

**ODISHA ELECTRICITY REGULATORY COMMISSION
BIDYUT NIYAMAK BHAVAN
PLOT NO.4, CHUNOKOLI, SHAILASHREE VIHAR,
BHUBANESWAR - 751021**

**Present: Shri S. C. Mahapatra, Chairperson
Shri G. Mohapatra, Member
Shri S. K. Ray Mohapatra, Member**

Case No. 99/2022

M/s. TPNODL

Vrs.

GRIDCO & Others

.....Petitioner

.....Respondents

In the matter of: Application for approval of Capital Investment Plan for the FY 2023-24 in the Licensed Area of TP Northern Odisha Distribution Ltd (“TPNODL”).

For Petitioner: Shri Bhaskar Sarkar, Chief Executive Officer, TPNODL Ms. Malancha Ghose, DGM(RA), Shri Pratap Mohanty, Sr. GM-RRL & Shri R.K.Sharma(Legal), TPNODL.

For Respondents: Ms. Sonali Patnaik, ALO, DoE, GoO, Shri Lalit Mishra, DGM (Fin.), GRIDCO , Shri Subhasish Samantaray, DGM(Elect.) & Shri B. K. Das, GM (RT&C), OPTCL, Shri B.B.Mehta, Director, SLDC and Shri Prasanta Kumar Satpathy, Sr.GM, SLDC.

ORDER

Date of Hearing: 30.05.2023

Date of Order: 19.06.2023

The Petitioner, M/s. TP Northern Odisha Distribution Limited (TPNODL), has initially submitted an application for approval of Capital Expenditure (Capex) to the tune of Rs. 637.94 Cr. for the FY 2023-24 to carry out various system improvement works and safety activities under six major categories such as statutory & safety, loss reduction, reliability, network optimization & load growth, technology & civil infrastructure and reducing carbon footprint in its area of operation. Subsequently, TPNODL has submitted the revised capex proposal of Rs.452.80 Cr. for the FY 2023-24 in line with the approval in their 14th Board Meeting held on 17.01.2023 and requests the Commission to consider the same while approving the capex for the FY 2023-24. The application has been filed in pursuance of the direction of the Commission at para 39 of the Vesting Order.

TPNODL's licensed area is spread over a geographical area of 27857 sq. km having coastal line of about 150 Km and it serves a registered consumer base of around 20.31 lakh. TPNODL procures power from GRIDCO through Odisha Power Transmission Corporation Limited (OPTCL)'s 220/132/33 kV grid substations at sub transmission voltage of 33 kV and then distributes the power at 33 kV/ 11 kV/ 440V/ 230V depending on the demands of the consumers. The operation area, consumer base, no. of circles & divisions etc. are given in the Table below:

Sl. No.	Particulars	Unit	Details (as on 31-Mar-22)
1.	Area	Sq. km	27,857
2.	No of Consumers	Lakh	20.31
3.	Circles	No.	5
4.	Divisions	No.	16
5.	Sub-divisions	No.	50
6.	Sections	No.	159

2. TPNODL in compliance with the Vesting Order has to seek the approval of the Capital Expenditure Plan in line with the OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022. The extracts from the Vesting Order are as follows:

“39. *Capital investment plan*

.....

- (b) *In its Bid submitted in response to the RFP, TPCL committed capital expenditure of Rs. 1,270 Cr (Indian Rupee One thousand two hundred and seventy Cr) only for period FY 2021-22 to FY 2025-26 as follows:*

Table 1: Capital Expenditure Commitment by TPCL

Capex Commitment (INR Cr)					
FY 22	FY 23	FY 24	FY 25	FY 26	Total
246	376	259	247	141	1,270

- (c) *To allow flexibility in the capital expenditure planning, the Commission stipulates that, in the capital expenditure plan to be submitted by TPNODL as per the license conditions, the capital expenditure commitment for each year of the period FY 2021-22 to FY 2025-26 must be such that capital expenditure proposed up to a year shall be at least equal to the cumulative capital expenditure committed up to that year in the Bid submitted by TPCL. For avoidance of doubt, the minimum cumulative capital expenditure to be proposed by TPNODL for the period FY 2021-22 to FY 2025-26 must be as provided in the table below:*

Table 2: TPCL Cumulative Capital Expenditure for 5 years

Cumulative Capex Expenditure (INR Cr)				
Upto 31-Mar- 2022	Upto 31-Mar- 2023	Upto 31-Mar- 2024	Upto 31-Mar-2025	Upto 31-Mar-2026
246	622	882	1,129	1,270

- (d) *TPNODL would be required to seek the Commission’s approval on the detailed capital expenditure plan in line with the regulations. TPNODL shall satisfy the Commission that the capital expenditure plan submitted in line with regulations adheres to the capital expenditure plan submitted as part of the Bid.”*

3. Further, OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022 specifies the provisions related to Capital Investment Plan based on which the CAPEX proposal should be submitted by the DISCOMs. The relevant extracts of the regulations are as follows:

“3.2 Capital Investment:

- 3.2.1 The Distribution Licensee shall submit detailed capital investment plan, financing plan and physical targets for each year of the Control Period for strengthening and augmentation of distribution network, meeting the requirement of load growth, reduction in distribution losses, improvement in quality of supply, reliability, metering, reduction in congestion, etc., to the Commission for approval, as a part of the Business Plan applicable for the entire control period and annual proposal for each year of the Control Period.*
- 3.2.2 The Distribution Licensee shall file a separate annual Capital Investment Plan comprising of capital investment plan, financing plan and physical targets for each year of the Control Period as per the timelines specified in Annexure-I.*
- 3.2.4 Capital Investment in network expansion in Distribution shall be based on Load Flow studies and in accordance with the requirements of the State Grid Code.*
- 3.2.5 The Distribution licensee shall submit the Capital Investment Plan that shall show separately, on-going projects that will spill over from previous years, and new projects (along with justification) that will commence but may be completed within or beyond the control period. The capital investment plan shall contain the scheme details, justification for the work, scheduled / expected date of commissioning, justification for delay (if any) in commissioning, cost over-run, time over-run, capitalization schedule, capital structure and cost benefit analysis (wherever applicable).*
- 3.2.6 The Distribution Licensee shall submit the Detailed Project Reports (DPRs) for all the schemes (including network strengthening and expansion/augmentation projects based on load flow study) which shall include:*
 - a. Scope and Objective;*
 - b. Purpose of investment;*
 - c. Broad Technical Specifications of the proposed investment and supporting details;*
 - d. Capital Structure;*
 - e. Capitalization Schedule;*
 - f. Financing Plan, including identified sources of investment;*
 - g. Physical targets;*
 - h. Cost-benefit analysis;*
 - i. Approval from Board of Directors (BoD);*
 - j. Prioritization of proposed Investments.*
- 3.2.8 The Capital Investment Plan shall be accompanied by such information, particulars and documents as may be required including but not limited to the information such as number of power & distribution substations, consumer strength, transformation capacity (in MVA), HT:LT ratio, distribution line length at HT & LT level etc. showing the need for the proposed investments, alternatives considered, cost/benefit analysis and other aspects that may have a bearing on the wheeling charges of the Wheeling Business.*
- 3.2.10 Capital investment plan shall incorporate list of schemes in order of priority so as to enable the Commission to approve the schemes in that order and in case lesser*

amount of capital expenditure is to be approved then the schemes of lower priority could be disallowed.

3.2.11 The Distribution Licensee shall be required to consider the annual capital investment plan as approved by the Commission in its Order, in preparation of the Petition for determination of Aggregate Revenue Requirement (ARR) for each year of the control period. The ARR Petition shall include details showing the progress of capital expenditure projects, together with such other information, particulars or documents as the Commission may require for assessing the progress.”

4. As per the License Conditions No. 11 and 32, the Investment above Rs. 5 Cr is to be made by the Distribution Licensee in the licensed business area of operation with the approval of the Commission The relevant extracts of the License Conditions are as follows:

“11. INVESTMENTS

11.1 Unless otherwise directed by the Commission, every Licensee shall obtain prior approval of the Commission for making investment in the Licensed Business if such investment is above the limits laid down in Condition 32.

11.2 The Licensee shall duly comply with the Regulations, guidelines, directions and orders the Commission may issue from time to time in regard to the investments to be made in the Distribution Business.

11.3 The Licensee shall submit to the Commission investment plans as a part of the business plan under Condition 10.9 above giving details of investment schemes to be undertaken during the concerned period for the approval of the Commission. For new schemes formulated by the GoO, if TPNODL wishes to avail funding under such scheme, an agreement shall be signed between GoO/ GRIDCO/ OPTCL and TPNODL for utilization of such grants. The Licensee shall demonstrate to the satisfaction of the Commission that:

- (a) there is a need for such investments in the Distribution System;*
- (b) the Licensee has made techno-economic analysis and environmental aspects of all viable alternatives to the proposal for investing in or acquiring new Distribution System assets to meet such need;*
- (c) the investment plan is in conformance to the conditions for capital investment specified in the Vesting Order.*

11.4 In the application for investment approval, the Licensee shall furnish the following information or particulars:

- (a) A detailed project report containing techno-economic analysis and environmental aspects of the investment together with the outline of the works to be undertaken the salient features and particulars demonstrating the need for investment;*
- (b) The project cost together with the cost benefit analysis;*
- (c) Whether the investment is in a new project or for expansion or up-gradation of an existing system;*

- (d) *Sanctions and statutory clearances required for execution of the project and status of such sanctions and statutory clearances;*
- (e) *Phasing of investment over the financial years and commissioning schedule;*
- (f) *The manner in which investments will be capitalised for the purposes of inclusion in the revenue requirements of the Licensee;*
- (g) *Constraints which the Licensee may face in making the investments or in implementing the project including constraints on information available;*
- (h) *Resource mobilisation and financial plans for meeting the investment;*
- (i) *Process for inviting and finalizing tenders for procurement of equipment, material and /or services relating to investment, in accordance with a transparent tendering procedure as may be approved by the Commission; and*
- (j) *Such other particulars as the Commission may from time to time direct.*

“32. INVESTMENT AND TRANSFER OF ASSETS (IN CONTINUATION TO CONDITION 11 AND 12)

32.1. For the purposes of Condition 11.10, the term “major investment” means any planned scheme wise investment in or acquisition of distribution facilities like rural electrification, system improvement, major renovation & modernization works, the cost of which, when aggregated with all other investments or acquisitions (if any) forming part of the same overall transaction/ scheme, equals or exceeds Rs. 5 Cr (Indian Rupee Five Cr) or otherwise determined by the Commission from time to time by a general or special order. For smaller transactions for which prior approval of the Commission has not been obtained, the proposals will be considered at the time of annual true-up subject to prudence check by the Commission.

