurbhanj:

Scope of work:

- Construction of 400/220 kV AIS Grid Sub-Station with Substation Automation System (SAS) at Baisinga.
- Installation of 2×500 MVA, 400/220 kV ICT.

400 kV Switchyard (One and Half Breaker Scheme):

- 400 kV Line Feeder Bay – 02 Nos.
- 400 kV ICT Bay – 02 Nos.
- 400 kV Tie Bay – 04 Nos.
- 400 kV Bus Reactor (125 MVAR) Bay – 02 Nos.
- 400 kV Line Reactor (80 MVAR) – 02 Nos.
- 400 kV Unequipped Spare Bay – 02 Nos.

220 kV Switchyard (Double Main Bus with Transfer Bus System):

- 220 kV Line Feeder Bay – 02 Nos.
- 220 kV ICT Bay – 02 Nos.
- 220 kV Bus Coupler Bay – 01 No.
- 220 kV Transfer Bus Coupler Bay – 01 No.
- 220 kV Unequipped Spare Bay – 02 Nos.

Line:

1. Jamshedpur(New)-Balasore 400KV D/c Quad line -175km with bay extension at Jamshedpur (New) 765/400kV ISTS Sub-station (**Under the scope of PGCIL**).(Copy enclosed)
2. Construction of 220 kV D/C line from proposed 400/220 kV GSS, Baisinga to 220/132/33 kV GSS, Balasore, including bay extension at GSS, Balasore.

The said project will be incorporated in upcoming 15th Intra-state Transmission plan. However, the proposed project is approved in 32nd meeting of the National Committee on Transmission (NCT) on 12.08.2025. Further EFC proposal for the proposed project will be submitted shortly to Govt. of Odisha for 30% equity support from Government and 70% loan component by OPTCL for implementation of the transmission infrastructure project.

2.3.2 2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at Panikoili, Jajpur with associated lines

The proposed scheme comprises:

- **220 kV LILO** of both circuit of the existing **220 kV New Duburi–Paradeep D/C transmission line** to the proposed **220/132, 220/33 kV GSS at Panikoili**, and
- **132 kV LILO** of both circuit of the existing **132 kV Jajpur Road–Kendrapara D/C transmission line** to the proposed **220/132, 220/33 kV GSS, Panikoili**.

The proposed Grid Substation will ensure **stable, reliable, and quality power supply** to the command area and will significantly contribute towards **minimizing power interruptions, improving voltage profile, meeting future load growth**, and **reducing technical losses** in the existing system. The scheme will also provide power supply connectivity to the **upcoming Textile Park** and other industrial establishments in the region.

Justification of the Project

1. **Upstream Power Support**, the **Panikoili GSS** will function as a strong upstream source, ensuring dependable power supply to the command areas of **Chadheidhara, Bari** thereby enhancing system reliability and operational flexibility.
2. **Strategic Location Advantage**
Geographically, the proposed location of **Panikoili GSS** lies in close proximity to both the **220 kV New Duburi–Paradeep D/C line** and the **132 kV Jajpur Road–Kendrapara D/C line**, which provides a significant advantage in terms of **ease of execution, reduced transmission line length, lower right-of-way issues, and optimized project cost**.

Load Growth and System Requirement

In recent years, **power demand in and around Jajpur district has increased substantially**, driven by rapid **industrialization, infrastructure development, and rural electrification initiatives**. The region has emerged as a **strategic industrial hub**, with several ongoing and proposed investments in sectors such as **metals, cement, plastics, food processing, and allied industries**.

The proposed Panikoili GSS will also cater to the future power requirements of the **Chadheidhara, and Bari area**. Additionally, multiple new industrial units are expected to be established in the vicinity, accompanied by significant growth in **residential and commercial infrastructure**. This escalating demand necessitates the development of a **high-capacity transmission network with uninterrupted and reliable power supply**, which is critical for sustaining long-term economic growth in the region.

At present, the Jajpur area primarily depends on **132 kV connectivity from nearby Grid Substations**, which is **insufficient to meet the projected demand and N-1 reliability criteria** in the near future. The existing system is increasingly vulnerable to **overloading, voltage fluctuations, and contingency outages**.

EXISTING SUPPLY SYSTEM

The region currently draws power from the **132 kV systems**. The primary issues are:

The new GSS will offload the overloaded 132 kV Duburi – Jajpur Road – Kendrapara corridor.

It will also suffice the requirement of the proposed GSS at Chadheidhara, Ranua, and Bari.

NEED OF THE PROJECT

The project is required to establish a **high-capacity power network** to ensure uninterrupted and reliable power supply, sustaining long-term growth in the Panikoili District, which has been identified as a strategic industrial hub.

Benefits after Commissioning of Panikoili GSS

- Resolution of low voltage issues at Chadheidhara, Kabatbandha, Aruha, Panikoili, Bari, etc.
- Mitigation of overloading of feeders (33 kV Kabatabandha, 33 kV Bari, and other associated feeders).
- Ability to cater an additional 50 MVA load, considering future load growth.
- Provision of N-1 connectivity at 33 kV level for Kuakhia and Panikoili areas.
- Load shifting from overloaded GSS such as Jajpur Town and Chandikhol.
- Strengthening of the 132 kV system network in the Jajpur region.
- Enhancement of overall grid reliability and load handling capability with the addition of a 220 kV source.
- The establishment of a new 220/132, 220/33 kV AIS is essential to feed this future load.

