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

Present: Shri G. Mohapatra, Officiating Chairperson
Shri S. K. Ray Mohapatra, Member

Case No. 101/2023

M/s. TPWODL …… Petitioner
Vrs.
DoE, GoO& Others …..... Respondents

In the matter of: **Application for approval of Capital Investment Plan for FY 2024-25 and FY 2025-26 in the licensed area of TP Western Odisha Distribution Limited in compliance to the directions of the Commission in the vesting order passed in Case No. 82 of 2020 as well as the OERC (Terms and Conditions for determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022.**

For Petitioner: Shri Gajanan Kale, CEO, TPWODL, Shri K. C. Nanda, GM (RA & Strategy), TPWODL.

For Respondents: Ms. Sonali Pattnaik, Manager (Legal), Dept. of Energy, Government of Odisha; Shri B.C. Padihary, GM(Finance), GRIDCO Ltd. and Shri Subhashis Samantaray, DGM (Electrical), RT & C, OPTCL. Non-appears on behalf of Shri Ananda Kumar Mohapatra.

ORDER

Date of Hearing: 28.11.2023 **Date of Order: 12.12.2023**

The TP Western Odisha Distribution Limited (TPWODL), the Petitioner, has submitted an application for approval of Capital Expenditure (Capex) of Rs. 571.97 Cr. for FY 2024-25 and Rs 403.13 Cr for FY 2025-26 along with approval of Board of Directors (BoDs) in compliance to the directions of the Commission at para 39 in the vesting order passed in Case No. 82 of 2020 as well as the OERC (Terms and Conditions for determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022 for network strengthening, improvement in power supply quality & reliability, meeting load growth, reducing the losses and for taking up safety & statutory activities in its area of operation.

2. The petitioner TPWODL has stated that its licensed area is spread over 48,373 sq.km and serves a registered consumer base of more than 21 lakhs. TPWODL procures power from GRIDCO through Odisha Power Transmission Corporation Limited (OPTCL)'s 220/132/33 kV grid sub-stations at sub transmission voltage level of 33 kV and then

distributes the power at 33 kV/ 11 kV/ 440 V/ 230V depending on the demand of the consumers. The operation area, consumer base, no. of Circles, divisions etc. are as given in the Table below:

Table-1

Sl. No.	Particulars	Unit	Details (as on 30-Sep-23)
1.	Area	Sq. km	48,373
2.	Consumers	No.	20,888,25
3.	Circles	No.	5
4.	Divisions	No.	17
5.	Sub-divisions	No.	57
6.	Sections	No.	201

3. As per Vesting Order TPWODL has to seek the approval of the Capital Expenditure Plan in line with 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. 1,663 crores (Indian Rupee One Thousand Six Hundred and Sixty Three crore) only for period FY 2022 to FY 2026 as follows:

Table 1: TPCL Capital Expenditure Commitment

FY 2021-22	***FY 2022-23***	***FY 2023-24***	***FY 2024-25***	***FY 2025-26***	***Total***
306	*500*	*333*	*322*	*202*	*1663*

(Value in Rs. crore)

(c) To allow flexibility in the capital expenditure planning, the Commission stipulates that, in the capital expenditure plan to be submitted by TPWODL as per the license conditions, the capital expenditure commitment for each year of the period FY 2022 to FY 2026 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 TPWODL for the period FY 2022 to FY 2026 must be as provided in the table below:

Table 2: TPWODL Cumulative Capital Expenditure for 5 years

(Value in Rs. crore)

Up to 31-Mar-2022	*Up to 31-Mar-2023*	*Up to 31-Mar-2024*	*Up to 31-Mar-2025*	*Up to 31-Mar-2026*
306	*806*	*1,139*	*1,461*	*1,663*

(d) TPWODL would be required to seek the Commission's approval on the detailed capital expenditure plan in line with the regulations. TPWODL 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."

4. 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 for approval of the Commission. The relevant extracts of the said 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.

3.2.3 The Distribution Licensee shall be required to ensure optimum investments to enhance efficiency, productivity and meet performance standards prescribed by the Commission and strictly adhering to the approved annual Capital Expenditure plan as per provisions of the Vesting Order.

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.

3.2.7 The Capital Investment Plan shall be a least cost plan for undertaking investments and shall cover all capital expenditure projects of proposed investment schemes or such other amount as may be stipulated by the Commission from time to time and shall be in such form as may be stipulated.

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.

3.2.9 The Commission shall consider the Capital Investment Plan taking into consideration the prudence of the proposed expenditure and its estimated impact. The Capital Expenditure Plan must be accompanied with approval from the Board of Directors (BoD).

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.

3.2.12 In addition to the approved capital investment plan, the Distribution Licensee can seek provision for additional capital expenditure anytime during the year to meet natural calamities involving substantial investments. The Commission shall examine and if satisfied shall approve the corresponding costs for inclusion in revenue requirement in the next period."

5. 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 TPWODL wishes to avail funding under such scheme, an agreement shall be signed between GoO/ GRIDCO/ OPTCL and TPWODL 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.

....."

6. Accordingly, in line with the above provisions, TPWODL has submitted the DPR with Capex proposal to the tune of Rs.571.97 Cr. for FY 2024-25 and Rs. 403.13 Cr. for FY 2025-26 on 27-10-2023 in line with the approval of BoD for the FY 2024-25 & FY 2025-26 respectively.

7. The public notice was issued on 02.11.2023 inviting suggestions/objections to the Capex Plan for FY 2024-25 of the DISCOMs which were to be filed on or before 18.11.2023. The public hearing on the matter was held on 28.11.2023. The Commission during hearing heard the Petitioner-TPWODL and the stakeholders namely OPTCL, GRIDCO, SLDC and DoE, GoO.

8. The Commission observes that for the earlier years, TPWODL had proposed Capex of Rs.462.42 Crore for FY 2021-22, Rs.582.18 Crore for FY 2022-23 and Rs 398.84 Cr for FY 2023-24 whereas the Commission had approved Capex of Rs 333.13 Cr for FY 2021-22, Rs.477.72 Crore for FY 2022-23 and Rs 381.91 Crore for FY 2023-24. The following table summarizes the committed Capex as per vesting order, Capex proposal submitted by the TPWODL, capex approved by the Commission and assets capitalized till FY 2023-24:

Table-2 **Rs. in Crore**

Sl. No.	Major Category	Capex as per Vesting Order	Capex Approved by Commission	Actual Capex till 30.09.2023	Capitalised till 30.09.2023	Balance to be Capitalised
FY 2021-22						
1	Statutory & Safety	306	98.48	95.88	91.14	4.74
2	Loss Reduction		42.48	40.79	38.74	2.05
3	Reliability		48.91	40.26	37.12	3.14
4	Load Growth		39.71	36.32	32.55	3.77

5	Technology & Infrastructure		103.55	102.94	102.04	0.9
	Total	**306**	**333.13**	**316.19**	**301.59**	**14.6**
FY 2022-23						
1	Statutory & Safety	500	52.4	44.44	37.02	7.42
2	Loss Reduction		46.8	31.61	24.25	7.36
3	Reliability		118.34	81.01	54.92	26.09
4	Load Growth		145.57	90.7	74.64	16.06
5	Technology & Infrastructure		114.61	75.83	67.95	7.88
	Total	**500**	**477.72**	**323.59**	**258.78**	**64.81**
FY 2023-24						
1	Statutory & Safety	333	34.12	4.22	2.56	1.66
2	Loss Reduction		59	9.29	0.34	8.95
3	Reliability		69.48	2.25	0.09	2.16
4	Load Growth		67.82	7.55	0.9	6.65
5	Technology & Infrastructure		151.49	6.06	3.2	2.86
	Total	**333**	**381.91**	**29.37**	**7.09**	**22.28**
Cumulative Capex till 30.09.2024						
1	Statutory & Safety	1139	185	144.54	130.72	13.82
2	Loss Reduction		148.28	81.69	63.33	18.36
3	Reliability		236.73	123.52	92.13	31.39
4	Load Growth		253.1	134.57	108.09	26.48
5	Technology & Infrastructure		369.65	184.83	173.19	11.64
	Total	**1139**	**1192.76**	**669.15**	**567.46**	**101.69**

9. It is observed that the TPWODL has submitted a Capex proposal of Rs 571.97 Crore for the FY 2024-25 and Rs 403.13 Crore for the FY 2025-26 on 27.10.2023. The detailed submission of the Capex proposal against various activities for the FY 2024-25 and FY 2025-26 is summarized below:

Table-3 **(Rs in Crore)**

Sl. No	Capex Head	Activity	Capex proposed for FY 2024-25	Capex proposed for FY 2025-26
1	Statutory, Safety and Security	i) Life enhancement of network and maintaining safe horizontal / vertical clearances	9.74	8.98
		ii) Provision of Testing Equipment & PPEs to workforce	11.2	9.2

		iii) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation	30.59	30.11
	Sub Total- Statutory, Safety and Security		**51.53**	**48.29**
2	Loss Reduction	i) Energy Audit & Meter related activity	43.68	37.12
		ii) Replacement of LT Bare conductor with AB cable	10.93	10
	Sub Total-Loss Reduction		**54.61**	**47.12**
3	Reliability	i) Replacement/Addition of network component in 33/11KV Primary Substation.	28.58	18.76
		ii) Replacement/Addition of network component in 33KV & 11KV Line.	114.55	92.18
		iii) Replacement/ Addition of network component in Distribution Substation.	12.97	8.59
	Sub Total-Reliability		**156.1**	**119.53**
4	Load Growth	i) Network enhancement / Unforeseen emergency.	218.27	124.95
	Sub Total- Load Growth		**218.27**	**124.95**
5A	IT Infrastructure	i) Technology Intervention-IT & Technology.	16.63	6.44
	SubTotal- IT Infrastructure		**16.63**	**6.44**
5B	OT Infrastructure	ii) Technology Intervention- GIS, Communication & Others Implementation.	18	8.5
	Sub-Total- OT Infrastructure		**18**	**8.5**
5C	Civil, Admin and Other Infrastructure	iii) Improvement of Civil Infrastructure	47	45
		iv) store infrastructure	6.41	3.3
		v) Ready to Use assets for Offices	3.42	0
	Sub Total- Civil & Admin Infrastructure		56.83	48.3
	Sub Total-Technology & Infrastructure 5A+5B+5C		91.46	63.24
	Grand Total		**571.97**	**403.13**

10. TPWODL receives power from 49 nos. of GSS and energy accounting is made by GRIDCO/OPTCL through 192 nos. of metering points. Further, TPWODL distributes power at 33 kV/ 11 kV/ 440 V/ 230 V depending on the demand of consumers. HT consumers are connected at 11KV level and other LT customers connected to 11/0.415KV distribution substation either as three phase or single-phase consumers. The snapshot of distribution infrastructure is given in Table below:

Table-4

Sl. No.	Particulars	Unit	Details (as on 31-Mar-23)	Details (as on 30-Sep-23)
1.	33/11 kV sub-stations	No.	307	313
2.	33 KV feeders	No.	184	192
3.	11 kV feeder	No.	1160	1177
4.	33/11 kV PTR	No.	684	689
5.	33/11kV PTR transformation capacity	MVA	3483	3542
6.	11/0.415 kV DTR	No.	75485	76797
7.	11/0.415 kV DTR transformation Capacity	MVA	3686	3768
8.	33 kV OH & UG Line	Ckt. km.	5358	5618
9.	11 kV OH & UG Line	Ckt. km.	50249	50614
10.	LT Bare & ABC Line	Ckt. km.	65141	65714
11.	No. of GSS feeding 220/33 kV & 132/33 kV TPWODL operating area	No.	41	43

11. TPWODL has submitted that the network conditions in different areas have different challenges related to safety of employees, public and animals and equipment. It needs urgent attention to strengthen network and make network safe, reliable and statutory complaint. Most of the network are very old and laid on 8 Mtrs / 9 Mtrs poles with lengthy span. As per construction practice, $1/6^{th}$ of the total pole length is erected below the ground and thus only available length is approx. 7.5 Mtrs above ground. Considering the fittings and accessories installation, there is hardly any room to account for increased sag or rise in road level. To further worsen the problem; the span length varies from 60-120 Mtrs and more span length causes high sag. In WESCO licensed areas, there are many locations, which are not complying with the statutory safety guidelines and hence require huge funds and efforts to make the network safe. At some places, due to re-construction of the roads, vertical clearances of the lines have reduced to the dangerous level causing violation of statutory safety norms. TPWODL proposed to take up installation of mid pole, refurbishment/life enhancement work for lines to rectify all such defects. Since the number of such locations are high, huge investment spread across few years would be required to rectify all the deficiencies.

12. TPWODL has submitted that due to vast widespread network and absence of Capex in past, the existing network has become very weak due to ageing and resulting in repeated tripping. Major element for weak network, includes damaged pole, worn out conductors,

and damaged stay wires. At some locations, poles or support structure are damaged, rusted or tilted. Main factors causing damage to the poles include structural deterioration of poles, flood, Kalbaisakhi, heavy vegetation etc. Tilting of poles has resulted in increase in conductor sag and if replacement /refurbishment of the tilted or broken pole is not done, mechanical strength of the line will reduce and may result into falling of line during high-speed winds / storms. Falling of line can cause fatal accident and is also a major concern for ensuring reliable power supply to the consumers as restoration may take many days depending upon the location and severity of damage to the line. To prevent tilting of any pole from its normal position due to abnormal wind pressure, installation of Stay wire is required. At many places egg (stay/guy) insulators are either missing or damaged, which may cause major safety concern for Public and animals. The other reasons, which have resulted into depletion of existing network such as use of under sized conductor in overhead feeders, poor condition of the conductor, multiple joints in a single span in many sections, poor binding wire joints etc. witnessed in the sections causing hotspot and may result into jumper parting. TPWODL has further submitted that under the refurbishment/life enhancement activity TPWODL has planned to replace damaged poles, replacement of worn-out conductor, re-sagging of the conductor, installation of mid-span pole, introduction of stay-wire at start, end and at every H- pole with at least two stays together.