.....”

5. Accordingly, in line with the above provisions, TPNODL had submitted Capex plan of Rs 637.94 Cr for the FY 2023-24 on 26.12.2022. Subsequently, the Board of Directors (BoD) of TPNODL in their meeting held on 17.01.2023 has approved an amount of Rs.452.80 Cr. after pruning the quantum of work in some of the schemes. Accordingly, TPNODL has submitted the revised DPR with Capex proposal of Rs 452.80 Cr on 25.01.2023 in line with the approval of BoD for the FY 2023-24.
6. The petitioner has submitted that, in line with the vesting order, the Commission had approved capex commitment of Rs.258.78 Cr. for FY 2021-22 vide its Order dated 18.09.2021 in Case No 41/2021 & Rs. 326.54 Cr for FY 2022-23 vide its Order dated 14.07.2022 in Case No 15/2022. The progress status vis-à-vis the approved capex submitted by the petitioner are shown in the table below:

TPNODL: CAPEX Approved Vis-a Vis Actual up to FY 2022-23

(Rs. Crore)

Sl No.	Major Category	Vesting Order	Capex Approved	Actual Capex till 31-03-2023	Capitalised till 31-03-2023
FY 2021-22					
1	Statutory & Safety	246.00	28.45	20.97	19.86
2	Loss Reduction		16.39	14.83	12.57
3	Reliability		94.35	82.26	62.95
4	Load Growth		21.71	22.76	22.51
5	Technology & Infrastructure		97.88	89.19	87.53
6	Disaster Mitigation		-	-	-
	Total	246.00	258.78	230.00	205.41
FY 2022-23					
1	Statutory & Safety	376.00	9.35	16.56	15.05
2	Loss Reduction		12.53	11.11	7.13
3	Reliability		60.18	49.82	27.13
4	Load Growth		92.88	87.54	62.37
5	Technology & Infrastructure		97.81	71.71	65.17
6	Disaster Mitigation		53.79	10.57	6.72
	Total	376.00	326.54	247.31	183.57
Total upto 31-03-2023					
1	Statutory & Safety	622.00	37.80	37.53	34.91
2	Loss Reduction		28.92	25.94	19.70
3	Reliability		154.53	132.08	90.08
4	Load Growth		114.59	110.30	84.88
5	Technology & Infrastructure		195.69	160.90	152.70
6	Disaster Mitigation		53.79	10.57	6.72
	Total	622.00	585.32	477.31	388.98

7. The petitioner has submitted that, during the FY 2021-22 & FY 2022-23 many actions have been taken to improve the network condition but still lot of improvement is required. The petitioner has submitted that, after inspection it is revealed that the existing distribution 33kV lines/feeders, 33/11kV primary sub-stations & power transformer, 11kV lines/feeders, distribution substations & distribution transformers, LT networks, earthing is in very poor condition and lacks compliance with respect to the statutory guidelines. This affects the system reliability due to frequent breakdowns and it may pose threat to safety of employees, public at large and the animals. Further the petitioner stated that, complete improvement is required in IT infrastructure for data acquisition and storage, implementation of SCADA for increase of the reliability of power & GIS mapping to locate and identify all consumers and proper housekeeping at workplace is much more essential for ensuring conducive work environment for employees and consumers visiting the offices.

8. TPNODL has submitted that it receives power at 33 kV level from 28 nos. of Grid Sub stations (GSS) out of which 3 nos. of GSS are at 220/33 kV level and 25 nos. at 132/33 kV level located within the vicinity of TPNODL operational area. The snapshot of infrastructure available with TPNODL are given in the table below:

Sl. No.	Particulars	Unit	Details (as on 31-Mar-22)
1.	Grid Sub-stations	No.	28
2.	33 kV Feeders	No.	104
3.	33/11 kV sub-stations	No.	239
4.	33/11 kV PTR	No.	538
5.	33/11kV PTR capacity	MVA	2,528
6.	11 kV Feeders	No.	816
7.	11/0.415 kV DTR	No.	73,584
8.	11/0.415 kV DTR Capacity	MVA	2,708
9.	33 kV Line	Ckt. km.	3,007
10.	11 kV Line	Ckt. km.	38,339
11.	LT line with Bare Conductor	Ckt. km	22,699
12.	LT line with AB Cable	Ckt. km	44,418
13.	Total LT Line (Bare & AB Cable)	Ckt. km.	67,117

9. Further the petitioner has submitted that, it has identified several challenges related to Safety, strengthening/expansion of 33kV/11kV/0.415kV/0.230 kV network, Metering infrastructure, Customer Services and Technology usage. These challenges are to be addressed through a systematic investment plan. In order to improve the reliability and reduce the losses, major interventions like Network reinforcement, Technology adoption are proposed by TPNODL in this plan for reduction on equipment failure / tripping and improvement in reliability, billing & collection efficiency. The network demands urgent refurbishment like re-conductoring of feeders, optimization of feeder length, dedicated feeders for industrial/ commercial customers, replacement of damaged / tilted poles, provision of intermediate poles, replacement of joints, enhancing system protection, replacement of sick equipment and network augmentation to improve the reliability of power supply. Introduction of advanced technologies and analytics will be prime focus area for improving the accuracy of the meter reading, curtail tampering of the meters and providing better and effective customer services. Further Business process re-engineering is required to improve the customer services. Technology adoption is also required to provide quality customer services, manage revenue cycle processes for reduction of AT&C losses and efficiently manage to deliver reliable and quality supply in safe manner to its consumer by meeting various standards of operation.
10. The petitioner has proposed Capital Investments under six major heads i.e. (i) Statutory Safety, (ii) Loss Reduction, (iii) Reliability, (iv) Load Growth, (v) Technology and

Infrastructure and (vi) Reducing Carbon Foot Print which is aligned with multiple initiatives and schemes so as to reduce AT&C losses, improve system reliability and augment the network to support continuous load growth. Further, there is need to improve the existing facilities and infrastructure to provide a better consumer experience and a modern, rich, and conducive work environment to all employees for better performance. Therefore, substantial investment is required to address the above stated challenges and to safeguard the assets, public & animals from the accident and to meet the service obligation, improving safety, make the network reliable and ensuring statutory compliance.

11. The petitioner has submitted that, it has completed detailed Network studies for all the five Circles through M/s. PRDC, M/s. TPDDL and Inhouse team with five-year load growth scenario. TPNODL on the basis of the outcome of the studies, have identified some areas for reinforcement/augmentation/addition of distribution system through the Capex Investments of Rs. 452.80 Cr. during the FY 2023-24.
12. Accordingly, TPNODL has submitted the Detailed Project Report (DPR) for Capex plan of Rs. 452.80 Cr for the FY 2023-24 under the following six major categories i.e. (i) Statutory and safety, (ii) Loss reduction, (iii) Reliability, (iv) Network optimization and load growth (v) Technology & civil infrastructure and (vi) Reduction of carbon foot print.
 - i. **Statutory & Safety:** - The petitioner has stated that boundary walls or fencing are either damaged or do not exist in some of the substations posing a safety threat to stray animals and public at large. Fencing is one of the most important requirements which ensures overall first-hand protection of the transformer. Therefore, provision of fencing and boundary wall is required to safeguard the DSS and PSS equipment and to maintain safety clearances. Considering the above, TPNODL has proposed fencing of 705 nos. (3 phase DT>100KVA) Distribution substations (DSS), 12 nos of Boundary wall of Primary substations (PSS) during FY 2023-24. Further it has proposed for Life enhancement of network and maintaining safe horizontal / vertical clearances, Yard Fencing of PSS, Fire Extinguisher & Water Hydrant System for Jajpur Store, Fire wall for PTR "6Mtr*8Mtr" , replacement of defective cables, Shifting of O/H lines on safety ground on public request. For the above capex works, the petitioner has proposed **Rs.49.41Cr.** under this head.
 - ii. **Loss Reduction:** - The petitioner has stated that, during site inspections, energy meters were not found at consumer's premises which were energized under

Soubhagya scheme, an initiative of GoI. Further, meters are not functioning properly in many places. The absence of correct consumer meters leads to reduction in billing efficiency, high AT&C losses, increase in provisional billing, issuance of defective bills and increase in consumer complaints leading to customer dissatisfaction. Considering the above, TPNODL has proposed for procurement of meters and testing equipment, HT/LT Accucheck & other associated equipments/materials, conversion of LT Bare conductor to AB Cable, installation of correct Meters and metering equipment for energy audit, Equipment for AMR enablement of 3phase consumer meters and Field-Testing equipment (PTR testing, PQ analyzer, Switch gear testing kit). For the above capex works, TPNODL has proposed **Rs.56.61Cr.** under this head for the FY 2023-24.