SCOPE OF NEW PROPOSAL

The project involves the Supply, Erection, and Commissioning of a **220/132, 220/33 kV GSS at Panikoili** along with extensive associated line connectivity.

The total scope of works includes:

- 1). 2 × 200 MVA + 2 × 100 MVA, 220/132, 220/33 kV Power Transformers.
- 2). LILO of 220 kV New Duburi – Paradeep D/C Line (Both Circuit).
- 3). LILO of 132 kV Jajpur Road – Kendrapara D/C Line (Both Circuit).

The proposed project will be incorporated in 15th Intra-state Transmission plan. As per the EFC proposal under 220kV Grid Substation and DC line scheme, 30% equity support will be provided by Govt. of Odisha and remaining 70% will be arranged by availing loan from suitable funding agency.

3. TECHNO-ECONOMIC JUSTIFICATION

3.1 Overall assessment of economic benefit

The financial analysis concludes that the immediate implementation of the proposed transmission schemes will involve additional capital expenditure (CAPEX) to the tune of **Rs. 594.17 Cr.**, reduce the average annual losses to the extent of **23.11 MW** as compared to operation of the system without the proposed transmission schemes, which considering at a rate of Rs. 0.24 per KWH (cost of electricity transmission approved by OERC for FY 2026-27) would result in gain in revenue from transmission charge to the extent of **Rs. 1.97 Cr.** annually.

Simultaneously, anticipated revenue towards sale of additional energy to be transmitted due to immediate implementation of the proposed transmission schemes will be to the tune of **Rs. 78.03 Cr.** annually.

Hence, a total anticipated annual revenue of **Rs. 80.00 Cr.** will be generated.

3.2 Capital Expenditure for the transmission scheme

The capital expenditure for the schemes has been estimated as **Rs 594.17 Cr.** and indicated in the Table below.

SUMMARY OF EVALUATION OF THE TOTAL OVERALL CAPITAL EXPENDITURE RELATED TO THE PROPOSED NEW TRANSMISSION SCHEMES

SUMMARY OF INVESTMENT, COST AND SOURCE OF FUNDING

Sl. No.	NAME OF TRANSMISSION	OF	ESTIMATED COST (Rs. Cr.)	SOURCE OF FUNDING	OF /	Approved by OERC in
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	REINFORCEMENT WORKS		SCHEME	Trans. Plan
1	2X500 MVA ICT + 2x125 MVAr Bus Reactor + 2x80 MVAr Line Reactor, 400/220KV AIS Grid substation at Baisinga, Dist-Mayurbhanj with associated lines	361.74	Equity:Debt (30:70)	New proposal (approved in 32 nd meeting of the National Committee on Transmission (NCT) on 12.08.2025).
2	2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at Panikoili, Dist-Jajpur with associated lines	232.43	Equity:Debt (30:70)	New proposal
	TOTAL	594.17		

3.3 Transmission loss reduction

The loss reduction realizable by implementing the schemes is given in the table below.

SUMMARY OF SYSTEM LOSSES ON THE TRANSMISSION SYSTEM

Sl. No.	DESCRIPTION OF LOAD FLOW CASES	PEAK LOSSES IN MW
1	2X500 MVA ICT + 2x125 MVAr Bus Reactor + 2x80 MVAr Line Reactor, 400/220KV AIS Grid substation at Baisinga, Dist-Mayurbhanj with associated lines	21.20
2	2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at Panikoili, Dist-Jajpur with associated lines	1.91
	TOTAL	23.11

4. IMPLEMENTATION

The proposal for availing loan assistance towards execution of these proposed transmission schemes is being posed before a suitable funding agency.

5. PRIOR CONSULTATION WITH DISCOMS

The Hon'ble Commission invariably in each and every ARR order of OPTCL has directed that OPTCL should have prior discussion and coordination with the DISCOMs before submission of transmission project for approval of OERC in order to avoid idle investments. Accordingly, OPTCL has made prior discussions with DISCOMs.

6. ENVIRONMENTAL CONSIDERATIONS

No major environmental or resettlement issues are envisaged for these additional transmission schemes.

OPTCL's policy is to generally avoid social and environmental impacts. Where this is not possible, mitigation measures are designed and implemented. A detailed mechanism for suitable and adequate environmental mitigation by compensatory afforestation is well established and generally implemented.

The Environmental Impact Assessment Study has been made and annexed with the Detailed Project Reports.

7. NET PRESENT VALUE & INTERNAL RATE OF RETURN

The Net Present Value as well as the Internal Rate of Return of individual projects have been calculated and annexed with the respective Detailed Project Reports.

ANNEXURE-2

02 nos. of DPRs of the following Investment proposals are detailed below.

Grid Substations:

- 2X500 MVA ICT + 2x125 MVA Bus Reactor + 2x80 MVA Line Reactor, 400/220KV AIS Grid substation at **Baisinga, Dist-Mayurbhanj** with associated lines
- 2X200 MVA Auto + 2x100 MVA PTR, 220/132/33KV AIS Grid substation at **Panikoili, Dist-Jajpur** with associated lines