13. Further TPWODL has submitted that in an electrical installation, according to rule 42, installation with connected load of above 5 kW, and voltage exceeding 250 V shall have a suitable earth leakage protective device to isolate the load in case of earth fault or leakage in the circuit. In case the earthing of any power equipment or network becomes weak or defective due to corroded connections or damaged connection, clearance of fault may take more time and putting stress on the equipment connected in the network. During TPWODL site visits, it was observed that at most of the places, proper earthing was not evident and at some of the 33/11kV primary substation, earthing is not adequate. This situation is dangerous for the stability of power system and there are chances of electric shock to the human beings and animals. TPWODL has proposed capex to strengthen the earthing system which will enhance life not only of equipment but shall also help in proper functioning of protection relays.

14. TPWODL has stated that at present, most of the network is overhead and there is no provision of guard or cradle wire installed beneath the overhead conductors which pose serious safety threat to the public since the network is in dilapidated condition and

possibility of conductor parting cannot be ruled out. In such a scenario, cradle guard will help in avoiding accidents caused by snapping of conductors of overhead MV feeders. TPWODL proposes to put in place the cradle wire/guard wire on National Highway and State Highway crossings near school, college, Hospitals and market area.

15. TPWODL has stated that the human beings and animals are exposed to the live power distribution equipment due to the absence of boundary walls and fencing around the Primary Substation and Distribution Substations, due to this the human beings and animals may come in direct contact or in the arching zone of high voltage equipment and there are high chances of entry of unauthorized persons or animals in high voltage switchyards. There are reports regarding electrocution of human beings and animals at substations in the past, therefore, TPWODL has proposed to put up fencing/build boundary wall for DSS and PSS refurbishment.

16. Further, TPWODL has stated that many PSS do not have adequate protection system as many feeders are running on group breaker, many PTRs and feeders are in use without breaker. Battery and Battery charges are not operational and needs immediate replacement at various PSS.

17. TPWODL has stated that the existing infrastructure are old and needs upgradation to provide hygienic, well-ventilated and spacious work environment to accommodate additional new and old employees. These office locations are touch base points between end consumers and utility. Hence aesthetic along with safety of each stakeholders needs to be focused.

18. TPWODL has stated that the present network consists of 645 nos. of 33 kV tower. Most of these towers are more than 50 years old and crossing rivers, forest & serving critical load requirement of Rourkela, Sambalpur & other areas. Corporate civil design team were engaged to inspect foundation of these towers. TPWODL in FY 2024-25 & FY 2025-26 has considered tower replacement in Joda-Tensa 33 KV line. The 136 nos. of towers on Joda-Tensa circuits are rusted & require repair and strengthening.

19. TPWODL has submitted that apart from high number of Accidents, other major problem is high number of DT failure and extremely high number of interruptions at 33 kV and 11 kV level due to poor network conditions. This affects the supply system very badly.

20. TPWODL has submitted that over the period of operations of PTRs, based on the various conditions, there are instances of failures which are attributable to multiple reasons. Some of these include overloading due to growth demand, insufficient

protection schemes, multiple fault feedings on distribution network, ageing of the transformers leading to natural deterioration of the winding insulation. TPWODL has taken prudent steps to ensure that external factors leading to these failures are arrested and eradicated. These include upgrading the protection schemes by having the latest numerical relays, ensuring coordinated tripping based on the fault, proactive replacement of protective elements like lightning arrestors across 33kV and 11 kV system and proactive steps of off-line testing of the equipment to have data and future trending to see the deterioration over time if any. TPWODL further submitted that above-mentioned measures will help in ensuring a healthy and reliable system in the future but factors owing to ageing and load augmentation still needs to be addressed. There is requirement of installing additional PTRs of suitable rating, this will ensure system reliability through the (n-1) philosophy and availability of spare capacity. The factors for failure of PTRs are attributable to multiple reasons as mentioned below;

- **Ageing**-One of the most important reasons for failure of PTR is due to the natural ageing. Many of the PTRs in TPWODL system have been in service for more than 25 years and have served their useful life. Considering the overall cost benefit and incremental losses from these aged transformers, it becomes worthwhile to procure new transformers to replace the aged asset. This will help in improving the reliability and reduction in the losses.

- **Repaired PTRs**- TPWODL during their field verification & system reliability inspection observed that many PTRs are already rewound multiple times after failure in the past. The failure rate in such rewound / repaired PTRs are high. Additionally, rewinding doesn't guarantee the same losses and the overall efficiency of the transformer is also reduced (which is much lesser than a newly designed transformer). Considering the deterioration of winding insulation of these repaired transformers and combined with external factors like overloading and system conditions, such PTRs are more prone to failure.

- **Over loading**- With increase in the load demand, many of the PTRs are reaching or exceeding the rated capacity. This phenomenon is further aggravated with the use of ageing asset leading to an increase in the failure. Multiple schemes proposed by the Government ensures addition of distribution transformers (DTR) across the system. These ultimately is fed through the existing PTRs which would have reached the load limit.

- **Deteriorating** testing parameters-During testing of PTRs, it is observed that some of the PTRs test results indicate deteriorating winding insulation and high core loss. It is recommended to replace such PTRs in a planned and phased manner in order to avoid loss of supply to consumers.

21. TPWODL has submitted that the Capex investment Plan is made on the basis of Load flow studies. TPWODL has completed the load flow studies for 33KV & 11KV network after modelling the existing SLDs received from sites in CYMDIST Software and have prioritized the proposals on the basis of load flow studies. Load flow studies consists of 33KV feeder loading report, PTR Loading Report,11KV feeder loading Report, DT Loading Report, Abnormalities observed in 33KV & 11KV Feeders, sections. Load Flow studies is also used to calculate the technical loss in the 33KV & 11KV network. Load flow studies is done on existing network, Base-2 (Existing network with Approved scheme after considering Load growth).

22. Similar to the methodology adopted in Capex plan for previous years, TPWODL has submitted Capex Plan for FY 2024-25 and FY 2025-26 under five major categories. The details of the matter are described as follows:

A. Statutory, Safety and Security

a) Life enhancement of network and maintaining safe horizontal / vertical clearances:

TPWODL has proposed for proper upkeep of the feeders, it is important to ensure safety and reliability of power supply. During the site visits conducted by TPWODL, it was observed that most of the 33kV / 11kV / LT infrastructures are in deteriorating condition and posing safety threat to human beings and animals. Most of the feeders have binding wire / multiple joints. As a result, there are possibility of snapping of conductors and electrocution of human beings / animals since cradle guards have not been provided. Moreover, over sagged wires in 33 kV or 11 kV feeders are posing major threat to the lives of human beings and animals. At some places, due to re-construction / widening of roads, safe vertical/horizontal clearances of the overhead lines have been reduced. This is not only causing violation of statutory safety guidelines but also increasing the chances of accidents. To ensure safety and reliable power supply to end consumers, TPWODL has proposed intermediate Pole to increase height for 11 kV and 33 kV sagging line at National Highway, SH & River Crossing with Guarding on 16 Mtr Pole and Replacement of Open Conductor with Covered Conductor inside forest,

city and high-density public area. In view of the above, TPWODL has proposed 1395 nos. of Intermediate Pole at an estimated cost of Rs 5.75 Cr for the FY 2024-25 and 1180 nos. of poles at an estimated cost of Rs 5.01 Cr for FY 2025-26, 26 nos. of Guarding Pole for National highway and River crossing each year at an estimated cost of Rs 1.98 Cr for the FY 2024-25 and Rs 2Cr for FY 2025-26, 8.3 Ckt Km for conversion of open conductor with covered conductor at an estimated cost of Rs 2.02 Cr for FY 2024-25 and Rs 2 Cr for FY 2025-26.

Accordingly, TPWODL has proposed a sum of Rs 9.74 Cr for FY 2024-25 and Rs 8.98 Cr for FY 2025-26 for Life enhancement of network and maintaining safe horizontal / vertical clearances.

b) Provision of Safety Equipment & Testing PPEs to workforce:

TPWODL has proposed Capex for Safety Equipment &Testing Personal Protection Equipment (PPEs) for workforce. According to TPWODL, required PPEs were not available and they have purchased and supplied necessary PPE on urgent basis to all of its field employees, the cost of which was either covered in the Capex or Opex (for BA supplied PPEs). According to TPWODL, the most challenging task is creating awareness among work force for proper utilization of existing PPE. Similarly, the desired testing instruments / tools are not available resulting sever incidences. TPWODL has proposed Electrical protection to the various systems through the action of protective relays which senses the fault and ensures operation of the circuit breakers which in turn help in preventing untoward failures. Utilities are moving ahead from electromechanical relays and static relays to the new state of the art numerical relays. These numerical relays provide all the requisite protection and help in timely isolation of faults. TPWODL has proposed to procure an additional set of testing instruments, which can cater to faster adherence to the testing schedule and prevent pre-mature failures. In view of the above TPWODL has proposed FDS kit, Online moisture removal, Lightning Protector for PSS, Automated HV capacitance & Tan delta kit, 400 Amp Clamp cum multi-meter, HV power cable testing van for an amount of Rs 6.28 Cr FY 2024-25 and Rs 5.00 Cr for FY 2025-26. Under Safety equipment TPWODL has proposed discharge rod, Neon tester, Virtual reality for switchyard operation and safety training etc for an amount of Rs 4.92 Cr for FY 2024-25 and Rs 4.2 Cr for FY 2025-26.

Accordingly, TPWODL has proposed a sum of Rs 11.2 Cr for FY 2024-25 and Rs 9.2 Cr for FY 2025-26 for Provision of Safety Equipment & Testing PPEs to workforce.

c) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation:

TPWODL has additionally proposed capex for Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation. TPWODL has stated that fencing at most of the places are either damaged or not available, posing major safety threat to public and animals. At many 33/11 KV primary substations (Structures or PSS), boundary walls are observed broken and there is no fencing between the substation premises and 33KV outdoor switchyard. This makes the PSS highly unsafe, there are chances of unauthorized entry of persons and animals into the live switchyard and can cause undue accident / incident. TPWODL has submitted that the existing earthing system is in very bad condition and ineffective. In view of the above TPWODL has proposed Fencing & graveling of DSS for an amount of Rs 8.5 Cr each for the FY 2024-25 & FY 2025-26, construction of 66 Nos of Boundary wall for PSS at an estimated cost of 9.00 Cr each for the FY 2024-25 & FY 2025-26, 60 nos. of PCC & gravel filling for PSS including cable trench at Rs 4.5 Cr each for the FY 2024-25 & FY 2025-26, 60 nos. of Access road inside and Outside PSS at Rs 3.00 Cr each for the FY 2024-25 & FY 2025-26, 30 Nos of water supply for PSS/offices at Rs 1.00 Cr each for the FY 2024-25 & FY 2025-26.

Accordingly, TPWODL has proposed a sum of Rs 30.59 Cr for FY 2024-25 and Rs 30.11 Cr for FY 2025-26 for Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation.

The Capex proposed by TPWODL for FY 2024-25 and FY 2025-26 under Statutory, Safety and Security is summarized as under:

Table 5

Capex Head	Activity	Capex proposed FY 2024-25(Rs.Cr)	Capex proposed FY 2025-26 (Rs.Cr)
Statutory, Safety and Security	i) Life enhancement of network and maintaining safe horizontal / vertical clearances	9.74	8.98

	ii) Provision of Testing Equipment & PPEs to workforce	11.2	9.2
	iii) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation	30.59	30.11
Sub Total- Statutory, Safety and Security		**51.53**	**48.29**

B. Loss Reduction

TPWODL has submitted that during their site inspections observed, missing energy meters at consumer's premises, non- functional energy meters comprising of obsolete technology-based and many energy meters are burnt, rusted and faulty. Further submitted that the above issues are resulting into reduction in billing efficiency, high AT&C losses and has caused increase in making provisional billing, defective bills and substantial consumer complaints leading to customer dissatisfaction. TPWODL has submitted that errors in bills leads to non-payment of bills and thus hampers the collection efficiency.

TPWODL has submitted that current AT&C loss is 18%. To reduce the techno-commercial losses, they have planned to take up number of measures like Energy Audit, resolve meter related issues, and replacement of LT bare conductor with AB cable.

a) Energy Audit & Meter related activity:

TPWODL has proposed the following activities under Energy Audit and Meter related activity for FY 2024-25 and FY 2025-26;

- Installation of 1Ph Smart Meter (Services) excluding the Meter Cost at an estimated cost of Rs 12.00 Cr each for FY 2024-25 and FY 2025-26.
- Installation of LI connections with Smart Meter (Services) excluding the Meter Cost at an estimated cost of Rs 5.00 Cr for FY 2024-25 and Rs 2.50 Cr FY 2025-26.
- Installation of Smart Meters in place of Defective/faulty meters (BLE) (Services) excluding the Meter Cost at an estimated cost of Rs 8.00 Cr each for FY 2024-25 and FY 2025-26.
- Installation of CT PT MC MU & Testing at an estimated cost of Rs 12.00 Cr each for FY 2024-25 and FY 2025-26.
- Installation of Metering Unit, Meters and Modems at PSS Boundary Points at an estimated cost of Rs 1.80 Cr for FY 2024-25 and Rs 1.00 Cr FY 2025-26.