- iii. **Reliability:** The petitioner has submitted that it has many long overhead feeders. Most faults that occur on overhead lines are transient faults caused by lightning and tree branches touching the live line conductor. The transient fault caused by lightning results in damage to insulators in case of non-availability/non-functioning of lightning arresters. Further, consumers are not getting reliable and quality power supply due to the poor condition of the present distribution network and frequent tripping. TPNODL, to address the aforesaid issues, intends to implement the following actions to improve the reliability of power supply:

- ✓ Identification and replacement of faulty / sick equipment causing frequent tripping.
- ✓ Introduction of technology to ensure faster restoration of supply in case of any tripping.

Therefore, the petitioner has proposed following initiatives to improve the reliability of power supply in its area operation.

- a. 33 kV & 11 kV Network refurbishment to ensure Horizontal / Vertical clearances.
- b. Primary Substation (PSS) and Distribution Substation (DSS) Refurbishment.
- c. Installation of Auto Reclosers & Sectionalizers in important and critical feeders.
- d. Installation of Communicable overhead FPIs for faster identification of faults.

- e. Installation of LV protection at Distribution substation to arrest the LT faults at LT level itself instead escalating to the 11kV feeder level.
- f. Replacement of Battery & Battery Charger to strengthen the DC protection system in 33/11kV Grid Substations.
- g. Installation of AB switches at 33kV & 11kV lengthy feeders for improving Reliability during planned / unplanned outages.
- h. Proposal for Trolley mounted pad substations.
- i. Installation of Lightning arrestors.

For the above capex works under the reliability of power supply, the petitioner has proposed **Rs.118.06 Cr** for the FY 2023-24.

- iv. **Network optimization and load growth:** The petitioner has stated that, due to increase in consumer growth, both network infrastructures need to be extended, strengthened, or augmented and new energy meters to be installed to release the new connection. Some of the connections can be released from the existing network and some may require augmentation/addition/extension before release of new connection. Therefore, it is required to augment and addition of 33kV, 11kV & LT lines, power transformers and distribution transformers to mitigate low voltages issues and load growth. Further the petitioner has proposed two numbers of new 33/11kV PSS with associate lines at Govindpur & Barbil to meet the low voltages and load growth in Keonjhar district. Optimization of distribution network to cater the load growth will improve reliability in power supply & ensure N-1 reliability at PTR level and reduce the overloading PTR/so also power interruptions. Considering the above network optimization and load growth, the petitioner has proposed capex expenditure of **Rs.102.14 Cr** under this head for the FY 2023-24
- v. **Technology & Civil Infrastructure:** - The petitioner has stated that, from the first year (FY 2021-22) of their operation, they have initiated actions for computerization & digitalization in large scale. During FY 2021-22 & FY 2022-23, the Commission had approved around 50% of the required amount towards implementation of SCADA & GIS. However, to implement the complete system of SCADA & GIS, approval of the entire budget is required. TPNODL has therefore proposed the shortfall amount in the instant capex proposal for FY 2023-24. The broad proposal regarding Information & Other Technology (IT&OT) submitted by

the petitioner for FY 2023-24 are as under:

- IT Infra for Data Centre
- Establishment of cost of Data Recovery Centre
- Software Licenses, Applications and Cyber Security practices
- End Computing Devices and IT Communication Network & System
- Operation Technology Implementation of ADMS
- GIS mapping of Land Base, Network and consumer indexing for balance Three Circles ((Baripada, Bhadrak & Keonjhar)
- Security cameras, heavy-duty Racking System/ Storage solution at Jajpur Store.
- Automation of Non-ODSSP substations & Integration,
- Procurement of Drones & its license.

Further the petitioner has stated that, about 40% offices of its total offices are being managed in rented accommodation. The present official accommodation is insufficient to accommodate new employees. The existing infrastructures are old and need modernization to provide hygienic, well-ventilated and spacious work environment. Therefore, TPNODL has proposed to carry out civil infrastructure of designated offices in phase manner. Accordingly, the petitioner has proposed the capex for Up gradation & renovation of Roads, Office buildings, PSS, Stores, record room, Cafeteria canteen, STS office & lab etc. including the procurement & installation of office furniture & fixtures, different equipments, air-conditioners etc. under civil infrastructure. In view of the above, the petitioner has proposed an investment of **Rs.121.60 Cr** under the Technology & civil infrastructure head for the FY 2023-24:

- vi. **Reducing Carbon Footprint:** To reduce the carbon foot print without affecting the services to the consumers, the petitioner has proposed to provide the battery operated 2 wheelers (159 Nos.) and 4 wheelers (16Nos) to the field staffs. Further it has proposed to install 90KW Rooftop Solar System on its office building (20KW each for Crop. Office & Balasore Store and 10 KW each in 5 Circle offices). Considering the above, the petitioner has proposed capex of Rs.4.98 Cr. under this head for the FY 2023-24.
13. On the whole, in the instant petition, TPNODL has proposed to approve Rs.452.80 Cr towards capital expenditure for the FY 2023-24. The major category wise and activity wise details are mentioned in the table below:

TPNODL CAPEX Proposal for FY 2023-24

(Rs. Crore)

Sl. No.	Major Category	Activity	Original Proposal	Revised Proposal based on BoD Approval
1	Statutory & Safety	Fencing of Distribution Substations	11.55	11.55
		Boundary wall work at Primary Substations	10.73	10.73
		Life enhancement of network and maintaining safe horizontal / vertical clearances	8.43	8.43
		Yard Fencing with in PSS	0.98	0.98
		Fire Extinguisher & Water Hydrant System for Jajpur Store	2.09	2.09
		Fire wall for PTR "6Mtr*8Mtr"	1.14	1.14
		Defective cable replacement	10.00	10.00
		Shifting of O/H lines on safety ground on public request	4.34	4.34
		Intrusion system for theft prevention is store	0.15	0.15
		Sub-total	49.41	49.41
2	Loss Reduction	Testing equipment for Meter, Meter Reading, HT/LT Accucheck & other material.	5.91	5.91
		Conversion of LT Bare conductor to AB Cable	43.35	43.35
		Meters and metering equipment for energy audit	5.66	2.83
		Equipment for AMR enablement of 3phase consumer meters	0.56	0.56
		Field Testing equipment (PTR testing, PQ analyzer, Switch gear testing kit)	7.93	3.96
		Sub-total	63.41	56.61
3	Reliability	Replacement/Addition of network component in 33/11kV Primary Substation	20.36	10.18
		33 KV Conductor up gradation	10.74	-
		11 KV Conductor up gradation	30.14	15.07
		Refurbishment of 11KV/0.415 KV Distribution Substation (DSS)	3.11	3.11
		Installation of LV protection at DSS	33.38	33.38
		Installation of Auto reclosure /Sectionalizers, RMUs	15.04	7.52
		Installation of FPIs for O/H Lines	1.86	1.86
		Installation of AB Switch, HG Fuse & LA for DTRs	25.47	25.47
		11 KV Voltage Regulators for voltage improvement	5.01	5.01
		Installation of Station Transformers (PPS)	1.44	0.72
		Procurement of spares and servicing for ODSSP & IPDS	1.45	1.45
		Indoor Switch gear (AIS) for 33KV &	6.39	-

Sl. No.	Major Category	Activity	Original Proposal	Revised Proposal based on BoD Approval
		11KV		
		Earthing of Transformer	14.29	14.29
		Sub-total	168.69	118.06
4	Network Optimisation & Load Growth	Augmentation of Power Transformer	5.23	2.60
		Augmentation of Distribution Transformer	24.57	24.57
		Addition of LT Lines	39.58	-
		Addition of 11 kV Lines (O/H and U/G)	24.12	24.12
		Addition of 33 kV Overhead Lines(O/H and U/G)	19.79	9.80
		Addition of New PTR at PSS	5.08	5.08
		Addition New DTRs along with Associated HT/LT lines	17.37	17.37
		Network enhancement for unforeseen emergency	10.00	-
		New 33/11kV PSS with Associated Lines	38.07	18.60
		Sub-total	183.81	102.14
5	Technology and Civil Infrastructure	Security cameras, heavy-duty Racking system / Storage solutions for Jajpur store	1.50	1.50
		Civil Infrastructure (Office Buildings, PSS, Stores, Approach Roads, Record room, Cafeteria Canteen, MRT office, STS office, STS Lab and others)	42.41	29.68
		Office Administration	5.75	5.75
		Automation of Non-ODSSP & SCADA Interigation	12.00	12.00
		Bluetooth printer, cash drop box, RRG App	0.88	0.88
		Data Recovery (DR) for Hardware Equipment	25.09	16.82
		Data Centre (DC) for Hardware Equipment	3.50	3.50
		End computing devices	6.35	0.75
		Cyber Security	8.70	7.70
		Communication	4.01	4.01
		SCADA-ADMS, Computing devices	1.95	10.10
		GIS Software Implementation and Land Base & Network Survey & Digitization for 9 Division	36.30	27.86
		Additional left-out Budget of previous FY for GIS & SCADA	18.15	-
		Software and Application	0.75	0.75
		Drones and its licence	0.30	0.30
		Sub-total	167.64	121.60
6	Reducing Carbon Footprint	Budget for Electric Scooter/Car	3.99	3.99
		Rooftop Solar System on office building (Solar Roof top system (Corp office, circle offices, Balasore Store)	0.99	0.99
		Sub-total	4.98	4.98

Sl. No.	Major Category	Activity	Original Proposal	Revised Proposal based on BoD Approval
Total			637.94	452.80

14. The original Capex proposal of Rs.637.94 Cr for FY 2023-24 was submitted by TPNODL on 26.12.2022. Subsequently on 25.01.2023 the petitioner has filed the revised capex plan of Rs.452.80Cr for the FY 2023-24 based on the approval of their Board of Directors (BoD) in 14th meeting held on 17.01.2023. The public notice was issued on 04.05.2023 inviting suggestions/ objections to the Capex Plan for the FY 2023-24 of the DISCOMs which were to be filed on or before 26.05.2023. The public hearing on the matter was held on 30.05.2023. The Commission during hearing heard the Petitioner and Respondents, who participated in the hearing. OPTCL and GRIDCO had participated in the hearing and submitted their response. The oral submissions of Government of Odisha and SLDC during hearing were taken on record.
15. The Commission had raised various queries relating to the Capex proposal of TPNODL. The response of TPNODL to specific queries are as under:
- As regards to Fixed Asset Register showing year wise, scheme wise (i.e., Government, Consumer Contribution, Commission's Capex approval, etc.), location wise and component wise up to FY 2022-23, the petitioner has replied that Fixed Asset Register is available with them showing year wise/source wise (i.e., Government, Consumer Contribution, Commission's Capex approval, etc), location wise and component wise up to FY 2022-23.
 - In the matter of provision of details of name and location of the proposed activities and assets to be created during FY 2023-24 (If not provided in DPR), the petitioner has submitted the list of locations of the major activities and stated that the same may change to some extent based on the ROW issues, constraints at site while executing any specific project or in case of any urgent requirement of field.
 - Regarding the details about accounting treatment and movement of decapitalized assets, the petitioner has replied that, the Financial Statements of the Company is being prepared in accordance with Indian Accounting Standards (Ind AS) as notified under the Companies (Indian Accounting Standards) Rules, 2015 (as amended) read with section 133 of the Companies Act, 2013. The accounting treatment for decapitalisation of assets is done in accordance with Ind-AS 16. Before considering decapitalization, TPNODL assesses whether the carrying amount of the asset needs to

be impaired due to theft or loss of the assets or obsolesce of assets or complete breakdown beyond repair. Accordingly for accounting treatment, Decapitalization note is being prepared and approved by the user department. Then the carrying amount of the assets, which is gross value, less accumulated depreciation is charged to Profit & Loss statement. It is typically presented within the Other Expenses or as a separate line item, depending on the nature and materiality of the decapitalization. After decapitalization, the asset is removed from the balance sheet and its accumulated depreciation is eliminated. Any remaining value of the asset is fully written off, and no further depreciation or impairment testing is required.

Further in case of disposed of decapitalized assets, the net realized value is recognized as income from sale of the assets and in case of the insurance claim received on the decapitalized assets, the amount received from insurance company is considered as an income.

- iv. As regards to the details about the comprehensive plan on component-wise requirement of different assets in future years (at least 5 years) vis-à-vis actual availability and plan of action to meet the requirements, the petitioner has replied that, the Circle wise Planning considering five-year load growth have been submitted for consideration by the Commission.
- v. TPNODL has declared that there is no duplication of work between the activities to be carried out in the proposed Capex and the assets created through Government schemes/ support.
- vi. As regards the proposal for procurement of EV or other vehicles under Capex instead of utilization of the vehicles on hiring basis, TPNODL has submitted that the deployment of EV is essential in terms of long-term sustainability as it reduces the pollution/carbon footprint caused by the Diesel/Petrol emission. In view of the same, TPNODL has proposed for procurement of EV in the capex plan to perform the official duties by the Executive Engineer (16 Nos. of 4 wheelers) and Section Managers (159 Nos two wheelers). Previously, sufficient nos. of EVs on the hiring basis are not available in the market and at present if available, those are very costly in comparison to the Petrol/Diesel vehicle. Hence, the hiring of EVs may increase the operation cost of the company.
- vii. In response to the reason of the extended warranty on certain items under IT infrastructure in capex instead of Opex, TPNODL has replied that, only warranty

which comes as bundled cost along with items like PC, Server, storage, etc. are taken under Capex. Any additional procurement of AMC or warranty are covered under Opex.

- viii. As regards to the fencing for DTs and existing primary substations, TPNODL has replied that most of the DTs in its area have been installed without any fencing. So large nos. (approx.- 41050 Nos) of fencing will be required for the safety of the equipment and people. Construction of such huge nos. of fencing in the Opex will increase the opex to the great extent. The fencing is required as a part of statutory compliance of the safety provisions of CEA.
- ix. As regards to the proposals on metering of unmetered feeders, their name and primary sub-station where to be installed, nature of equipment proposed if not available now, TPNODL has submitted that, the quantity of energy meters as mentioned below will be installed in different circles to carry out energy audit. The Energy meters will be installed at the 33 kV PSS incomer level, on the transformer primary side as well on the 11 kV feeders so as to ensure the accurate feeder energy accounting. Following is the tentative circle wise details for carrying out aforesaid activity.

CIRCLE	Total
Balasore	72
Baripada	112
Bhadrak	19
Jajpur	45
Keonjhar	93
TOTAL	341

Further, as regards to installation of DT metering for the capacity > 100 kVA, TPNODL has proposed the investment plan to procure the Ring type CTs of the various ratings. This will be helpful to complete the energy audit at the DT level. Also, AMRs are being installed at the 33kV and 11 kV Feeders. The data captured from those meters remotely will be helpful for analysis and taking further steps.

- x. As regards to proposal of separate expenditure for SCADA and GSAS implementation, where equipments to be installed are almost similar in nature or are to be interfaced with each other, TPNODL has submitted that, SCADA system is centralized system which is used by Power System control team to monitor, control, operate PSS equipment from control room through SCADA/ADMS system. GSAS is meant for automation of equipment like Breaker, PTR, CT, PT

etc. in each PSS so that digital connection can be established with SCADA system. Since, these are two separate system, separate proposals are given in Capex.

- xi. Regarding housing of Data Recovery Centre for TPCODL, TPNODL & TPSODL and sharing of cost, TPNODL has submitted that, for the proposed common Disaster Recovery Center (DRC) at Sambalpur for TPCODL, TPWODL, TPNODL and TPWODL, all the concerned utilities have considered replication of computer, network and storage capacity of their respective Data Centre in the proposed DRC. Individual Discom have accordingly proposed necessary IT equipment needed for replicating its Data Center capacity at the DRC which will be exclusively used by them. Common DRC components like Civil infrastructure, Building Management System, Cooling System etc. have been included in the FY 2024 CAPEX Proposal by TPWODL only and these infra and facilities are not part of any other DISCOM's proposal.
- xii. As regards to the repetition of work in certain heads such as replacement of bare conductors with AB cables in “Safety” head as well as "System Augmentation " head, TPNODL has submitted that, they have considered conversion of bare conductor to AB cable only under the loss reduction head.
- xiii. As regards to the proposal for miscellaneous Capex of Rs 20 lakhs under Office administration, TPNODL has submitted that Rs.20 Lakhs have been considered for the emergency and urgent type of the admin. related requirement which they have not been able to envisage at the time of DPR preparation. TPNODL will furnish the detailed information at the time of capitalization.
- xiv. As regards to the reasons for cost variation of Drones, i.e. Rs.20 lakhs per unit for TPCODL, 15 lakhs per unit for TPNODL, Rs 25 lakhs per unit for TPSODL and Rs 40 lakhs per unit for TPWODL, TPNODL has submitted that, they have considered the cost of the Drone (having minimum required features) on the basis of the information on the indicative price received from the reputed suppliers.
- xv. Regarding the proposal on justification for proposing site visit & logistics for project management, survey and mapping with cost of about Rs 28 Cr. under Capex, TPNODL has submitted that such expenditure is required to be included in Capex. In FY 2022-23 it had proposed to cover two Circles of TPNODL. In FY 2023-24, it proposes the capex for covering the GIS of balance three Circles. The proposed cost is arrived at on the basis of actual cost-plus incremental cost of 5% w.r.t. covered area, network length and numbers of consumers. Accordingly, the proposal has been submitted to cover balance three Circles.

16. Three numbers of respondents namely OPTCL, GRIDCO and Department of Energy (DoE), Government of Odisha (GoO) have submitted their objections/suggestions to the Capex proposal submitted by TPNODL.

17. In response to the queries raised by OPTCL, TPNODL in its rejoinder has submitted the following :

- i. OPTCL has submitted that, the Commission have approved Capex of Rs.585.32 Cr. (i.e., Rs.258.78 Cr. for FY 21-22 and Rs.326.54 Cr. for FY 22-23). Out of the above approved capex, TPNODL is able to capitalize Rs.148.22 Cr. only which is around 25% of the approved capex. As the progress of the Capex works are very slow, the Commission may consider to approve the Capex for FY-2023-24 accordingly.

TPNODL in its response submitted that, the actual capex was Rs.471.29 Cr out of which Rs.388.45 Cr. has been capitalized till March-2023. Further orders for material and services worth Rs. 99.71 Crs have already been placed. Hence total capital works of Rs.571Cr. has been implemented or committed out of the approved amount of Rs.585.32Cr. Since the capex approval order for FY 2021-22 came in the month of September -2021, TPNODL had very little time left to place orders, procure material & services and implement capex in that year. However, the activities were significantly ramped up in FY2022-23 to achieve the stated results. Further TPNODL has designed the various schemes proposed under capex plan FY 2023-24 after careful consideration of network along with load flow study and simulation exercises carried out towards reduction of technical losses, improving reliability and quality of power supply and overall improvement in network performance. Any reduction of the capex schemes would adversely impact in achieving of these targets.