- DTR Smart Metering 100KVA & above at an estimated cost of Rs 3.00 Cr for FY 2024-25.
- High Value Industrial Audit Point Metering & HT-LT check Metering at an estimated cost of Rs 1.00 Cr for FY 2024-25.
- Printer and associated equipment's for Spot Billing at an estimated cost of Rs 0.88 Cr for FY 2024-25 and Rs 1.62 Cr FY 2025-26.

In view of the above TPWODL has proposed 3 lakh nos. for FY 2024-25 and 2.79 lakh nos. for FY 2025-26 for installation of 1 Ph smart meter, LI connection(3-Ph) and smart meters, TPWODL proposed 500 nos. each for FY 2024-25 and 2025-26 for installation of CT PT MC MU at a cost of Rs 10.00 Cr each for the FY 2024-25 & Rs FY 2025-26, 5000 nos. each for FY 2024-25 and FY 2025-26 for installation of Testing services at a cost of Rs 2.00 Cr each for the FY 2024-25 & FY 2025-26.

Accordingly, TPWODL has proposed a sum of Rs 43.68 Cr for FY 2024-25 and Rs 37.12 Cr for FY 2025-26 for Energy Audit & Meter related activity.

b) Replacement of LT Bare conductor with AB cable:

TPWODL has further proposed Capex towards replacement of LT bare conductor with AB cable. As per TPWODL, most of the LT feeders are connected radially and have long length by typical standards and having number of joints in the feeder. The long length of the feeders and joints are the potential source of technical losses and causing poor voltage regulation in the network. In addition, bare LT line is prone to connect the electricity supply in unauthorized manner, which increases the commercial losses. Conversion of bare conductor with LT ABC will help reduce the commercial losses. Therefore, it is proposed to replace LT bear with LT ABC in theft prone area.

TPWODL has submitted the benefits of replacement of LT Bare conductor with AB cable which are follows;

- Reliable Power supply to the Consumers since bare conductor will get converted into insulated cable.
- Comparatively safer than the LT Bare conductor and eliminate the element of risk if comes in proximity.

- Simpler installation, as crossbars and insulators are not required.
- Suitable for congested lanes as well.
- Electricity theft is becoming hard as hooking would not be possible.
- Less required maintenance and necessary inspections of lines.

TPWODL has further submitted that to improve the safety factor, minimize the safety accident risk, reduce the chances of fault & strengthen existing 415V network, it is suggested for replacement of overhead bare conductors with new aerial bundled cables. This in turn will help in providing reliable power supply for all consumers & stakeholders. In view of the above TPWODL has proposed 121 Ckt.Km at an estimated cost of Rs 10.93 Cr for FY 2024-25 and 107 Ckt.Km. at an estimated cost of Rs 9.99 Cr for FY 2025-26.

Accordingly, TPWODL has proposed a sum of Rs 10.93 Cr for FY 2024-25 and Rs 10 Cr for FY 2025-26 for Replacement of LT Bare conductor with AB cable.

The summarized Capex proposed by TPWODL for FY 2024-25 and FY 2025-26 under the head Statutory, Safety and Security is as under;

Table-6

Sl. No	Capex Head	Activity	Capex proposed for 2024-25 (Rs.Cr)	Capex Proposed for 2025-26 (Rs.Cr)
2	Loss Reduction	i) Energy Audit & Meter related activity	43.68	37.12
		ii) Replacement of LT Bare conductor with AB cable	10.93	10
	Sub Total-Loss Reduction		**54.61**	**47.12**

C. Network Reliability:

TPWODL has submitted that in its geographical area there are large numbers of long overhead lines/feeders which are in operation with an average length of 30 KMs in urban and110KMs in rural areas. The present power distribution network is in extremely dilapidated condition resulting into frequent trippings and as a result, consumers are not getting reliable and quality power supply. TPWODL has submitted that PTRs of various capacities are installed in the TPWODL system due to these old types of PSS, TPWODL are facing issues like absence of incoming line breakers, absence of L.A, CT, PT and AB Switches, absence of primary and secondary breakers of power transformer, Absence of protection relays and non- functional battery and battery charge. Further TPWODL has

proposed to ensure highest reliability, few 33/11KV substations should have more than one source of power supply along with desired protection and equipment. TPWODL intends to implement the following actions to improve the reliability of power supply:

- Identification and replacement of faulty equipment causing frequent tripping's.
- Identification and commissioning of new equipment which are required as per industry standard.
- Introduction of technology to ensure faster restoration of supply in case of any tripping.

a) Replacement/Addition of network component in 33/11KV Primary Substation:

TPWODL has submitted that the Protection philosophy has improved over the years with technological advancements. TPWODL is moving ahead from electromechanical relays and static relays to the new state of the art numerical relays. These numerical relays provide all the requisite protection and help in timely isolation of faults. TPWODL has been upgrading the protection system by replacing the erstwhile electromechanical relays and static relays with the numerical relays. The replacement will have the following advantages.

- **Increased Reliability-**TPWODL has submitted that new relays will provide enough scope to ensure that relay coordination can be achieved across the power system. The use of these relays will help in reducing the interruptions caused due to uncoordinated tripping thereby helping in improving the reliability indices of the organisation.

- **Fault Analysis-** TPWODL has submitted that the numerical relays have an inbuilt function of having Fault Disturbance Recorders (FDRs) which help in capturing, storing and retrieving of critical data during fault conditions. These data help the utility to carry out root cause analysis and take preventive actions as and when required.

TPWODL has accordingly proposed for PSS Modernization, Installation of 11kV breaker/ Group Breaker to make it suitable for SCADA operation, Installation of 33kV breaker/ Group Breaker to make it suitable for SCADA operation, Feeder protection-OC Relay & Control, Replacement of Indoor Switchgear Panels along with associated equipment, Implementation of Automation/Scada etc under the head Replacement/Addition of network component in 33/11KV Primary Substation.

In view of the above TPWODL has proposed PSS modernization, installation of 11 KV breaker /group breaker for SCADA operation, installation of 33KV breaker//group breaker for SCADA operation, feeder protection OC & BCPU, replacement of switchgear panels, implementation of automation/SCADA, solar rooftop for office building etc. at an estimated cost of Rs 28.58 Cr for FY 2024-25 and at an estimated cost of Rs 18.76 Cr for FY 2025-26

Accordingly, TPWODL has proposed a sum of Rs 28.58 Cr for FY 2024-25 and Rs 18.76 Cr for FY 2025-26 for Replacement/ Addition of network component in 33/11KV Primary Substation.

b) Replacement/Addition of network component in 33KV & 11KV Line:

TPWODL has submitted that in the present network scenario majority of 11KV & 33KV networks are overhead in nature and the average feeder length is more than 80 KMs. Many O/H feeders are passing through forest area and most of the faults that occur are on overhead lines, transient faults are caused mainly by lightning and tree branches touching the live line conductor. TPWODL has proposed different activities to strengthen the 33KV & 11KV line such as Refurbishment/ Augmentation of old 11KV line, Refurbishment/ Augmentation of old 33 KV line, Installation of 11kV & 33 KV FPI, Installation of 11KV & 33 KV 400A/200A AB switches & isolator, Installation of 33kV & 11 KV RMU,33kV & 11kV Auto Recloser & Sectionalizers.

TPWODL has proposed to introduce communicable type Fault Passage Indicator, Auto-recloser & Sectionalizers with auto-reclosers and sectionalizers in 11KV feeders, field engineers would have flexibility to isolate the section locally instead of switching off entire feeder. In case of any tripping, maintenance engineer can isolate the faulty section and restore the supply of remaining consumers thereby improving the reliability and consumer will experience less power cut and thus reduction in consumer complaint.

Moreover, it is observed that multiple 11KV feeders are controlled through single 11KV breaker or AB switch in some primary substation. TPWODL propose to install AB switches and isolators identified in high tripping feeders. Similarly, in rural section, AB switches are proposed at lengthy 33KV & 11KV Feeders to have

provision of isolation of section during any outages. This will help in improving the reliability.

In view of the above TPWODL has proposed refurbishment /augmentation of old 11 KV line of 169.2 Ckt.KM for FY 2024-25 at an estimated cost of Rs 19.60 Cr and 107.8 Ckt.KM for FY 2025-26 at an estimated cost of Rs 13.06 Cr, refurbishment /augmentation of old 33 KV line of 152 Ckt.KM for FY 2024-25 at an estimated cost of Rs 30.00 Cr and 137.1 Ckt.KM for FY 2025-26 at an estimated cost of Rs 28.31 Cr, 100 nos. of new tower addition /replacement with replacement of 48Ckt.Km of conductor (Joda Tensa) at an estimated cost of Rs 29.06 Cr. Further TPWODL has proposed installation of 11KV & 33KV FPI/High voltage o/h, RLSU, 33KV & 11KV polymer insulator, Railway crossing u/g cable and auto reclosure & sectionalizers.

Accordingly, TPWODL has proposed a sum of Rs 114.55 Cr for FY 2024-25 and Rs 92.18 Cr for FY 2025-26 for Replacement/Addition of network component in 33KV & 11KV Line.

c) Replacement/Addition of network component in Distribution Substation:

TPWODL has further proposed capex towards replacement/ addition of network component in Distribution Substation (DSS). Most of the DSS protection and control are not operating properly. As a result, fault in any one LT circuit resulting into tripping of DT incoming 11KV feeder. Also, while carrying out maintenance or replacing the LT circuit blown fuses the operator needs to take hand trip of entire 11KV feeder from PSS. Thus, above circumstances are affecting the supply of all customers connected on the same grid. In addition to that, various equipments associated in the DSS is either not maintained or technology is obsolete, which needs to be replaced at the earliest.

TPWODL has planned to strength the control and protection system at LT side at DSS level. Various initiatives proposed this year is to improve the reliability of power supply in 11KV and downstream network.

In view of the above TPWODL has submitted refurbishment of DSS, 100 KVA DSS- 160 nos. for FY 2024-25 at an estimated cost of Rs 4.03 Cr and 100 Nos for FY 2025-26 at an estimated cost of Rs 2.64 Cr, 250 KVA DSS 100 nos. for FY 2024-25 at an estimated cost of Rs 3.17 Cr and 100 Nos for FY 2025-26 at an

estimated cost of Rs 2.16 Cr. Further TPWODL has proposed refurbishment of DSS of 315KVA, 500KVA, 750KVA and 1000 KVA.

Accordingly, TPWODL has proposed a sum of Rs 12.97 Cr for FY 2024-25 and Rs 8.59 Cr for FY 2025-26 for Replacement/Addition of network component in Distribution Substation.

The summarized Capex proposed by TPWODL for FY 2023-24 under the head Network Reliability is as under:

Table-7

Sl. No.	Capex Head	Activity	Capex proposed for 2024-25 (Rs.Cr)	Capex proposed for 2025-26 (Rs.Cr)
3	Network Reliability	i) Replacement/Addition of network component in 33/11KV Primary Substation.	28.57	18.76
		ii) Replacement/Addition of network component in 33KV & 11KV Line.	114.55	92.18
		iii) Replacement/ Addition of network component in Distribution Substation.	12.97	8.59
	Sub Total- Network Reliability		**156.09**	**119.53**

D. Load Growth:

TPWODL has proposed capex towards strengthening of network infrastructures in order to meet the 8.07% load growth trend for two years i.e 2024 to 2026.

Network enhancement / Unforeseen emergency:

TPWODL, while conducting site survey, has observed that most of 33/11KV Primary Sub-Stations are having single incoming 33KV source. With failure of single existing 33KV source, entire 33/11KV PSS gets shutdown thereby causing shutdown of all downstream 11KV & LT network connecting consumers.

Further TPWODL has submitted that HT consumers on 33KV and 11KV are being fed through tapping point instead of a dedicated feeder. Multiple HT consumers are fed through single incoming source of 33/11 kV PSS. In case of technical fault at one of the HT consumers leads to tripping of incoming source and other connected HT consumer and to overcome this issue, it is proposed to establish link line from alternative available source. At present 11 kV feeders are radial and do not have ring connectivity with another 11 kV feeder. As per (N-1) philosophy, it is proposed to establish ring connectivity between nearest 11 kV feeder in the vicinity and adjacent PSS 11 kV

feeder. Few such link lines will be established in first phase for some important feeders like Hospitals, town, commercial and key government establishments.

TPWODL has submitted that actual load demand has increased substantially more than the assessed one due to various government approved electrification schemes. To cater to the load growth it is essential to augment the existing infrastructure as per the need. TPWODL has further stated it is essential to have adequate capacity of DTs and PTs in the event of transfer of load from one grid to other. With said addition, there shall be improvement in voltage profile.

TPWODL in order to improve in voltage profile has proposed to add/augment DT's, PTR's, Bay, Lines and PSS considering the following criteria's:

1. Existing load of both adjacent connected grids.
2. Individual incoming line capacities.
3. Rating of PTR at each PSS.
4. Existing load at each PSS & DSS.
5. New sanctioned load at each PSS & DSS.
6. Future load growth.

In view of the above TPWODL has proposed construction of 33 KV new/link line of 249.94 Ckt.Km at an estimated cost of Rs 69.89 Cr for FY 2024-25 and 214.11 Ckt.Km. at an estimated cost of Rs 62.63 Cr for FY 2025-26, construction of 11kV Line of 150 Ckt.Km and 106.46 Ckt.Km for FY 2024-25 & FY 2025-26at an estimated cost of Rs 27.17 Cr and Rs 20.17 Cr respectively, Construction of new/renovation of 7 Nos of PSSs at an estimated cost of Rs 70 Cr for FY 2024-25. Further TPWODL has proposed for addition /augmentation/replacement of DTR, Mobile DT ,mini workshop, breaker & relay, unforeseen emergencies and additional new LT ABC network of 148.93 Km at an estimated cost of 15.99 Cr for FY 2024-25 and 136.46 Km at an estimated cost of 15.33 Cr for FY 2025-26 .