- ii. OPTCL has stated that, the Commission has allowed only 50% for fencing of distribution sub-station (DSS) and 80% for boundary wall of Primary sub-stations (PSS) against the proposed Capex for FY-2022-23 considering the less utilization (only 22% under fencing of DSS and 78% under boundary wall of PSS) of approved Capex for FY 2021-22. The proposed amount of Rs. 11.55Cr for fencing of DSS and Rs.10.73 Cr for boundary wall of PSS for FY-2023-24 seems to very high, so the Commission may take prudent action while allowing Capex under such heads.

TPNODL, in its rejoinder has submitted that Safety of employees, public and animals is of paramount importance for TPNODL. Till 31st March 2023, it has

capitalized Rs 15.13 Cr (124%) as against the approval of Rs.12.14 Cr for fencing of DSS and Rs 12.23Cr (120%) Cr as against the approval of Rs.10.20 Cr for boundary wall for both the FY 2021-22 & FY 2022-23 . The petitioner has submitted that, it has around 37,071 nos of 3 phase DTRs and most of the DSS are without fencing. So, 705 nos. of fencing is very small quantity in comparison to total requirement for fencing. It is essential to protect and enhance safety in the DTR in urban and congested areas. Further most of the old PSS do not have boundary wall. So, proposal of 6376 RMtrs of boundary wall primarily in urban and congested areas is a very limited requirement.

- iii. OPTCL has stated that, as per Notes-3 to Cl. No-7.11 of IS-1646:1997, “Separating walls shall not be necessary in case of transformers having an aggregate oil capacity exceeding 2000 litres but individual oil capacity of less than 5000 litres if the distance between transformers and other apparatus is more than 6 m or if the transformers are protected by an approved high velocity water spray system”. Similarly, the Notes-4 speaks about the provisions in case of oil capacity of individual transformer is of 5000L to 20000L and over 20,000L. So TPNODL may be asked to modify their proposal if required, according to the provisions of Indian Standards (IS) and approval of Capex under the heading “fire wall for PTRs” may be accorded accordingly.

TPNODL in response to the above, has replied that, wherever the distance between two transformer is less than 6 meters, it has considered separator wall as per CEA safety regulation and IS 1646, clause 7.2. High velocity water spray system is not available in any of the 33/11kV primary substations. This has been emphasized by EI during site visit to the substations.

- iv. OPTCL has stated that, capex proposal of Rs. 43.36 Cr. for FY:23-24 towards “Conversion of LT bare conductor to AB Cable” is very high and the commission may take prudent action while allowing Capex under such heads. Further it has prayed that, to minimize tariff burden on the Consumers restrict the “LT bare to AB cable conversion works only” at urban congested areas & busy road crossing and electricity theft prone areas only.

TPNODL in its rejoinder has submitted that, it operates 67,117 KMs of LT network. About 34 % (i.e. 22,819 KMs) of LT network is with bare conductors. The network with bare conductor can easily be tapped for theft of electricity. Therefore, TPNODL has proposed to convert 420 KM of bare conductor to AB cable in

identified high hooking prone areas and proposes Rs.43.36 Cr for same. TPNODL has stated that the proposed quantity is negligible in comparison to the total requirement.

- v. OPTCL has raised about the unit cost of AMR equipment of Rs5500 proposed by TPNODL for FY 2023-24 as against the Commission approved unit cost of AMR equipment of Rs.3000 per unit in the capex approval order for FY 2021-22 & FY 2022-23. TPNODL is required to reveal the discovered price of the AMR equipment in different FYs, no. of such equipment procured by them till date, how much of the procured units are already been taken into service till date and the tangential benefit derived thereof.

TPNODL in its rejoinder as regards to the above has submitted that, it has started initiative for the AMR installation for all the 11 kV and 33 kV feeders, with an objective to capture the meter data remotely without manual intervention so that timely and accurate energy accounting can be carried out. Some modems also installed for the HT and EHT consumer so that meter readings along with complete load survey can be captured remotely. In addition, as per the BEE compliance, it is required to be installed the Modems/Smart meters on all Feeders and DTs for remote capturing of the data without manual intervention and the compliance is reported to them in the BEE quarterly reports. The information on quantity and unit rate of AMR including the status of installation are as under:

Financial Year	AMR Qty.	Unit Rate (Excluding GST)	Status
FY 22-23	1000	3305.09	1000 Nos. AMR Installed
FY 23-24	799	3305.09	AMR Under Procurement

TPNODL has procured the modems under tendering process and proper negotiation has been followed with the vendor. The modems purchased at the unit cost of INR 3305 (Excluding 18% GST). Hence, there is no price variation as per the approved budget. AMR cost of Rs.5600 per AMR is inclusive of Sim cost, labour cost, transportation cost and other incidental cost incurred to get the job done through outsource agencies.

- vi. OPTCL has stated that various new 33kV and 11kV lines, new 33/11kV substations, have been constructed and augmented under different Government funded (i.e, DDUGJY, ODSSP, ODAFF and IPDS) schemes are yet to be made fully operational by TPNODL. However, this issue is never addressed by

TPNODL. Further, Department of Energy, Government of Odisha vide Resolution No 12347/EENG-RR-0004-2019, Bhubaneswar, dt. 24th December 2021, has approved Rs 1796.73Cr for construction of 99 Nos. of 33/11 KV PSS and 64 nos. of independent 33 KV lines under phase-IV and Government of Odisha have accorded in principle approval for ODSSP Ph-V with an estimate outlay of Rs.1124.70Cr. As per the DPR furnished by TPNODL for the above programme, they have proposed works under different categories with an estimated cost of Rs.238.90 Cr. The Commission may consider the above submission while allowing capex under network reliability head for the FY 2023-24. Further OPTCL has submitted that, TPNODL may submit the area wise utilization of different FPIs & Station transformers earlier procured under approved capex and proposed for the FY 2023-24.

TPNODL in response to the above has submitted that, all the proposals have been identified after considering the existing lines based on the Cyme study and actual filed requirement. The proposed requirements are towards 28 nos of conventional substations and old dilapidated lines which are not covered under any of the Government schemes mentioned by the OPTCL. The above conventional substations and old dilapidated lines are not covered under ODSSP- IV mentioned by the OPTCL. Further the Chief Minister's power development program (ODSSP PH.-V) scheme is still under the approval process and also different than the proposals submitted in the capex for Fy 2023-24. FPI have been proposed in lengthy and high tripping prone feeders. TPNODL has submitted the location wise list of FPI and status of 36 station Transformers.

- vii. OPTCL has submitted that since huge investment has already been approved for the data Centre at Balasore, the possibility for using the same for Data Recovery centre may be explored by TPNODL, instead of proposing for establishment of new Data Recovery Centre at Sambalpur with a cost of Rs.25.09 Cr. Further it seems that TPNODL have focused more on SCADA, IT, GIS under Technology & Civil Infrastructure in this current Capex application, instead of focusing more on the development of basic infrastructure.

TPNODL in this regard has replied that, the Commission had approved the investment for data center development in which it has invested in Data center, IT hardware like core switches, firewall, servers etc at OPTCL data center at Bhubaneshwar. TPNODL has hosted IT applications on these infrastructures for

establishing digital services for its consumers. Similarly, TPNODL has invested on OT hardware for SCADA, Primary center in Balasore and DR center in Bhubaneswar. Under IT driven practices, it is very important to have a backup of IT & OT applications to cover up the emergencies and it should be installed at location which has different environmental and seismic condition from primary location. Keeping in view of climatic conditions of Odisha and to remain in Odisha itself, Sambalpur area has been considered for DR center. TPNODL has requested only for IT Hardware like switches, firewall, servers, storage, back up devices etc. for creation of DR which is anyway required to establish DR to cover up part or full data center failure for business continuity. Hence, TPNODL has requested to approve the investment for establishment of Data Recovery Center as it is a prerequisite for commencing business continuity and operations for TPNODL in the event of any natural calamity at any location.

Further, TPNODL has stated that, they have fully focused on balance work of network strengthening as well as penetrating technological driven business applications for efficiencies, standardization and digital services for the consumers. In the overall capex proposal, TPNODL has put up around 15% on technology driven applications and platform for IT, OT & GIS. TPNODL has therefore prayed for approval of their investment required for implementing digital & IT services for all stakeholders.

- viii. OPTCL has submitted that, the details of various infrastructure development works and installation of single phase and three phase meters along with smart meters (IPDS-IT Phase-II) being executed through different government funded schemes are missing.

TPNODL in its rejoinder has submitted that it has fully utilized the infrastructure commissioned under Government funded schemes. IPDS-IT-Phase-II which was meant for only Town areas. Under this scheme, it has commissioned ERP, CIS and small quantities of desktop, routers and Switches for Discom Offices which are in full use. However, it is very much pertinent to cover up entire Discom. Accordingly, TPNODL has proposed for left out locations only.

- ix. OPTCL has submitted that, the applicant has not submitted any cost benefit analysis in terms of AT&C loss reduction which will restrict the tariff hike. Further as per practice and standards, the end product of any Capex plan is revenue and tariff forecast which has not been done.

TPNODL in response to above has submitted that the proposals considered in FY 2023-24T have been finalised after conducting Network analysis, and Load Flow Study. The total loss in the 33KV network will reduce from 41.24 MW to 37.40 MW and in 11 KV Network from 45.13 MW to 40.60 MW thus resulting in the savings of 8.53 MW energy in the network.

- x. In addition to the above submissions, OPTCL prayed for consideration of the following by the Commission.
 - a) The Commission may appoint 3rd Party & Independent consultant to verify the claim of DISCOMs in the matter of quantum of works completed & expenditure incurred thereof upto CAPEX-22-23, before allowing further CAPEX.
 - b) To allow Capex in areas where cost is neutralised in terms of lower tariff or lower loss and enhanced consumer satisfaction.
 - c) Allow as much Capex so that work can be completed within the current Capex period, without any carry over to next FY 2024-25.
 - d) To direct the petitioner to furnish the audited account from an independent consultant in terms of works completed, expenditure incurred thereof, pending works if any, schedule for completion of balance pending works, Assets capitalized etc. for the Present Capex.
- 18. The respondent, GRIDCO has submitted the following comments/ views on the capex proposal.
 - i. The CAPEX Plan should be implemented considering the actual requirement of new/ augmentation/ renovation of the existing system with proper requisite planning, as can be projected considering the upcoming industrialisation in various locations, increasing demand of industries, growth in domestic and commercial sectors, impact due to climate change commensurate with latest technology.
 - ii. The expenses earmarked and in the nature of R&M activities and also of similar nature may be excluded from the scope of the Capex Plan and need to be considered under R&M heads.
 - iii. Deferral of expenses may be considered evaluating the priority for expenses allocation vis-a-vis the cost benefit analysis of the proposal, justifying the Capex plan with reference to the basic parameters including increase in revenue, load growth requirement, reduction in AT&C loss, improvement in supply, etc.

- iv. The Comprehensive Capex plan needs to be implemented by the DISCOM, with the approval of the Hon'ble Commission for the Tariff control period with the annual breakup considering the actual requirement vis-a-vis progress made under various heads for all ongoing projects.
 - v. Due diligence and prudence check of the Capex Proposal may be conducted under various components while approving the CAPEX Plan for the FY 2023-24 so as to meet the end objectives of CAPEX investments so as to be tariff neutral in the greater interest of the consumers of the State.
19. With reference to the above submission of GRIDCO, the petitioner has not submitted any rejoinder before the Commission.
20. The respondent, Department of Energy, has not submitted any specific observation/comments on various activities proposed by the petitioner under CAPEX for FY 2023-24. However, during the hearing. the representative of DoE, GoO has orally submitted the following:
- a) It needs to be ensured that there is no duplication of work under the proposed CAPEX and the work already approved/executed under different Government funded schemes.
 - b) Proper scrutiny of the CAPEX proposal needs to be carried out by the Commission before approving the CAPEX amount in order to avoid unnecessary burden on the consumer.
21. Heard the petitioner and respondents at length through Hybrid mode (Physical & Virtual mode) and considered their written and oral submission during hearing. As per Section 42 of the Electricity Act, 2003 read with Condition 7 of the Licence Conditions and Regulation 4 of the General Conditions of Distribution Licence, and the OERC (Conduct of Business) Regulations, 2004, it shall be the duty of the Distribution Licensee to develop and maintain an efficient, coordinated, economic distribution system in its area of supply and to supply electricity in accordance with the provisions in the Act, Rules, Regulations and the directions of the Commission. The Commission is guided by Section 61(c) of the Electricity Act, 2003, to take into account by the factors, which would encourage competition, efficiency, economical use of the resources, good performance and optimum investments while determining the tariff.
22. As per the provisions of the OERC Wheeling & Retail Supply Tariff Regulations 2022, TPNODL has submitted the specific details of works i.e., location at which the works have been proposed, cost benefit analysis for majority of the schemes and the approval of BoD

for the same. As per the submissions of TPNODL, it was observed that TPNODL has been able to utilise around 89% of the approved CAPEX during FY 2021-22 and 76% of the CAPEX approved by OERC for the FY 2022-23. TPNODL has submitted that the pending works will be completed and capitalised in FY 2023-24.

23. The Commission at this stage has considered and analysed the CAPEX plan for FY 2023-24 based on the submissions made by TPSNODL. In the present case as per para 39(b) of the Vesting Order, the petitioner's minimum committed capital expenditure is Rs.1270 Cr for the FY 2021-22 to FY 2025-26. TPNODL has submitted that as per the Vesting Order, it has to achieve a minimum cumulative CAPEX of Rs. 882.00 Cr upto FY 2023-24. The Commission had approved Rs.585.32 Cr till FY 2022-23. Hence, in compliance to the vesting order commitment, TPNODL is required to have minimum CAPEX of Rs. 296.68 Cr. to meet the minimum cumulative CAPEX commitment of Rs.882.00 Cr till FY 2023-24. TPNODL has proposed a Capex of Rs.452.80 Cr. under different activities for the FY 2023-24.
24. The Commission has examined the investments proposed by the petitioner and has considered the submissions by stakeholders. In TPNODL, TPCL is having 51% (fifty one percent) equity shares and Government of Odisha ("GoO") through GRIDCO is having 49% (forty nine percent) equity shares. Any Capital Investment Plan should have approval of TPNODL's Board of Directors before it approaches the Commission for grant of approval. During the analysis, the Commission observes that the revised DPR proposed by TPNODL is in line with Capex Plan approved by their Board for FY 2023-24.
25. The Commission has examined the investments proposed by the petitioner. The Commission has observed that TPNODL has proposed higher capitalization than the capitalization approved in the Vesting Order upto FY 2023-24. Further, it is also observed that there is no change in the Capex proposed in the revised DPR for FY 2023-24 and the Capex as approved by their Board's Meeting for FY 2023-24 as shown below:

(Rs. in Crore)		
Balance Capex to be made during FY 2023-24 as per Vesting Order	Board Approved Capex Value	Capex as per revised DPR Submitted
296.68*	452.80	452.80

**Capex Commitment by TPCL*

26. The major heads under proposed Capex plan are as shown below:

(Rs. in Crore)			
Sl. No.	Capex Head	Board Approved Capex	Capex as per revised DPR Submitted
I	Statutory & Safety	49.41	49.41
II	Loss Reduction	56.61	56.61
III	Reliability	118.06	118.06
IV	Load Growth	102.14	102.14
V	Technology & Infrastructure	121.60	121.60
VI	Reducing Carbon Footprint	4.98	4.98
Total Proposed Capex		452.80	452.80

27. The Commission has analyzed the Detailed Project Report (DPR) for Capex plan of above Rs.452.80 Cr for the FY 2023-24 under the following six major categories i.e. (i) Statutory and safety, (ii) Loss reduction, (iii) Reliability, (iv) Network optimization and load growth (v) Technology & civil infrastructure and (vi) Reduction of carbon foot print in the submission of TPNODL's Capex DPR. The same have been evaluated considering the following methodology:

- (a) Analyzing the present condition of the Distribution area.
- (b) Verification of the Schemes claimed in line with the provision of various Regulations of OERC, Act, Orders etc.
- (c) Analysis of the status of capex approved and actual capitalization till FY 2022-23.
- (d) Analysis of the requirement of the capex activity/work proposed for FY 2023-24.
- (e) Verification of the quantity requirements as claimed in the proposal.
- (I) **Statutory & Safety:** - The Commission has examined activity wise capex proposed by the petitioner under statutory & safety head. We observe that fencing of DSS and boundary walls for PSS is very essential for keeping stray animals and public at large away from the electrical hazards arising out of contact with live equipment. In this year TPNODL has proposed fencing of 705 nos. of DSS and construction of 6376 running meters boundary wall of PSS. We have also noted the proposal of TPNODL for installation of fire extinguisher and water hydrant system in Jajpur Store at the cost of Rs.2.09 Crore. Similarly, TPNODL has proposed fire wall between the transformers in 30 locations at the cost of Rs.1.14 Crores. Under life enhancement of network and maintaining safe horizontal /vertical clearances from the conductor TPNODL has proposed an expenditure of Rs.8.43 Crores. We find that these expenditures are very much required since the network of TPNODL are prone to safety hazards and also require life enhancement. TPNODL has

further sought the approval for replacement of defective cables in its area of supply. This will reduce interruption in the network and also enhance the safety level. There is also proposal for shifting of overhead line at a cost of Rs.4.34 Crores, which has created safety issue for the general public. Therefore, the Commission considering the above approves the proposed amounts of Rs. 49.41 Cr under Statutory and safety for FY 2023-24. The activity wise details proposal and the Commission's approval are given in the table below:

(Rs. in Crore)

Sl No	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
1	Fencing of Distribution Substations	11.55	11.55	11.55
2	Boundary wall work at Primary Substations	10.73	10.73	10.73
3	Life enhancement of network and maintaining safe horizontal / vertical clearances	8.43	8.43	8.43
4	Yard Fencing with in PSS	0.98	0.98	0.98
5	Fire Extinguisher & Water Hydrant System for Jajpur Store	2.09	2.09	2.09
6	Fire wall for PTR "6Mtr*8Mtr"	1.14	1.14	1.14
7	Defective cable replacement	10.00	10.00	10.00
8	Shifting of O/H lines on safety ground on public request	4.34	4.34	4.34
9	Intrusion system for theft prevention is store	0.15	0.15	0.15
	Total	49.41	49.41	49.41

- (II) **Loss Reduction:** - The petitioner has stated that, they have identified places where during new electrification under different schemes meters are not properly installed or found to be defective. Therefore, those meters are to be correctly placed and their function is to be checked. For this purpose they are required to purchase different meter testing equipments, billing devices like android mobile for BLE meter reading, Accucheck, meter testing bench etc. at the cost of Rs.5.91 Crores. They are also required to purchase LT AB Cable at the cost of Rs.43.35 Crores for loss reduction. New single phase and three phase meters with equipment for AMR enablement etc. are also proposed to be procured. In this way TPNODL has proposed to spend Rs.56.61 Crore under the head of loss reduction. The activity wise details proposal and the Commission's approval are given in the table below:

(Rs. in Crore)

Sl No	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
1	Testing equipment for Meter, Meter Reading, HT/LT Accucheck& other material.	5.91	5.91	5.91
2	Conversion of LT Bare conductor to AB Cable	43.35	43.35	43.35
3	Meters and metering equipment for energy audit	5.66	2.83	2.83
4	Equipment for AMR enablement of 3phase consumer meters	0.56	0.56	0.56
5	Field Testing equipment (PTR testing, PQ analyzer, Switch gear testing kit)	7.93	3.96	3.96
	Sub-total	63.41	56.61	56.61

- (III) **Reliability:** -Under this head TPNODL has proposed to replace sick equipment in the sub-stations to improve the reliability of the power supply at the cost of Rs.10.18 Crores. We find that these replacements can be very well done in a phased manner under R&M head as and when particular equipment fails. TPNODL has proposed for upgradation of conductor at 11 KV level and refurbishment of 11/4 KV distribution sub-station. Under refurbishment TPNODL has stated that they have to refurbish 107 nos. of fencing of DSS at the cost of Rs.3.11 Crores. Similarly, they have proposed LV protection system to reduce the impact of LT fault on 11 KV system. For this MCCB on pole mounted sub-station of 100 KVA and ACB for 250 and 315 KVA transformer are to be procured at the cost of Rs.33.38 Crores. TPNODL has proposed for installation of auto reclosure/sectionaliser and RMUs for reduction of power down time and identification of fault. We approve the same.