Accordingly, in order to strengthen the existing infrastructure to address the upcoming load demand, the Petitioner has proposed Capex of Rs. 218.27 Cr. for FY 2024-25 and Rs 124.95 Cr for FY 2025-26 against the various works covered under the Load Growth.

The summarized Capex proposed by TPWODL for FY 2024-25 and FY 2025-26 under the head Load growth is as under:

Table-8

Sl. No	Capex Head	Activity	Capex proposed for 2024-25 (Rs.Cr)	Capex proposed for 2025-26 (Rs.Cr)
4	Load Growth	i) Network enhancement / Unforeseen emergency.	218.27	124.95
	Sub Total- Load Growth		**218.27**	**124.95**

E. Technology and Civil Infrastructure:

TPWODL, under this activity, has proposed all expenditure related to technology adoption and strengthening of various offices and establishment of Call center, data center etc.

a) Technology Intervention-IT & Technology:

TPWODL has submitted that Information Technology in TPWODL commenced its journey in FY 22, the very first year of TPWODL, by initiating large scale computerization and digitalization efforts in the Company. For year 2021-2022, Rs 42.02 Cr was given under CAPEX for Information Technology by the Commission against seven schemes namely DC Hardware, Primary Data Centre, Call Centre & Customer Care Centre, DC Software & Licenses (ERP, MBC, DB, OS), Locational Network, Communication Network, Front -End Devices & End User Licenses. Information Technology vertical implemented all these schemes successfully and achieved 100% capitalization in FY 2022. Further in FY 2023, Commission had approved Rs. 48.19 Crores for Information Technology for implementation of schemes namely Data Centre at Sambalpur, Front end Devices and SW, DC Hardware, DC Software & Licenses, Locational Network, Optical Fiber Cabling which included hardware and software and IT Infrastructure for expansion and modernization of call center. TPWODL's Information Technology group has already initiated concrete steps towards 100% implementation of the approved schemes in FY 2023 and FY 2024.

In view of the above TPWODL has proposed for disaster recovery centre at an estimated cost of Rs 3.75 Cr for FY 2024-25 and 1.16 Cr for FY 2025-26, DC hardware & DC software & Licenses at an estimated cost of Rs 7.98 Cr for FY 2024-25 and 2.30 Cr for FY 2025-26, front end devices and end user IT infrastructure at an estimated cost of Rs 3.42 Cr for FY 2024-25 and 2.15 Cr for FY 2025-26 and Locational network strengthening at an estimated cost of Rs 1.48 Cr for FY 2024-25 and 0.83 Cr for FY 2025-26.

Accordingly, TPWODL has proposed a sum of Rs 16.63 Cr for FY 2024-25 and Rs 6.44 Cr for FY 2025-26for Technology Intervention-IT & Technology.

b) Technology Intervention- GIS, Communication & Others Implementation:

Operation Technology:

TPWODL has proposed in order to enhance the reliability, reduce losses, and optimize overall performance necessitates the effective implementation of advanced technologies. TPWODL is currently undergoing a significant technology transformation to elevate customer service quality and provide a safe, highly reliable, and improved quality power supply. TPWODL has proposed systematic investments in Operation Technology to integrate the latest advancements. Further TPWODL submitted that its notable achievements is the establishment of a 24/7 Operational Power System Control Centre (PSCC), along with the provision of mobile applications to all 33/11KV Primary Sub-Stations, enabling operational data collection, planned outage monitoring, and timely information dissemination to consumers. TPWODL takes a proactive approach in monitoring planned outages, ensuring that consumers receive information about outages in their area at least 48 hours prior. TPWODL has proposed key operational technology initiatives to encompass substation automation through Supervisory Control and Data Acquisition (SCADA), Consumer and asset mapping using the Geographical Information System (GIS), the integration of Communication Technology (ICT), and the development of the backend infrastructure for smart meters for FY 2024-25 and FY 2025-26.

In view of the above TPWODL has proposed under OT infrastructure for implementation of GIS at an estimated cost of Rs 2 Cr. each for FY 2024-25 and FY 2025-26, for communication infrastructure at an estimated cost of Rs 16 Cr for FY 2024-25 and Rs 6.50 Cr for FY 2025-26.

Accordingly, TPWODL has proposed a sum of Rs.18 Cr for FY 2024-25 and Rs 8.5 Cr for FY 2025-26 for Technology Intervention- GIS, Communication & Others Implementation.

c) Improvement of Civil Infrastructure;

TPWODL has proposed capex for improvement in civil infrastructure, TPWODL currently have offices in all the five circles and subdivisions. Some of them are owned and about 40% offices are on rented property. TPWODL is facing challenge while accommodating additional new employees in current office

buildings and infrastructure. The current existing infrastructure are old and needs modernization to provide hygienic, well-ventilated and spacious work environment and these office locations are touch base points between end consumers and utility. Hence, aesthetic along with safety of each stakeholders needs to be focused.

TPWODL has proposed capex for Fencing & Graveling of Distribution Substation ,Boundary Wall of Primary Substation , PCC & Gravel Filling for Primary Substation including Cable Trench, Access Road inside & Outside PSS, Construction/Renovation for Control Room/Building in PSS, Water Supply for PSS / Offices, Practice Yard, Additional Material Storage Platform & Road, Major Office Building (Canteen, Porch at IT Building, Auditorium at Sambalpur, Conference Room Four Circle, Gosala Dining, SE MRT at Rourkela & Bargarh Jharsuguda Etc , HoTT & Energy Meter Section in 5 Circle for Safety Training, Peripheral Development work of Offices and Furniture for New Building/ renovated old building etc.

Accordingly, TPWODL has proposed a sum of Rs 47.00 Cr for FY 2024-25 and Rs 45.00 Cr for FY 2025-26 for Ready to Use assets for Offices.

Store infrastructure:

TPWODL has proposed capex for store infrastructure and has submitted that currently the distribution inventory management is done through four designated central stores located Burla, Rajanpur, Bolangir and Kesinga. The store does not have adequate protection of companies current asset(inventory) from fire hazards. Lacks proper storage and safe handling of materials. The stores do not have Fire alarm detection, protection, and security intrusion system. Infrastructure renovation & development is required.

Accordingly, TPWODL has proposed a sum of Rs 6.41 Cr for FY 2024-25 and Rs 3.30 Cr for FY 2025-26 for Ready to Use assets for Offices.

Ready to Use assets for Offices:

Further TPWODL has proposed capex for ready to use assets for offices, TPWODL has submitted that the office space is currently crowded and haphazardly planned for seating arrangements, moreover, most of the space has been occupied with files, documents etc. In order to provide best in class services to consumers, earn consumer delight and improve satisfaction among other

stakeholders and to maintain a clean & safe working environment. TPWODL has proposed TV, Projector, Sound System, Cordless Mic, Inverter & Battery, Office air conditioning systems, Water cooler & Purifiers, Ergonomic office chairs, Photocopier machines, Vehicles, File cabinets/Cupboards, and canteen facilities for its employees.

Accordingly, TPWODL has proposed a sum of Rs 3.42 Cr for FY 2024-25 for Ready to Use assets for Offices.

The Capex proposed by TPWODL under the head IT infrastructure, OT infrastructure and Civil, admin and other infrastructure for FY 2024-25 and FY 2025-26 are summarized as under;

Table-9

Sl. No	Capex Head	Activity	Capex proposed for 2024-25 (Rs.Cr)	Capex proposed for 2025-26 (Rs.Cr)
5A	IT Infrastructure	i) Technology Intervention-IT & Technology.	16.63	6.44
	Sub Total- IT Infrastructure		16.63	6.44
5B	OT Infrastructure	ii) Technology Intervention- GIS, Communication & Others Implementation.	18	8.5
	Sub-Total- OT Infrastructure		18	8.5
5C	Civil, Admin and Other Infrastructure	iii) Improvement of Civil Infrastructure	47	45
		iv) store infrastructure	6.41	3.3
		v) Ready to Use assets for Offices	3.42	
	Sub Total- Civil & Admin Infrastructure		56.83	48.3
	Sub Total-Technology & Infrastructure 5A+5B+5C		91.46	63.24

23. The table below summarises the overall Capex plan proposed by TPWODL for the FY 2024-25 and FY 2025-26:

Table-10

Sl. No	Capex Head	Activity	Capex for FY 2024-25 (Rs.Cr)	Capex for FY 2025-26 (Rs.Cr)
1	Statutory, Safety and Security	i) Life enhancement of network and maintaining safe horizontal / vertical clearances	9.74	8.98
		ii) Provision of Testing Equipment & PPEs to workforce	11.2	9.2

		iii) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation	30.59	30.11
	Sub Total- Statutory, Safety and Security		**51.53**	**48.29**
2	Loss Reduction	i) Energy Audit & Meter related activity	43.68	37.12
		ii) Replacement of LT Bare conductor with AB cable	10.93	10
	Sub Total-Loss Reduction		**54.61**	**47.12**
3	Reliability	i) Replacement/Addition of network component in 33/11KV Primary Substation.	28.58	18.76
		ii) Replacement/Addition of network component in 33KV & 11KV Line.	114.55	92.18
		iii) Replacement/ Addition of network component in Distribution Substation.	12.97	8.59
	Sub Total-Reliability		**156.1**	**119.53**
4	Load Growth	i) Network enhancement / Unforeseen emergency.	218.27	124.95
	Sub Total- Load Growth		**218.27**	**124.95**
5A	IT Infrastructure	i) Technology Intervention-IT & Technology.	16.63	6.44
	SubTotal- IT Infrastructure		**16.63**	**6.44**
5B	OT Infrastructure	ii) Technology Intervention- GIS, Communication & Others Implementation.	18	8.5
	Sub-Total- OT Infrastructure		**18**	**8.5**
5C	Civil, Admin and Other Infrastructure	iii) Improvement of Civil Infrastructure	47	45
		iv) store infrastructure	6.41	3.3
		v) Ready to Use assets for Offices	3.42	0
	Sub Total- Civil & Admin Infrastructure		56.83	48.3
	Sub Total-Technology & Infrastructure 5A+5B+5C		91.46	63.24
	Grand Total		**571.97**	**403.13**

24. The Commission had raised various queries relating to the CAPEX proposal of TPWODL. The response of TPWODL on specific queries are as under:

a) As regards Board Approval,

TPWODL has submitted an abstract of the proposal duly certified by the Company Secretary providing details of the 19th Board meeting w.r.t Capex proposal for FY 2024-25 and FY 2025-26 of TPWODL.

b) As regards to fixed asset register showing year wise, scheme wise, location wise and component wise of asset upto FY 2023-24.

TPWODL has submitted that as per the Books of Accounts the Fixed asset register as on March 2023 and September 2023 under 3 category i.e. own assets, govt assets and consumer contribution are follows:

Abstract of Fixed Assets as on 31st March 23 and 30th Sep-23					
S.l No	**Particulars**	**Gross Block**	**Cons Contr. assets**	**Grant assets**	**Own fund assets**
1	Opening Fixed Assets as on Vesting Date (01.01.2021)	1,963.30	824.44	417.93	720.93
	Asset added during the year				
	Decapitalisation of Asset				
2	Opening Fixed Assets as on 01.04.2021	1,963.30	824.44	417.93	720.93
	Asset added during the year	390.27	211.89	30.60	147.78
	Decapitalisation of Asset				
3	Opening Fixed Assets as on 01.04.2022	2,353.57	1,036.33	448.53	868.71
	Asset added during the year	644.41	113.47	31.32	499.62
	Decapitalisation of Asset	2.14	1.90		0.24
4	Opening Fixed Assets as on 01.04.2023	2,995.84	1,147.90	479.85	1,368.09
	Asset added during the year	228.66	97.57	37.87	93.22
	Decapitalisation of Asset	2.07	1.03		1.04
5	**Closing Balance as on 30.09.2023**	**3,222.43**	**1,244.44**	**517.72**	**1,460.27**

c) Regarding Financial year wise capitalization and work in progress of Capex under the approved heads and activities as per vesting,

TPWODL has submitted that the details of Financial year wise capitalization, work in progress and balance work as follows;

TPWODL Actual Capex & Capitalization up to FY 2023-24 (till 30.09.2023)

Sl	**Major Category**	**Actual Capex till 30-09-2023**	**Capitalised till 30-09-2023**	**Balance to be Capitalised**
		Rs. Cr.	**Rs. Cr.**	**Rs. Cr.**
FY 2021-22				
1	Statutory & Safety	95.88	91.14	4.74
2	Loss Reduction	40.79	38.74	2.05
3	Network Reliability	40.26	37.12	3.14

4	Load Growth	36.32	32.55	3.77
5	Technology & Infrastructure	102.94	102.04	0.90
	Total	**316.19**	**301.60**	**14.59**
FY 2022-23				
1	Statutory & Safety	44.44	37.02	7.42
2	Loss Reduction	31.61	24.25	7.36
3	Network Reliability	81.01	54.92	26.09
4	Load Growth	90.70	74.64	16.06
5	Technology Infrastructure	75.83	67.95	7.88
	Total	**323.59**	**258.79**	**64.80**
FY 2023-24				
1	Statutory & Safety	4.22	2.56	1.66
2	Loss Reduction	9.29	0.34	8.95
3	Network Reliability	2.25	0.09	2.16
4	Load Growth	7.55	0.90	6.65
5	Technology Infrastructure	6.06	3.20	2.86
	Total	**29.37**	**7.09**	**22.28**
Total upto 30-09-2023				
1	Statutory & Safety	144.54	130.72	13.82
2	Loss Reduction	81.69	63.33	18.36
3	Reliability	123.52	92.14	31.38
4	Load Growth	134.57	108.10	26.47
5	Technology Infrastructure	184.83	173.19	11.64
	Total	**669.15**	**567.48**	**101.67**

d) As regards to Name and Location (along with corresponding division /circle) of the proposed activities (DTRs, PTRs, DSS, PSS, 11KV & 33KV lines, new addition /augmentation/refurbishment etc.) and asset to be created during the proposed financial year:

TPWODL has submitted that swapping of transformers to reduce overloading issue is applicable for both Power Transformers (PTRs) and Distribution Transformers (DTRs). Regarding PTR augmentation, TPWODL has submitted that augmentation of 14 nos. overloaded PTRs and replacement of 2 nos. PTRs have been planned. TPWODL has further submitted that the spare DTs after augmentation shall be utilized based on nearby location preferably with Sub-division/Division as per requirement and accordingly very limited requirement of low ratings DTs is considered.

e) Regarding Capex submitted by DISCOMs are not as per Regulation 3.2 "*Capital Investment*" of OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022. The information such as

capitalization schedule, load flow study, financing plan, cost benefit analysis and all such items under Regulation 3.2 which are not provided in the DPR are to be submitted:

TPWODL submitted that the CAPEX DPR for FY 24-25 & FY 25-26 is in accordance with Regulation 3.2 of OERC (Terms and Condition of Determination of Wheeling Tariff & Retail Supply Tariff) Regulation 2022.

f) Regarding declaration that, there is no duplication of work between the activities to be carried out in the proposed Capex and the assets created through Govt. Scheme/Support:

TPWODL has submitted that no such duplication in work has been carried out in proposed Capex and assets created through Govt. Schemes/Support. TPWODL while submitting CAPEX proposals ensures that there is no duplicate proposal submitted. The requirement raised in CAPEX DPR is exclusive of any proposals approved in previous CAPEX or any other Govt approved scheme.

g) Regarding reason for consideration of items which are not Capex in nature such as hiring of vehicle, civil repair works, R&M of boundary walls, etc.:

TPWODL has submitted that, the expenditure which are not in the nature of CAPEX like hiring of Vehicles, minor repair of civil works along with R&M of the Boundary wall has not been considered under CAPEX DPR. The activities which are completely new like the construction of boundary wall, fencing of DTR, gravelling & Cable trenching in PSS, earthing, practice yards, access roads to PSS, etc. have been considered under CAPEX.

h) Regarding four DISCOMs are investing in development of a Common Disaster Recovery (DR) centre at TPWODL and Data Center (DC) in TPCODL area. Details of item-wise contribution made by each DISCOM and the DPR for development of DR centre & DC is to be provided,

TPWODL has submitted that the commissioning of the Common Disaster Recovery Center (DR) has been planned for all 4 DISCOMs as per the strategic Business Continuity Plan. In line with this strategic BCP Plan, there are two different infra will be created under TPWODL Capex namely:

A. Disaster Recovery Services for TPCODL, TPNODL & TPSODL at Burla:

In the case of Disaster Recovery Setup (at Burla) only the Civil infra, with all support facilities like BMS support, FMS Support, CCTV Surveillance, WLD system, Air Conditioning facilities, Racking facility and its connectivity are planned to be created under TPWODL Capex. However, the active IT infrastructure/software required for the functioning of the Disaster Recovery centre for 3 DISCOM i.e. TPSODL, TPNODL & TPCODL is not included in the Proposal.

TPWODL Data Center was commissioned successfully at Burla, Sambalpur in the FY 22. Currently, SCADA, GIS and AMI applications are hosted at TPWODL Data Center. Sambalpur district comes under low-damaged risk zone (Zone-II) and is considered as best seismic zone for DC/DR Setup. Considering the above, it is proposed to set up the Disaster Recovery Center (DR) for TPCODL, TPNODL & TPSODL at Burla Sambalpur, Odisha which will ensure business continuity in the aftermath of any breakdown of the Data Center (DC) owing to a natural calamity or other unforeseeable disaster. The DR will operate at 100% capacity of the DC and the same will be equipped with the latest cyber security measures. DR will also ensure 100% data protection for all data stored at DC. For setting up the DR Services as proposed above, all hardware and software for necessary compute, storage, networking and cyber security compliance, will have to be procured to ensure operation at full capacity in active-passive mode.

Accordingly following has been being approved in FY 2023-24:

DR Services Infra at Burla for other DISCOM				
S. No.	**Description**	**Unit cost (INR inclusive of Tax)**	**TPWODL**	
			Qty	**Amt. in Cr.**
1	Electrical System	37189015.13	1	3.72
2	Air Conditioning System	11978702.66	1	1.20
3	Safety Security Surveillance and Monitoring System	9313986.30	1	0.93
4	Rack and Accessories	105156.25	32	0.34
5	Routers	1900000.00	4	0.76
6	Switches	1735395.73	32	5.55
7	KVM Switch	338042.13	32	1.08
8	DC Accessories	10000000.00	1	1.00
9	Firewall	18850000.00	2	3.77
	Total			**18.35**

B. Disaster Recovery Center for TPWODL–at BBSR:

The Disaster Recovery Center for TPWODL has been planned to be commissioned at Bhubaneswar which includes the Active IT infrastructure/software requirements which will be commissioned at Bhubaneswar. However, the Disaster Recovery Setup (i.e. the infrastructure and other facilities) will be provided up by TPCODL.

As per best practices, it is proposed to set up Disaster Recovery Center (DR) for TPWODL Data Center at Bhubaneswar, Odisha which will ensure business continuity in the aftermath of any breakdown of the Data Center (DC) owing to a natural calamity or other unforeseeable disaster. The DR will operate at 100% capacity of the DC and the same will be equipped with latest cyber security measures. DR will also ensure 100% data protection for all data stored at DC.

For setting up the DR as proposed above, all hardware and software (i.e. Active IT Infra) for necessary compute, storage, networking and cyber security compliance, will have to be procured to ensure operation at full capacity in active-passive mode.

Accordingly following is being proposed in FY 2023-24:

Disaster Recovery Center at BBSR for TPWODL- Hardware / Software				
			TPWODL	
S. No.	**Description**	**Unit cost (INR inclusive of Tax)**	**Qty**	**Amt.**
1	SAN Switch & SAN Storage 100 TB	23564915.06	1	2.95
2	Server with OS	1708750.31	25	5.34
3	Back Up data domain along with software	22553423.00	1	2.82
4	Windows OS (Data Center Edition)	561050.68	4	0.28
5	Oracle 8 Core	18790292.06	1	2.35
6	SQL Server 8 Core	10012573.76	1	1.25
7	Linux	9999870.00	1	1.25
8	Virtualization (Per Processer/CPU)	318635.44	50	1.99
9	Antivirus (Server Edition)	46526.22	25	0.15
10	KVM Switch	338042.13	8	0.34
11	Rack & Accessories (Lum sum)	1500000.00	1	0.19
12	Other Software	10000000.00	1	1.25
	Total			**20.15**

The major benefits of the Disaster Recovery Center are mentioned below:

i. Disaster Recovery Center shall ensure business continuity in case of breakdown of the Primary Data Center of TPCODL, TPNODL & TPSODL

ii. Disaster Recovery Center shall ensure recovery of data in case of any data loss at the Primary Data Center of TPCODL, TPNODL & TPSODL

i) Regarding reason for claiming supervision charges in cost estimate (if any):

TPWODL As per OERC Supply Code 2019, vide appendix 1 (Regulation 27 & 29) the Licensee while determining the Capital Cost of the Project the incidental expenses like Stock Storage Insurance, Contingency, Tools & Plants, Transportation, Erection Charges and Other Overhead Charges are being loaded on Cost of Materials. The Overhead Charges is 6% of the cost of Material along with other incidental cost like Stock Storage Insurance etc. Therefore, the Licensee is claiming 6% in cost estimate under overhead which includes supervision charges.

j) Regarding Financial Year wise procurement status of Laptops, Desktops, and Tablets (Approved vis-à-vis procured) may be provided:

TPWODL has submitted the Financial Year wise procurement status of Laptops, Desktops, and Tablets (Approved vis-à-vis procured) is appended below:

SL	Particulars	Status	FY- 21-22	FY- 22-23	FY- 23-24
1	Laptops	Procured	1290	651	266
2	Desktops	Procured	300	201	Nil
3	Tablets	Procured	06	Nil	Nil

k) Regarding Centralized Procurement Group on behalf of all 4 DISCOMs, justification for price variation (unit rate) of various equipment/activities (e.g., Transformer, SCADA, IT equipment etc.) in the current proposal needs to be submitted:

TPWODL has submitted that they have considered the approved Cost Data of FY 18-19 with escalation of 6% on each year. Accordingly, the Estimated Cost in the DPR for FY 24-25 & FY 25-26 has been considered @ 30% and 36% respectively.

l) Regarding reason for claiming miscellaneous cost under certain activities:

TPWODL has submitted that it has not considered any miscellaneous cost in its estimate.

m) Regarding necessity of some proposal under civil & Admin. Expenses of CAPEX like a good number of Refrigerator, Inverter, Induction Heater, RO purifier, provision of cafeteria, & canteen, water dispenser, etc. need justification:

TPWODL has submitted that the reason of proposing the above items under CAPEX as the proposed assets shall render service for more than one Financial Year. These will be covered under Office Equipment Wherein the Hon'ble Commission has allowed depreciation @ 6.33% p.a. the details of installations as proposed is mentioned below. These cannot be included under A&G, where only recurring costs are covered.

Refrigerator –It is proposed to install refrigerators at the new offices like (1) Burla East block, (2) New building at Ainthapali, (3) Kalahandi circle office, (4) Bargarh new circle office, (5) Works and planning office, (6) Jharsuguda Division office, (7) Proposed Guest House at Bargarh and other offices to store milk and other consumables for the employees.

Induction heater - The Licensee submits that, is required for various offices for the preparation of tea for employees/ customers.

RO purifiers - The Licensee is providing drinking water to all our offices. It has been noticed that few of its offices are in remote locations where packaged drinking water is not available. To ensure hygienic drinking water it is proposed to provide RO.

Inverter - Required for 13 customer care centers/ cash collection centers and other offices that have been dealing directly with the customers regularly.

n) Regarding Justification for consideration of Rs. 30 Lakhs towards the construction of boundary wall for one PSS may be provided:

TPWODL has submitted that the PSS area is around 1 Acre (4046 Sqm) land. Considering the square area each side length will be 63.6M. So, the Periphery of Boundary Wall will be (4 x 63.6 -5) = 249.4 m excluding the Gate Portion. The cost for One Meter Boundary Wall according to the Boundary Wall Drawing & RC rate is Rs. 12687. So, cost of Boundary Wall for one PSS = Rs. (12687 x 249.4) = Rs. 31,64,137 i.e. Rs. 31.64 Lacs. The Licensee has considered average Rs. 30.0 Lacs for boundary Wall of each PSS.

o) Regarding Justification for considering the repair of cable trench and cover under Capex:

TPWODL submitted that as most of the PSS cable trenches are non-existent or not large enough, to accommodate new cables are required. As the Licensee is

installing new VCB with indoor CR panels, the volume of cables are going to increase and as a result, new cable trenches with slab cover needs to be prepared.

p) Regarding Justification for consideration of Rs. 1 Crore for installation of 30 nos. of Borewell:

TPWODL has submitted that it has more than 300 nos. of Offices & 166 nos. of PSS. There is no provision of water so far in a few PSS and some of the offices. Water arrangement is required by offices for sanitation & daily office uses and for getting the desired resistivity value of earthing of PSS. As on date, the Licensee has completed 51 nos. of Bore well at PSS & Offices. The Licensee has more than 100 nos. of Offices/ PSS, where Bore Well does not exist/ not working properly. The Licensee has anticipated 30 nos. of Bore Well priority wise (up to 300ft - 10 Nos, up to 400 ft - 10 Nos & up to 500 ft - 10 Nos) for each financial year as per site requirement. The total cost of 30 nos. of Bore Well as per RC Rate is Rs. (200000x10+250000x10+350000x10) x 1.18 = Rs. 94,40,000/-. GI Pipe Line cost is considered @ Rs. 5,60,000/-. So, the total cost of the Bore Well including GI Pipe Line for Offices & PSS = Rs. (94,40,000+560000) = Rs. 1,00,00,000/- ie Rs. 1.0 Cr.

q) Regarding Justification for claiming installation cost of Rs. 2450 (Excluding GST) i.e. about 37% of the meter cost of DT metering & HT LT check metering,

TPWODL has submitted that TPWODL is operating and maintaining a vast network in western Odisha. Where the Distribution assets including 75000 nos. of DTs (approx.) exist in a scattered manner. The distance between one DT metering point to another is substantially high. Further, the installation charges consist of transportation charges & Manpower /Material Movement Charges. On the other hand, due to the distance factor and remotely located DT sites, more numbers of teams need to be deployed by the contractor for the timely completion of the project. Considering the above fact and timely completion of the project the Contractor Quoted the above cost while participating in the Open Tender. The rate has been discovered on an L1 basis accordingly Order has been placed to the L1 bidder.

r) Regarding Location-wise details for replacement of indoor switchgear panels along with associated equipment and justification for claiming unit cost of Rs. 1.31 Cr.:

TPWODL has submitted that Location-wise details for replacement of indoor switchgear panels along with associated equipment due to the price discovered through Open Tendering is Rs. 1.15 Cr. per unit apart from per unit service cost of Rs.0.16 Cr.