Similarly, on the proposal of TPNODL on installation of AB switch, HG fuse and LA for DTRs we approve an amount of Rs.25.47 Crores as proposed by them.

TPNODL has proposed procurement of spares and servicing of ODSSP and IPDS sub-stations at the cost of Rs.1.45 Crores which we don't agree. This is because these sub-stations are relatively new sub-stations and the spares must have been supplied along with the equipment by turnkey contractor. Even if the spares are not available or exhausted those can be procured through fund available under R&M head.

Automatic Voltage Regulator (AVR) is not a long term solution for improving the voltage profile. However, considering the requirement to address low voltage issue, the Commission for the time being allows about 10 nos. of 11 kV AVR at an estimated cost of Rs.1.73 Cr.

We agree with the proposal regarding earthing of transformers and installation of station transformer as proposed by TPNODL. The activity wise details proposal and the Commission's approval are given in the table below:

(Rs. in Crore)

Sl. No.	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
1	Replacement/Addition of network component in 33/11kV Primary Substation	20.36	10.18	-
2	33 KV Conductor up gradation	10.74	-	-
3	11 KV Conductor up gradation	30.14	15.07	15.07
4	Refurbishment of 11KV/0.415 KV Distribution Substation (DSS)	3.11	3.11	3.11
5	Installation of LV protection at DSS	33.38	33.38	33.38
6	Installation of Auto reclosure /Sectionalizers, RMUs	15.04	7.52	7.52
7	Installation of FPIs for O/H Lines	1.86	1.86	1.86
8	Installation of AB Switch, HG Fuse & LA for DTRs	25.47	25.47	25.47
9	11 KV Voltage Regulators for voltage improvement	5.01	5.01	1.73
10	Installation of Station Transformers (PPS)	1.44	0.72	0.72
11	Procurement of spares and servicing for ODSSP & IPDS	1.45	1.45	-
12	Indoor Switch gear (AIS) for 33KV & 11KV	6.39	-	-
13	Earthing of Transformer	14.29	14.29	14.29
	Sub-total	168.69	118.06	103.15

- (IV) **Network optimization and load growth:** The petitioner has stated that, due to increase in consumer growth, network infrastructure needs to be extended, strengthened, or augmented and new energy meters to be installed to release the new connection. Some of the connections can be released from the existing network and some may require augmentation/addition/extension before release of new connection. Therefore, it is required for augmentation and addition of 33kV, 11kV & LT lines, power transformers and distribution transformers to mitigate low voltages issues and load growth. Further the petitioner has proposed two numbers

of new 33/11kV PSS with associate lines at Govindpur & Barbil to meet the low voltages and load growth in Keonjhar district. Considering the above network optimization and load growth, the petitioner has proposed capex expenditure of **Rs.102.14 Cr** under this head for the FY 2023-24. The Commission approves Rs.102.14 Crores under this head as proposed by TPNODL. The activity wise details proposal and the Commission's approval are given in the table below:

(Rs. in Crore)

Sl No	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
1	Augmentation of Power Transformer	5.23	2.60	2.60
2	Augmentation of Distribution Transformer	24.57	24.57	24.57
3	Addition of LT Lines	39.58	-	-
4	Addition of 11 kV Lines (O/H and U/G)	24.12	24.12	24.12
5	Addition of 33 kV Overhead Lines(O/H and U/G)	19.79	9.80	9.80
6	Addition of New PTR at PSS	5.08	5.08	5.08
7	Addition New DTRs along with Associated HT/LT lines	17.37	17.37	17.37
8	Network enhancement for unforeseen emergency	10.00	-	-
9	New 33/11kV PSS with Associated Lines	38.07	18.60	18.60
	Sub-total	183.81	102.14	102.14

- (V) **Technology & Civil Infrastructure:** TPNODL has offices in all the five circles. Some of them are owned by them whereas 40% of the offices are operating from properties which have been taken on rent. The office locations are touch points between consumer and the Utility. TPNODL is facing challenges to provide work space for employees including new employees since many office buildings require modernization. To ensure this, TPNODL is to carry out installation of new civil infrastructure including refurbishing of the existing one. TPNODL has proposed to develop civil infrastructures like office building, PSS, stores, approach roads, record room, canteen, MRT office, STS office, STS labs and guest house. Accordingly, the Commission approves an amount of Rs.29.68 Crores on the head of civil infrastructure.

The commission also approves proposal of TPNODL on security camera and heavy-duty racking system in store of Rs.1.50 Crores.

The Commission also approves Rs.3.95 Crores on account of office administration which includes furniture and fixtures, air conditioners, water cooler, water filter, projector, photo copy machines excluding proposed expenditure of Rs.1.80 Crores for purchase of cars under employee car policy. This is because the same can be accommodated either in employee cost or under A&G cost.

The Commission approves the proposal of Rs.12 Crores towards automation of non-ODSSP sub-station and SCADA integration.

The Commission also approves the following

- (i) Proposal on Bluetooth printer, cash drop box and RRG App.
- (ii) Data recovery for hardware equipment.
- (iii) Data Centre (DC) for hardware equipment
- (iv) End computing devices
- (v) Cyber Security
- (vi) Communication
- (vii) SCADA ADMS, computing devices
- (viii) GIS software implementation and digitization for eight divisions
- (ix) Software and application
- (x) Drones and its licence

On the above heads the Commission approves Rs.72.67 Crores. The activity wise details proposal and the Commission's approval are given in the table below:

(Rs. in Crore)

Sl. No.	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
1	Security cameras, heavy-duty Racking system / Storage solutions for Jajpur store	1.50	1.50	1.50
2	Civil Infrastructure (Office Buildings, PSS, Stores, Approach Roads, Record room, Cafeteria Canteen, MRT office, STS office, STS Lab and others)	42.41	29.68	29.68
3	Office Administration	5.75	5.75	3.95
4	Automation of Non-ODSSP & SCADA Integration	12.00	12.00	12.00
5	Bluetooth printer, cash drop box, RRG App	0.88	0.88	0.88
6	Data Recovery (DR) for Hardware Equipment	25.09	16.82	16.82
7	Data Centre (DC) for Hardware Equipment	3.50	3.50	3.50

Sl. No.	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
8	End computing devices	6.35	0.75	0.75
9	Cyber Security	8.70	7.70	7.70
10	Communication	4.01	4.01	4.01
11	SCADA-ADMS, Computing devices	1.95	10.10	10.10
12	GIS Software Implementation and Land Base & Network Survey & Digitization for 9 Division	36.30	27.86	27.86
13	Additional left-out Budget of previous FY for GIS & SCADA	18.15	-	-
14	Software and Application	0.75	0.75	0.75
15	Drones and its licence	0.30	0.30	0.30
	Sub-total	167.64	121.60	119.80

(VI) **Reducing Carbon Footprint:** - TPNODL has proposed certain measures like installation of Rooftop Solar Power Plant and provision of electric mobility for its employees as a part of its commitment towards reduction of carbon foot print. The Commission approves the proposal of installation of Solar rooftop system totaling 90 KW capacity at the rooftop of different offices of TPNODL at the cost of Rs.0.99 Crores. TPNODL has proposed for procurement of EV (16 nos. of four wheelers and 159 nos. of two wheelers) for official use at an estimated cost of Rs.3.99 Cr. To promote use of EV and to reduce carbon footprint, the Commission allows a lumpsum amount of Rs.1.00 Cr. on pilot basis and cost & benefit of such investment may be appraised to the Commission. The activity wise details proposal and the Commission's approval are given in the table below:

(Rs. in Crore)

Sl. No.	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
1	Budget for Electric Scooter/Car	3.99	3.99	1.00
2	Rooftop Solar System on office building (Solar Roof top system (Corp office, circle offices, Balasore Store)	0.99	0.99	0.99
	Sub-total	4.98	4.98	1.99

28. Considering the present dilapidated condition of distribution infrastructure, focus should be on strengthening of existing infrastructure and expansion of distribution network to meet the projected load growth, addressing issues relating to reduction in losses, low voltage, overloading, smart metering, earthing, etc. Priority should be given to works related to above issues over IT and OT infrastructure development. In view of above

consideration and to promote EV under pilot project, the Commission approves an amount of Rs.433.10 Cr. for the financial year 2023-24 against the TPNODL's CAPEX proposal of Rs.452.80 Cr. The details are shown in the table below:

TPNODL CAPEX Proposal and the Commission's approval for FY 2023-24
(Rs. in Crore)