s) Regarding Justification for the purpose of EV & Cars as per the company policy:

TPWODL has submitted that Govt. of Odisha pronounces RE Policy 2022 in Nov 2022 where in emphasis have been given for development of RE power in the State of Odisha. Hon'ble Commission while approving the RST Order of FY 23-24 has also given emphasis on charging of EVs through public charging stations for which even it is covered under GP category still concessional single part tariff of Rs. 5.50 per unit is applicable. In view of the above context to promote consumption of Green Power and to reduce Carbone Footprint TPWODL has proposed to acquire Electric Vehicle. The proposed vehicle shall be used for requirements at PSS & Field visits.

t) Regarding details of Augmentation of Old 33kV lines (Rs. 30 Cr.) and new tower addition/ replacement (Rs. 29.06 Cr.) along with location and cost brake-up:

TPWODL has submitted that Joda- Tensa Tower Replacement: Joda- Tensa line is serving since OSEB times and its present operational condition is in very poor state. There are 136 Nos. of Towers in Joda- Tensa line. Out of these, approx. 100 nos. of Towers require replacement along with the 48 CKMs of conductor (existing 100 Sq. mm to 232 Sq. mm). The expenditure is proposed in FY 25 & FY 26. The present loading on the feeder is around 12 MVA (209 Amp). There are many numbers of upcoming industries have approached DISCOM for Power Supply but not feasible on account of the above reason.

u) Regarding details of Construction of 33kV lines (Rs. 70 Cr) and new/ aged PSS (Rs. 70 Cr) along with cost break-up:

TPWODL has submitted that they had proposed 5 Nos. of new PSS with cost (Rs. 40 Crs. in FY 23 & Rs. 35 Crs. in FY 24) which was approved by Hon'ble OERC however allocated only Rs. 20 Crs. in FY 23 & Rs. 18 Crs in FY 24 raising balance requirement in FY 25 submission. Accordingly, Balance of Rs. 40 Crs for earlier approved 5 nos. of PSS & Rs. 30 Crs for 2 nos. of new PSS are considered in FY 25 CAPEX.

v) Regarding N-1 Contingency for incomer and PTRs at 33kV Level:

TPWODL has submitted that Improvement in N-1 redundancy at 33 KV level (N-1 Compliant 33 KV feeders improved from 45 nos. in FY 22 to 131 Nos. in FY 24 against total of 191 Nos. 33 KV feeders).

w) Regarding N-1 Contingency of PSS on incoming 33 KV Lines:

TPWODL has submitted that Improvement in N-1 redundancy of PSS on incoming 33 KV Line (N-1 Compliant improved from 174 Nos. in FY 22 to 227 Nos. in FY 24 against total of 307 Nos. PSS).

x) Regarding N-1 Contingency for PTRs:

TPWODL has submitted that they have Improvement in N-1 redundancy for PTRs improved from 367 Nos. in FY 22 to 432 Nos. in FY 24 against total of 684 Nos. PTRs.

y) Regarding reduction in direct tapping at 33kV level:

TPWODL has stated that for better reliability of 33 KV network, 37 sets of 33 KV auto recloser & sectionalizers (3 nos. of Sectionalizers with one Auto recloser in one set) is planned for high Revenue 33 KV feeders. For better reliability of 33 KV network, 37 sets of 33 KV auto recloser & sectionalizers (3 Sectionalizers with one Auto recloser in one set) is planned for high Revenue 33 KV feeders.

25. The Respondent, Energy Department, Government of Odisha has not submitted any substantial protest in respect of various activities covered under Capex proposal for FY 2024-25 & FY 2025-26. However, the representative of Government of Odisha has orally submitted the following during the hearing:

a) It needs to be ensured that there is no duplication of work under the proposed Capex and the work already approved/ executed under the Government funded schemes.

b) Proper scrutiny of the Capex proposal may be carried out by the Commission to identify genuine investments and its associated costs while approving the Capex amount in order to avoid unnecessary burden on the consumers.

26. The averments submitted by the Respondent OPTCL are stated hereinafter:

a) Out of the aforesaid approved Capex of Rs.1192.76Cr., TPWODL is able to capitalise only Rs.576.48Cr.(around 40%), which indicates that the work progress is very slow. Even the approved Capex amount of Rs.333.13Cr for the FY-21-22 is yet to be fully capitalised(Approx. 7% Capex are yet to be capitalised).

b) That the information on cost benefit analysis is not provided in the DPR as per Regulation 3.2.8 of OERC ((Terms and Condition for determination of Wheeling Tariff and Retail Supply Tariff) Regulation, 2022.

c) That the work progress for the pilot project for Installation of Fault passage indicators (FPI) for which Rs.2.00Cr was approved during FY-2021-22, is very miserable and not a single rupee is capitalised under this head till date.

d) That at Para- 15 of their application, TPWODL have proposed to transfer the unspent amount under the Head "Reliability" & "Load Growth" for FY-21-22 & 22-23 to "Office Up gradation" & "New Building for Div/Sub Div etc", which means either they are unable to spend approved Capex under the head "Reliability" & "Load Growth" for FY-21-22 & 22-23 or there is no work pending under such Heads. However, in contrary to above, they have again asked for approval Rs.618.84Cr under such heads for FY-2024-24 & 25-26(Sl. No- 3 & 4 of para-21 of their submission).

e) That the nature of work is of R&M type such as refurbishment/modernization of 33kV/11kV lines and substations, the same should be covered under R&M works and may be not be allowed through Capex.

f) That the Commission at Par-6 of their order Dt.21.06.2023 in Case no- 97/2022 have observed that, "TPWODL is having 302 nos. of 33/11kV PSS whereas they are having only 172 nos. of 33kV Feeders". Considering that some of such 33kV Feeders are tie lines among their PSS to PSS, the connectivity between OPTCL's GSS & TPWODL's PSS seems to be not adequate.

g) That Considering the data for September-2023 OPTCL in their submission has submitted the list of 18 GSS in TPWODL command area which are loaded less than 35% of their 33kV capacity. That apart, there are some more GSS which are loaded between 35%-40% of their capacity.

h) OPTCL has further submitted a list of 51 Nos. of 33 KV bays available at different GSS, which needs to be loaded by TPWODL by creating downstream assets at their end.

i) That aforesaid proposals of construction of 33 kV feeders seems to be very low in comparison to the available Capacity of GSS in their command area. To extend maximum benefit to the Consumers of their command area in terms of quality, reliable power supply; the GSS are to be optimally loaded and downstream assets to be created accordingly.

j) That Various new 33kV and 11kV lines, new 33/11kV substations have been constructed by OPTCL under DDUGJY, ODSSP, ODAFF and IPDS schemes as well as numbers of existing 33kV and 11kV lines have also been augmented (Renovation & Modernisation works) in TPWODL Command area. TPWODL to expedite the matter towards making such assets fully operational.

k) 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 of ODSSP scheme. Hon'ble Commission may kindly consider the above submission while allowing refurbishment of PSS as proposed under Capex for FY 2024-25 & 25-26.

l) That Government of Odisha have accorded in principle approval for ODSSP Ph-V with an estimate outlay of Rs.11284.49Cr. out of which Rs.303.06Cr is allocated for TPWODL under different categories of works such as new 33kV lines, 11kV lines & PSS, upgradation of 33kV & 11kV lines, upgradation of DTRs etc. Hon'ble Commission may kindly consider the above submission and allow necessary Capex in this regard accordingly.

27. Shri Ananda Mohapatra has submitted the averments which are concisely stated as hereinafter:

a) The Vesting Orders issued by OERC for sale of erstwhile utilities CESU, NESCO, SOUTHCO & WESCO stipulates filling of CAPEX and Business Plan by Tata DISCOMs for five years period ending with FY 25 for TPCODL and FY 26 for other Tata DISCOMs. The above order of OERC is in line with the National Tariff Policy and the relevant OERC regulations in force because five years control period is specified therein for review of the annual tariff & performances of DISCOMs.

Moreover, the mechanism in respect to transformation of MYT principles into business plan is well specified in the national tariff policy and that is a span of five years whereas at the beginning time of the MYT, three years period is allowed. Therefore, filing of Capex & Business Plan for one or two years by the petitioners and consideration of same by OERC violates not only the vesting order of the Commission but also the National tariff policy and the spirit of the Electricity Act, 2003. Therefore, it is necessary to address the issue in the interest of justice.

b) The relevant OERC Regulations, 2022 has been notified by OERC after the issuance of vesting orders in which the 4th control period ends with FY 23 & the span of 5th control period is specified as FY 24 to FY 28 whereas the control period for filing of five years Capex ad Business Plan as per vesting orders ends with FY 25 for TPCODL and FY 26 for other Tata DISCOMs. It is evident from above that the timeline of vesting orders is mismatched with the relevant OERC Regulations.

c) The goal of Capex under the MYT principle is to improve the capacity of the distribution infrastructure (assets), reduces losses and enables the DISCOMs to supply reliable & quality power to the esteemed consumers at reasonable tariff. Therefore, it is necessary to verify the existing capacity (assets) of the DISCOMs and without which adding more capacity to the existing capacity through Capex becomes meaningless.

d) While considering the Capex proposal, OERC may determine the value addition in terms of assets and reliability indices for each year of the control period so that the consumers could know the reliability quality and tariff of power supply effected by DISCOMs for the aforesaid period.

e) The compatibility of the distribution networks with transmission networks needs to be ensured. Therefore, it is urged upon OERC to address the issues raised by OPTCL regarding the unutilized network for creating a robust grid system.

28. The Petitioner has submitted the following in response to the queries raised by Shri A Mohapatra:

a) With regard to the time line of filing of CAPEX & Business Plan, TPWODL submitted that DISOCMs were directed to submit a consolidated proposal on CAPEX (based on Load Flow Study) for subsequent 2 years (FY 24-25 onwards) for consideration of the Commission. In accordance with the same, TPWODL had filed its CAPEX plan for two years. Furthermore, as per Annexure-I of Tariff

Regulations, 2022, the licensee was required to file the Business plan for five years (FY 23-24 to FY 27-28). Accordingly, TPWODL had filed its Business Plan for FY 23-24 to FY 27-28 with the Commission which has already been approved by the Commission.

b) With respect to the mismatch in timeline of Vesting Orders with OERC Tariff Regulations, 2022, TPWODL stated that upon vesting of the erstwhile utility with TPCL as per terms of the vesting order and subsequent repeal of OERC (Terms and Condition for determination of Wheeling Tariff and Retail Supply Tariff) Regulation 2014 through OERC (Terms and Condition for determination of Wheeling Tariff and Retail Supply Tariff)Regulation 2022, the relevance of concern of the objector is insignificant.

c) With regard to existing asset base & reliability indices, TPWODL submitted that while preparing CAPEX DPR Cost Benefit Analysis(CAB) has been duly made. The Commission has also directed the DISCOMs to provide the same. In addition, TPWODL wishes to emphasise its consistent submission with the Commission, providing updates on the quarterly & annually actual progress of approved CAPEX for each financial year. This adherence to the mandates specified in the CAPEX order to ensure full compliance with regulatory directives.

d) With regards to the asset base funded by GoI & GoO, TPWODL submitted that the Government has allocated a substantial sum through diverse state/central funded initiatives such as ODSSP, SACE, CMPDP, BGJJY, Elephant Corridor, DDGJY, IPDS etc. aiming to support and advance the state's power sector infrastructure. Within TPWODL's jurisdiction, there are Government assets totalling Rs.3700 cr. Approx.

e) With regards to the value of assets & reliability indices for each year of control period, TPWODL submitted that the network improvement details, i.e., improvement in reliability indices (SAIDI,SAIFI), loses, AT & C along with improvement in other parameters are being presented during performance review/preventing review of the DISCOMs conducted by OERC from time to time. Apart from this, in compliance to the direction given in OERC (Licensee's Standard of Performance) Regulation, 2004 the applicant submits the monthly reports on Guaranteed Standards of Performance within 15 days of the closure of

the month, quarterly report on Overall Standards of Performance within 15 days of the closure of the quarter and the consolidated annual report of each financial year within 30 days of the closure of the financial year. On the other hand, division wise third party (SoP) Auditor is being appointed from the empanelled list of the SoP Auditors for conducting the SoP audit on the level of performance achieved by the DISCOMs in the respective FY. Basing upon the applicant's submission as above and the third party (SoP) auditor audited report, the Commission derives and approves the parameter-wise information on the level of performance achieved by the DISCOMs for any FY which is them published via applicant's website for easy access of public/consumer.

f) With regards to the compatibility of distribution networks with transmission networks, TPWODL submitted that during the coordination committee meeting, TPWODL presented plan for strategic utilisation of OPTCL's asset. The underloaded GSS of OPTCL have been minutely identified, followed by the detailed GSS loading plan taking into account the existing peak loading percentage per GSS versus proposed loading. The GSS wise bay utilisation plan is also in place based on the availability of bays per GSS. There are approx. 33 nos. of bays found unutilised. Among these, several are reserved for specific purposes some are reserved for Mega Lift Projects (5 nos.) or upcoming industrial feeders and CMPDP, one is allocated for IDCOM MSME park, and two are booked for M/s. HPCL. However, maximum feeders (23 nos. approx.) constructions are on the verge of completion and will be utilised in FY 24 but remaining feeders (11 nos. approx.) will be utilised in next 2 years. TPWODL has also provided details of OPTCL GSS loading plan & underloaded GIS utilisation plan for reference.

29. Heard the Petitioner and Respondents at length through Hybrid mode. 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, i.e. "by the factors, which would encourage,

competition, efficiency, economical use of the resources, good performance and optimum investments" while determining the tariff.

30. As per the provisions in the OERC Wheeling and Retail Supply Tariff Regulations 2022, TPWODL has submitted the specific details of works i.e. Statutory Safety and Security, Loss reduction, Reliability of network, Load growth and IT Infrastructure, OT Infrastructure and Civil & other Infrastructure. As required, the TPWODL has also submitted approval of its BoD for undertaking such work under Capex. As per the submissions of TPWODL, it is found that TPWODL has been able to utilise almost 100% of the CAPEX approved by the Commission for the FY 2021-22 & 2022-23 and more than 8% of the CAPEX approved by the Commission for the FY 2023-24. TPWODL has submitted that the pending works will be completed and will be capitalised during the FY 2023-24.

31. The Commission observes that the main objective of the investment plan is to develop and maintain an efficient, coordinated, and economical distribution system in its area of operation. TPWODL shall supply electricity to consumers in accordance with the provisions of the Act, Rules, Regulations, Orders and the direction of the Commission.

32. We have examined the Capex plan submitted by TPWODL in detail. Considering the amount approved by BoD against each activity. The Commission has also examined the as-is-status of the infrastructure, the quantity of equipment proposed, areas covered, and the unit rates assumed by TPWODL for various equipment to be deployed. Further, the actual progress of each category of work/ activity during the previous financial year has also been considered while approving the Capex for FY 2024-25 and FY 2025-26.

33. It is relevant to mention here that as per para 39(b) of the Vesting Order, the petitioner's minimum committed capital expenditure for the period FY 2021-22 to FY 2025-26 is Rs.1663 Cr. TPWODL has submitted that as per the Vesting Order, it has to achieve a minimum cumulative CAPEX of Rs.1139.00 Cr upto the FY 2023-24 against which the Commission has approved Rs. 1192.76 Cr. As per the vesting order, cumulative Capex commitment by TPWODL upto the FY 2025-26 is Rs 1663.00 Cr. and accordingly TPWODL has submitted Capex investment plan of Rs 571.97 Cr. For FY 2024-25 and Rs 403.13 Cr for FY 2025-26.

34. The detailed analysis and the Commission's Observations on proposed CAPEX by TPWODL for FY 2024-25 and FY 2025-26 against various activities are stated as hereinafter:

A. Statutory, Safety and Security

35. On analysis of fatal/no-fatal accident data submitted by the TPWODL it is observed that fatal accidents relating to humans are more than animals in TPWODL area due to deficiency in their network infrastructure or easy accessibility of the live parts to the public and animals. The Commission therefore is of the view that the proposals submitted by TPWODL under Statutory & Safety considerations are essential to reduce accident cases in future years.

36. The Commission has noted the importance of safety and corresponding Statutory requirement. TPWODL has proposed procurement of tools like Neon tester, discharge rod, FRP Ladders, etc.; testing equipment; Cradle guard at major road crossings; fencing of Distribution substations (DSS) & Boundary wall for Primary substations (PSS) and Intermediate poles to maintain safe ground clearance.

37. Accordingly, the Commission allows the following under various sub-heads towards Statutory, Safety and Security for FY 2024-25 and FY 2025-26:

a) Life enhancement of network and maintaining safe horizontal / vertical clearances.

The Commission observes that TPWODL has identified certain critical areas such as increase of pole height with 9Mtr/11Mtr/13Mtr pole, crossings with guarding on 13mtr and 14mtr pole and replacement of open conductor with 100 Sq.mm/232 Sq.mm covered conductor. The Commission accordingly allows the following Capex under these sub-heads:

Table-13

Sl. No	Description of Activity	Capex Proposed for FY 2024-25 (Rs Cr)	Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Intermediate Pole Increase of height for 11 kV and 33 kV sagging line.	5.74	5.00	5.74	5.00
2	National Highway, SH & River Crossing with Guarding	2.00	1.98	2.00	1.98
3	Replacement of Open Conductor with Covered Conductor inside forest city and high-density public area	2.00	2.00	2.00	2.00
	Total	**9.74**	**8.98**	**9.74**	**8.98**

The Commission now allows Rs 9.74 Cr for FY 2024-25 and Rs 8.98 Cr for FY 2025-26 under these sub-heads.

b) Provision of Testing Equipment & PPEs to workforce:

TPWODL has proposed that several accidents occur while carrying out the operation and maintenance activities on network due to lack of safety equipment and PPEs for workforce. The Commission is not inclined to allow various testing equipment for the FY 2025-26 as such equipment can be included under R&M activity. The Commission now allows the following under such sub-heads.

Table-14

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Testing equipment	6.28	5.00	6.28	0
2	Safety Equipment (Discharge Rod, Man lifter, Neon Tester etc.)	4.92	4.20	4.92	4.20
	Total	**11.20**	**9.20**	**11.2**	**4.20**

The Commission now allows Rs 11.2 Cr for FY 2024-25 and Rs 4.2 Cr for FY 2025-26 under the sub-head provision of testing equipment's and PPE to work force.

c) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation:

TPWODL has submitted that boundary walls of many 33/11 kV primary substation are either broken or have no fencing making such PSS highly unsafe. The Commission after analysis allow the following to strengthen such infrastructure.

Table-15

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Fencing of Distribution Substation	8.50	8.50	8.50	8.50
2	Boundary wall of Primary Substation	9.00	9.00	9.00	9.00

3	Gravel filling for Primary substation	4.50	4.50	4.50	4.50
4	Access road for inside and outside PSS.	3.00	3.00	3.00	3.00
5	Civil work for control room/other building in PSS- Repair	0.60	0.40	0.60	0.40
6	Provision for water supply for PSS/Offices (Watering for Earth pit)	1.00	1.00	1.00	1.00
	Total	**30.59**	**30.11**	**30.59**	**30.11**

38. Based on the above analysis and considering the importance of safety in the network of DISCOMs, the Commission allows Capex of Rs 51.53 Cr (Rs 11.2 Cr+ Rs 9.74 Cr+Rs 30.59 Cr) for FY 2024-25 and Rs 43.29 Cr (Rs 4.2 Cr+ Rs 8.98 Cr+Rs 30.11 Cr) for FY 2025-26 under Statutory, Safety and Security.

B. Loss Reduction

39. The Commission has examined various activities covered under the Loss Reduction and the observations are as follows:

(i) Energy Audit & Meter related activity:

TPWODL has proposed Installation of 1Ph Smart Meter (Services) excluding the Meter Cost amounting ,Installation of LI connections with Smart Meter (Services) excluding the Meter Cost ,Installation of Smart Meters in place of Defective/faulty meters (BLE) (Services)) excluding the Meter Cost, Installation of CT PT MC MU & Testing ,Installation of Metering Unit, Meters and Modems at PSS Boundary Points ,DTR Smart Metering 100KVA & above ,High Value Industrial Audit Point Metering & HT-LT check Metering ,Printer and associated equipment's for Spot Billing. Considering the importance of above items for energy audit and metering, the Commission approves Rs 43.68 Cr for FY 2024-25 and Rs 37.12 Cr for FY 2025-26 under 'Energy Audit & Meter' related activity and the details of which is given in the Table below:

Table-16

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Installation of 1Ph Smart Meter excluding Meter Cost	12.00	12.00	12.00	12.00
2	Installation of LI connection (3-ph) with Smart Meter excluding Meter Cost	5.00	2.50	5.00	2.50
3	Installation of Smart meters inplace defective/faulty meters excluding Meter Cost	8.00	8.00	8.00	8.00
4	Installation of CT PT MC MU & Testing	12.00	12.00	12.00	12.00
5	Installation of Metering Unit, Meters and Modems at PSS Boundary Points	1.80	1.00	1.80	1.00
6	DTR Smart Metering 100KVA & above	3.00	3.00	3.00	3.00
7	High Value Industrial Audit Point Metering & HT-LT check Metering	1.00	0.00	1.00	0.00
8	Printer and associated equipment's for Spot Billing.	0.88	1.62	0.88	1.62
	Total	**43.68**	**37.12**	**43.68**	**37.12**

(ii) Replacement of LT Bare conductor with AB cable

40. TPWODL has proposed replacement of LT bare conductor with AB cable to reduce tripping due to transient faults, enhance safety and help in reducing theft of electricity in theft prone areas resulting in reduction in commercial losses. In view of above, the Commission allows Rs 10.93 Cr for FY 2024-25 and Rs 10.00 Cr for FY 2025-26 for conversion of LT bare to AB cable under loss reduction. The Commission allows the following under the head Loss reduction for FY 2024-25 and FY 2025-26 which detailed as below:

Table-17

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	**Energy Audit & Meter related activity**	43.68	37.12	43.68	37.12
2	**Replacement of LT Bare conductor with AB cable**	10.93	10.00	10.93	10.00
	Total	**54.61**	**47.12**	**54.61**	**47.12**

41. Based on the above analysis and considering the importance of Loss reduction, the Commission allows Capex of Rs 54.61 Cr (Rs 43.68 Cr+ Rs 10.93 Cr) for FY 2024-25 and Rs 47.12 (Rs 37.12 Cr+ Rs 10.00 Cr) for FY 2025-26 under the head Loss reduction.

C. Reliability

42. The Commission has considered the submission of the TPWODL and the challenges in providing reliable power supply to consumers. TPWODL has submitted that large numbers of long overhead lines/feeders (average length of 30 KMs in urban areas and 110 KMs in rural areas) are in operation in its geographical area. The present power distribution network is in extremely dilapidated condition resulting into frequent tripping and as a result, consumers are not getting reliable and quality power supply. TPWODL has submitted that in order to ensure highest reliability, few 33/11 kV substations should have more than one source of supply (i.e. more than one in-comer) along with associated equipment and protection system.

(i) Replacement/Addition of network component in 33/11KV Primary Substation:

TPWODL has submitted that 33/11 kV PSSs are vital in distribution network. The refurbishment of bay equipments of existing PSS is essential to improve the reliability. The refurbishment work in existing PSSs covering replacement of old breakers/Group breakers (11 KV/33 KV) with new (O/D CT) (including civil& control cable), defective relay, Indoor switchgear, Protection panel along with associated equipment, station Transformer Battery & Battery Charger, ERS (Emergency Restoration Tower), High Mast /Lighting arrangement for PSS, Roof top for office/Building lighting/Solar rooftop

generation etc are very much necessary. Accordingly, the Commission has examined the proposal and allows as follows:

Table-18

Sl. No	Description of Activity	Capex Proposed for FY 2024-25 (Rs Cr)	Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	PSS Modernization (Structure Replacement / Yard Renovation/Civil Foundation for VCB & PTR)	4.10	4.00	4.10	4.00
2	Installation of 11 kV breaker/ Group Breaker to make it suitable for SCADA operation (Segregation, replacement of obsolete breakers along with CT,PT, civil & control	3.00	2.46	3.00	2.46
3	Installation of 33 kV breaker/ Group Breaker to make it suitable for SCADA operation (Segregation, replacement of obsolete breakers along with CT,PT, civil & control cable	4.90	3.00	4.90	3.00
4	Feeder protection-OC Relay & Control (BCPU)	1.56	0.00	1.56	0.00
5	Replacement of Indoor Switchgear Panels along with associated equipment	3.91	4.15	3.91	4.15
6	Replacement of Substation Transformer -33/0.4KV 100KVA Trf.	1.53	1.06	1.53	1.06
7	Replacement of Battery & Battery	0.73	0.54	0.73	0.54
8	ERS Tower (Emergency Restoration Tower)	2.00	0.00	2.00	0.00

9	Implementation of Automation/Scada	3.35	3.05	3.35	3.05
10	Roof top for office/building lighting stc with net metering emergencuy lighting	3.00	0.00	3.00	0.00
11	High Mast/Lighting arrangement for PSS/Store	0.50	0.50	0.5	0.5
	Total	**28.58**	**18.76**	**28.58**	**18.76**

Accordingly, the Commission allows Rs 28.58 Cr for FY 2024-25 and Rs 18.76 Cr for FY 2025-26 under the head Replacement/Addition of network component in 33/11KV Primary Substation.

(ii) Replacement/Addition of network component in 33KV & 11KV Line:

TPWODL has submitted that most of the 11 kV & 33 kV lines are overhead with bare conductor and the average feeder length is more than 80 KMs. Many of O/H lines are passing through forest area and most of the faults on overhead lines are transient in nature which are caused primarily due to lightning and touching of tree branches with the live line conductor. TPWODL has proposed to undertake different measures/initiatives to strengthen the 33 KV & 11 KV line such as refurbishment/ augmentation of old 11 kV lines of 169.2 Ckt.KM for FY 2024-25 at an estimated cost of Rs 19.60 Cr and 107.8 Ckt.KM for FY 2025-26 at an estimated cost of Rs 13.06 Cr.; refurbishment /augmentation of old 33 KV line of 152 Ckt.KM for FY 2024-25 at an estimated cost of Rs 30.00 Cr and 137.1 Ckt.KM for FY 2025-26 at an estimated cost of Rs 28.31 Cr; 100 nos. of new tower addition /replacement with replacement of 48Ckt.Km of conductor (Joda Tensa) at an estimated cost of Rs 29.06 Cr.; installation of communicable Fault Passage Indicator (FPI) at 33 kV & 11 kV level; RLSU, installation of AB switches, isolator, RMU, LA, polymer insulator, Auto recloser & sectionaliser at 33 kV & 11 kV level; new tower addition/replacement (Joda Tensa) and railway crossing using u/g cable .