Sl. No.	Major Category	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
1	Statutory & Safety	Fencing of Distribution Substations	11.55	11.55	11.55
		Boundary wall work at Primary Substations	10.73	10.73	10.73
		Life enhancement of network and maintaining safe horizontal / vertical clearances	8.43	8.43	8.43
		Yard Fencing with in PSS	0.98	0.98	0.98
		Fire Extinguisher & Water Hydrant System for Jajpur Store	2.09	2.09	2.09
		Fire wall for PTR "6Mtr*8Mtr"	1.14	1.14	1.14
		Defective cable replacement	10.00	10.00	10.00
		Shifting of O/H lines on safety ground on public request	4.34	4.34	4.34
		Intrusion system for theft prevention is store	0.15	0.15	0.15
		Sub-total	49.41	49.41	49.41
2	Loss Reduction	Testing equipment for Meter, Meter Reading, HT/LT Accucheck & other material.	5.91	5.91	5.91
		Conversion of LT Bare conductor to AB Cable	43.35	43.35	43.35
		Meters and metering equipment for energy audit	5.66	2.83	2.83
		Equipment for AMR enablement of 3phase consumer meters	0.56	0.56	0.56
		Field Testing equipment (PTR testing, PQ analyser, Switch gear testing kit)	7.93	3.96	3.96
		Sub-total	63.41	56.61	56.61
3	Reliability	Replacement/Addition of network component in 33/11kV Primary Substation	20.36	10.18	-
		33 KV Conductor up gradation	10.74	-	-
		11 KV Conductor up gradation	30.14	15.07	15.07

Sl. No.	Major Category	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
		Refurbishment of 11KV/0.415 KV Distribution Substation (DSS)	3.11	3.11	3.11
		Installation of LV protection at DSS	33.38	33.38	33.38
		Installation of Auto reclosure /Sectionalizers, RMUs	15.04	7.52	7.52
		Installation of FPIs for O/H Lines	1.86	1.86	1.86
		Installation of AB Switch, HG Fuse & LA for DTRs	25.47	25.47	25.47
		11 KV Voltage Regulators for voltage improvement	5.01	5.01	1.73
		Installation of Station Transformers (PPS)	1.44	0.72	0.72
		Procurement of spares and servicing for ODSSP & IPDS	1.45	1.45	-
		Indoor Switch gear (AIS) for 33KV & 11KV	6.39	-	-
		Earthing of Transformer	14.29	14.29	14.29
		Sub-total	168.69	118.06	103.15
4	Network Optimisation & Load Growth	Augmentation of Power Transformer	5.23	2.60	2.60
		Augmentation of Distribution Transformer	24.57	24.57	24.57
		Addition of LT Lines	39.58	-	-
		Addition of 11 kV Lines (O/H and U/G)	24.12	24.12	24.12
		Addition of 33 kV Overhead Lines (O/H and U/G)	19.79	9.80	9.80
		Addition of New PTR at PSS	5.08	5.08	5.08
		Addition of New DTRs along with Associated HT/LT lines	17.37	17.37	17.37
		Network enhancement for unforeseen emergency	10.00	-	-
		New 33/11kV PSS with Associated Lines	38.07	18.60	18.60
		Sub-total	183.81	102.14	102.14
5	Technology and Civil Infrastructure	Security cameras, heavy-duty Racking system / Storage solutions for Jajpur store	1.50	1.50	1.50
		Civil Infrastructure (Office Buildings, PSS, Stores, Approach Roads, Record	42.41	29.68	29.68

Sl. No.	Major Category	Activity	Capex Proposed in Original DPR	Revised Proposal based on BoD Approval	Approved by Commission
		room, Cafeteria Canteen, MRT office, STS office, STS Lab and others)			
		Office Administration	5.75	5.75	3.95
		Automation of Non-ODSSP & SCADA Integration	12.00	12.00	12.00
		Bluetooth printer, cash drop box, RRG App	0.88	0.88	0.88
		Data Recovery (DR) for Hardware Equipment	25.09	16.82	16.82
		Data Centre (DC) for Hardware Equipment	3.50	3.50	3.50
		End computing devices	6.35	0.75	0.75
		Cyber Security	8.70	7.70	7.70
		Communication	4.01	4.01	4.01
		SCADA-ADMS, Computing devices	1.95	10.10	10.10
		GIS Software Implementation and Land Base & Network Survey & Digitization for 9 Division	36.30	27.86	27.86
		Additional left-out Budget of previous FY for GIS & SCADA	18.15	-	-
		Software and Application	0.75	0.75	0.75
		Drones and its licence	0.30	0.30	0.30
		Sub-total	167.64	121.60	119.80
6	Reducing Carbon Footprint	Budget for Electric Scooter/Car	3.99	3.99	1.00
		Rooftop Solar System on office building (Solar Roof top system (Corp office, circle offices, Balasore Store)	0.99	0.99	0.99
		Sub-total	4.98	4.98	1.99
Total			637.94	452.80	433.10

29. Accordingly, the year-wise and cumulative Capex approved by the Commission is shown in the table below:

(Rs. in Crore)

Financial Year	Minimum Capex required as per Vesting Order (Rs Cr)	Capex Approved by the Commission (Rs Cr)
FY 2021-22	246.00	258.78
FY 2022-23	376.00	326.54
FY 2023-24	260.00	433.10
Cumulative Capex till FY 2023-24	882.00	1018.42

30. The approved cost shall be passed in the ARR as per the norm subject to rational utilization by the petitioner and prudent check through audit.
31. In addition to the observations stated above, the Commission directs TPNODL to
- (i) Prioritize the completion of important works like strengthening/expansion of distribution infrastructure, measures for loss reduction, metering, addressing overloading & low voltage issue etc. over the refurbishment of PSS (in non-ODSSP) for implementation of SCADA & work related to DR & DC etc.
 - (ii) Submit the Capex proposal along with the approval of Board of Director for FY 2024-25 onwards for consideration by the Commission.
 - (iii) Submit the Capital Investment Plan strictly adhering to the provisions of Wheeling & Retail Supply Tariff Regulations, Vesting Orders and the License Conditions prioritizing the operation area of TPNODL (indicating the name of Division & activities undertaken) for proposed investment.
 - (iv) Submit quarterly progress report for the works along with the details of materials utilised vis-à-vis various activities shown in the DPR.
 - (v) Formulate implementation plan for the approved Capital Investment and take steps for execution accordingly to avoid cost and time overrun.
 - (vi) Procure the materials/award the contracts only through transparent competitive bidding process. The requirement of materials shall be prepared based on standardisation of distribution elements. The ratings of equipment / material including DTRs & PTRs need to be standardized across the Discoms and standard specifications need to be adopted across the Discoms.

- (vii) Effort should be made to optimise project cost with efficient project management and leveraging various technology options so that the benefit can be passed on to the consumers.
- (viii) Ensure that there is no duplication of work covered under the CAPEX approved for 2023-24 and the assets created/ to be created through Government Schemes/support.
- (ix) Planned new 33/11 kV substations shall have (N-1) contingency provision for incomer & Power Transformers (PTRs), double bus switching scheme/main & transfer bus scheme with Bus coupler and adequate space should be available in PSS for future expansion to avoid additional substations in the nearby areas.
- (x) TPNODL should have regular interaction with the OPTCL to ensure that the requirement of additional Grid Sub-stations (220/33 kV or 132/33 kV or 220/132/33 kV) are planned as per need of TPNODL which will help in resolving low voltage issues and at the same time the available 33 kV outlets from existing Grid Sub-stations of OPTCL should be utilised by TPNODL for their distribution system.
- (xi) Provide cost benefit analysis and quantification of benefits in terms of percentage of loss reduction, metering & billing, asset mapping, reduction in low voltage areas, reduction in tripping of 33 kV & 11 kV feeders, reduction in failure of equipment/material (PTRs, DTRs, CBs, SAs, etc.), and improvement in safety by reduction in fatal & non-fatal accidents of human being & animals etc. in different divisions of TPNODL's operating area due to addition of distribution infrastructure covered under the capex proposal for the FY 2023-24.
- (xii) Provide the financial plan for funding of capex proposal along with rate of interest for the FY 2023-24
- (xiii) The details of investment in development/augmentation of distribution infrastructure in various divisions of the TPNODL.
- (xiv) Submit details of compliances of the direction given in the Capex Orders of previous years.
- (xv) The system study report relating to installation capacitor banks.

- (xvi) TPNODL need to carry out load flow study of the distribution network for a longer time frame (at least 5 year) as directed during the approval of capex for the FY 2022-23.
- (xvii) Submit the status (on the date of taking over and as on 31.03.2023) of existing distribution system for each division indicating the achievement (quantification) in respect of following areas by September 2023:
- Reduction in feeder / line / section length at 33kV & 11kV level;
 - Reduction in overloading of 33kV & 11kV lines, PTRS, DTRs;
 - Reduction in low voltage pockets;
 - Repairing of boundary walls for PSSs and fencing of DSSs;
 - (N-1) contingency for PTRs and incomer at 33kV level in existing PSS;
 - Smart metering of 33kV & 11kV feeders, PTRs, DTRs, Govt & non-Govt. establishments & 3 phase consumers etc;
 - Provision of protection for 33kV & 11kV overhead lines & UG cable, PTRs & DTRs (primary & secondary side);
 - Improvement in earthing in PSS & DSS;
 - Length (in ckt.km.) of overhead line converted and proposed to be converted to ABC in future.

32. Accordingly, the case is disposed of.

Sd/-
(S. K. Ray Mohapatra)
Member

Sd/-
(G. Mohapatra)
Member

Sd/-
(S. C. Mahapatra)
Chairperson