In absence adequate information and justification relating the location (s) / Division(s) / sub-division (s) where such work would be implemented, the Commission allows a lumpsum provision of Rs. 20.00 Cr. each for the FY 2024-25 and Rs 15.00 Cr. FY 2025-

26 under refurbishment/ augmentation of old 33kV lines; and Rs. 15.00 Cr. for the FY 2024-25 and Rs 10.00 Cr. FY 2025-26 under refurbishment/ augmentation of old 11 kV lines. However, TPWODL may approach the Commission at a later stage for approval of any additional investment, if required, under CAPEX for such work with adequate information & justification. The Commission observes that strengthening measures for 33 kV & 11 kV network are required for the system and accordingly allows as follows:

Table-19

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Augmentation of old 11kV line (for aged lines or to mitigate overloading/under voltage)	19.6	13.06	15.00	10.00
2	Augmentation of old 33kV line (for aged lines or to mitigate overloading/under voltage)	30.00	28.31	20.00	15.00
3	Installation of 11KV & 33 KV FPI/High voltage O/H line indicator, RLSU	1.85	1.51	1.85	1.51
4	Installation of 11KV & 33 KV AB switches, Isolator & RMU	14.93	11.34	14.93	11.34
5	33kV & 11kV Polymer Insulator/LA	3.00	2.91	3.00	2.91
6	New Tower Addition/Replacement (Joda Tensa)	29.06	19.38	29.06	19.38
7	Railway Crossing using U/G Cable	4.00	3.00	4.00	3.00
8	33KV & 11kV Auto Recloser & Sectionaliser	12.11	12.67	12.11	12.67
	Total	114.55	92.18	99.95	75.81

Accordingly, the Commission allows Rs 99.95 Cr for FY 2024-25 and Rs 75.81 Cr for FY 2025-26 under the head replacement /addition of network component in 33KV & 11KV line.

(iii) Replacement/ Addition of network component in Distribution Substation:

TPWODL has stated that most of the Distribution Sub-Station (DSS) protection and control are not operating properly. As a result, fault in any one LT circuit results in tripping of DT incoming 11KV feeder. Again for maintenance of the DSS, the operator needs to take hand trip of entire 11 KV feeder from PSS. Moreover, various equipment associated with the DSS are very old & obsolete, which need to be replaced at the earliest. Accordingly, the Commission allows Rs 12.97 Cr for FY 2024-25 and Rs 8.59 Cr for FY 2025-26 under the head replacement /addition of network component in Distribution substation the details of which are follows:

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Remodelling of DSS (above 100 KVA DTR along with LT Protection, Earthing etc., Other than Augmentation)	12.97	8.59	12.97	8.59
	Total	**12.97**	**8.59**	**12.97**	**8.59**

43. The Commission observes that such strengthening measures for reliability are required and accordingly allows Rs 141.50 Cr (Rs 28.58 Cr+ Rs 99.95 Cr + Rs 12.97 Cr) for FY 2024-25 and Rs 103.16 Cr (Rs 18.76 Cr+ Rs 75.81 Cr + Rs 8.59 Cr) for FY 2025-26 Cr. under the head Reliability.

D. <u>Load Growth</u>

44. TPWODL has estimated that according to present trend there would be load growth of 8.07% for 2 years i.e. in FY 2024 to FY 2026 and expected new connections would be approximately 90,000 to 1,00,000 for FY 2023-24. In order to meet such load growth and associated challenges there is a requirement of strengthening of the network which is proposed as follows;

Network enhancement / Unforeseen emergency:

Regarding network enhancement TPWODL has carried out site survey and found that most of 33/11KV Primary Sub-Stations (PSS) are having single incoming 33KV source. In the event of failure of single existing 33KV source entire 33/11KV PSS goes under forced shutdown thereby causing shutdown to all the downstream 11KV & LT network consumers. Moreover, many HT consumers are being fed through tapping of lines/feeders at 33 kV & 11 kV level instead of a dedicated feeder. Multiple HT consumers are being fed through single incoming source of 33/11KV PSS. The technical fault at one of the HT consumers leads to tripping of incoming source and disruption of power supply to other connected HT consumer.

TPWODL has proposed that there is a requirement of establishing link line from alternative available source in order to overcome this issue. At present 11KV feeders are radial and do not have ring connectivity with other 11 kV feeder(s). TPWODL has proposed to establish ring connectivity between nearest 11KV feeder in the vicinity and 11KV feeder of nearby PSS to provide (N-1) redundancy. Few such link lines will be established in first phase, particularly for some important feeders like Hospitals, water supply system, town, commercial establishment and key government establishments.

TPWODL has submitted that actual load demand has increased substantially due to increase in various government approved electrification schemes. To cater to the load enhancement requirement it is essential to augment the existing infrastructure as per the need. TPWODL has further stated that adequate capacity of DT's and PTs are also essential in event of transfer of load from one grid to other. With said addition, there shall be improvement in voltage profile. TPWODL, in its CAPEX proposal has proposed for construction of new 33 KV/11KV link line, construction of new PSS/renovation of aged PSS, addition/augmentation/replacement of PTR & DTR , MCCB/ACB installation etc. The Commission observes that TPWODL has not submitted any justification or details relating to Mini workshop (DTR,Breaker & Relays) and unforeseen emergencies. Accordingly, the Commission is not inclined to allow any expenses under Mini workshop and unforeseen emergencies. The details of capex allowed by the Commission are given below:

Table-20

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Construction of 33 KV New/Link Line	70.00	62.66	70.00	62.66
2	Construction of 11KV New/ Link Line	27.19	20.00	27.19	20.00
3	Construction of new PSS/Renovation of Aged PSS.	70.00	0.00	70.00	0.00
4	Addition/Augmentation/Replacement of PTR of various ratings	8.05	6.36	8.05	6.36
5	Addition/Augmentation/Replacement of DTR of various ratings	7.19	7.00	7.19	7.00
6	MCCB/ACB Installation	9.00	8.59	9.00	8.59
7	Mobile DT &Mini Workshop (DTR, Breaker & Relays)	5.84	0.00	0.84	0.00
8	Addition of New LT ABC Network	16.00	15.33	16.00	15.34
9	Unforeseen Emergencies (Network extension for new connection, Kal baisakhi, Special Yatras etc.)	5.00	5.00	0.00	0.00
	Total	**218.26**	**124.91**	**208.27**	**119.95**

The Commission accordingly allows Rs 208.27 Cr for FY 2024-25 and Rs 119.95 Cr for FY 2025-26 under the head Load Growth.

E. IT & OT Infrastructure

45. The Commission observed that the proposal under this head related to technology adoption and strengthening of various offices, call centers, data centers, GIS/SCADA, Civil infrastructures and upgradation of road and offices, store infrastructure and ready to use assets. The proposals under this head are analyzed are follows:

(i) IT Infrastructure: Technology Intervention-IT & Technology:

TPWODL has proposed Capex for FY 2024-25 and 2025-26 under the IT infrastructure and aims to scale up, strengthen and build redundancies in the schemes which are being implemented in FY 24 with special emphasis on business continuity, cyber security and seamless communication. The Commission after scrutiny observes that there is no adequate justification for provision under disaster recovery centre -HW&SW for FY 2025-26 at an estimated cost of Rs 1.16 Cr. The Commission accordingly allows Rs 16.63 Cr for FY 2024-25 and Rs 5.28 Cr for FY 2025-26 under IT infrastructure (Intervention-IT & Technology) related activity and the details are as given in Table below:

Table-21

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Disaster Recovery Centre - HW & SW	3.75	1.16	3.75	0.00
2	DC Hardware & DC Software & Licences	7.98	2.30	7.98	2.30
3	Front End Devices and End user IT Infrastructure	3.42	2.15	3.42	2.15
4	Locational Network Strengthening	1.48	0.83	1.48	0.83
	Total	**16.63**	**6.44**	**16.63**	**5.28**

(ii) Operation and Technology Infrastructure: Technology Intervention- GIS, Communication & Others Implementation:

TPWODL has stated that in order to improve the reliability, reduce losses and to improve the overall performance, effective implementation of technologies is required. These measures will provide quality service to customer, deliver highly reliable and improved quality supply in safe manner to its consumers by meeting various standards of operation. The Commission observes that TPWODL has not submitted adequate information regarding OT infrastructure and location (s) /division (s)/ circle(s) where

such work would be implemented along with cost details relating to network equipment proposed for FY 2024-25 and FY 2025-26 and accordingly, the Commission is not inclined to allow the network equipment cost under communication infrastructure of Rs 13.5 Cr for FY 2024-25 and Rs 4.00 Cr for FY 2025-26. The details of Capex approved by the Commission are given in the Table below:

Table-22

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Implementation of GIS	2.00	2.00	2.00	2.00
2	Communication Infrastructure	16.00	6.50	2.50	2.50
	Total	**18.00**	**8.50**	**4.50**	**4.50**

The Commission accordingly allows Rs 4.50 Cr for FY 2024-25 and Rs 4.50 for FY 2025-26 under the head Operation Technology Infrastructure.

(iii) <u>Civil, Admin and Other Infrastructure</u>:

(a) Improvement of Civil Infrastructure:

TPWODL has stated that it has become difficult to accommodate additional new employees in current office buildings and infrastructure. The existing infrastructures are old and needs modernization. TPWODL has planned to improve the civil infrastructure by repairing/ constructing new wash room for substation, additional material storage area, new store building, new Building for Division/ Subdivision Section/Commercial Office and refurbishment of old building for office at various location. The Commission has examined the proposal and finds that there is a gross deficiency in justification under improvement of civil structure i.e. TPWODL has proposed Rs 56.83 Cr for FY 2024-25 and Rs 48.30 Cr for FY 2025-26 however after scrutiny the Commission observes that there is no / adequate justification relating the location (s) / Division(s) / sub-division (s) where such work would be implemented. Further, the justification provided by TPWODL in response to the queries made by the Commission are general in nature without proper justification / explanation. Therefore, in absence adequate information and justification, the Commission allows a lumpsum provision of Rs. 10 Cr each for the FY 2024-25 and

FY 2025-26 under improvement of civil infrastructure. However, TPWODL may approach the Commission at a later stage for approval of any additional investment, if required, under CAPEX under above head with adequate details and justification. The details of Capex approved by the Commission under above head are given in Table below:

Table-23

Sl. No	Description of Activity	Capex Proposed for FY 2024-25 (Rs Cr)	Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Additional Material Storage area platform & road	3.00	2.00	0.00	0.00
2	New store building/shed/HOTT & Energy meter Section in 5 circles for safety training	3.00	3.50	0.00	0.00
3	New Scrap Yard, Pole Storage location/MMG/Other Department Store	2.00	1.50	0.00	0.00
4	New Building for Division/ Subdivision/Section/Commercial Office./ including toilet facility/Guest House/Major Buildings/Furniture for New Building / renovated old building	30.00	30.00	0.00	0.00
5	Remodelling of Old Office Building including Toilet/Boundary Wall of Office Building /Peripheral Development work of Offices	8.00	7.00	0.00	0.00
6	Fuse Call Centre / Customer Care	1.00	1.00	0.00	0.00
	Total	**47.00**	**45.00**	**10.00**	**10.00**

The Commission accordingly allows Rs10.00 Cr for FY 2024-25 and Rs 10.00 Cr for FY 2025-26 under the head Improvement of Civil Infrastructure.

(b) Store infrastructure:

TPWODL has submitted that at present the distribution inventory management is being done through four designated central stores located at Rajgangpur, Bolangir and

Kesinga. TPWODL has stated that the store offices are in dilapidated condition thereby compromising with the safety and security of the material and personnel. TPWODL has also stated that for proper storage of materials storage containers and power backup system for material handling tools and equipment's needs to be procured/constructed. TPWODL has proposed procurement of EV cars for its employees at an estimated cost of Rs 1.65 Cr. In absence of sufficient justification, the Commission allows a lumpsum provision of Rs 0.5 Cr for purchase of EV cars in the FY 2024-25.

The Commission agrees to allows Rs 5.26 Cr for FY 2024-25 and Rs 3.30 Cr for FY 2025-26 for Store infrastructure related activity, racking system, power back up system, hydrant system and storage containers.

Table-24

Sl. No	Description of Activity	Capex Proposed for FY 2024-25 (Rs Cr)	Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Store infrastructure, Security System and fire Hydrant System in Store	4.76	3.3	4.76	3.3
2	Purchase of EV Vehicles and other vehicles for employees	1.65	0.00	0.50	0.00
	Total	**6.41**	**3.30**	**5.26**	**3.30**

(c) Ready to Use assets for Offices:

In order to provide best in class services to consumers, improve satisfaction among other stakeholders and to maintain a clean & safe working environment, TPWODL has proposed procurement of office air conditioner, water coolers & purifiers, plastic chairs, photo ceiling fan, steel almirahs, refrigerator etc for its employees. TPWODL has proposed for procurement of car as per company policy for employees at an estimated cost of Rs 1.95 Cr. The Commission after scrutiny is not inclined to allow procurement of cars.

The Commission after analysis of the proposal allows the following Capex towards ready to use assets for office:

Table-25

Sl. No	Description of Activity	Original Capex Proposed for FY 2024-25 (Rs Cr)	Original Capex Proposed for FY 2025-26 (Rs Cr)	Commission's Approval for FY 2024-25 (Rs Cr)	Commission's Approval for FY 2025-26 (Rs Cr)
1	Ready to Use assets for Offices	3.42	0.00	1.47	0.00
	Total	3.42	0.00	1.47	0.00

The Commission accordingly allows Capex of Rs 1.47 Cr under the head Ready to Use assets for Offices related activity for FY 2024-25.

46. The Commission has observed that TPWODL is not able to spent the Capex approved in previous financial years. It is also observed that only 8%(approx.) of previous Capex of FY 2023-24 has been expended till 30.09.2023.

47. 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, metering infrastructure, earthing, etc. Priority should be given to works related to above issues over IT and OT infrastructure development. In view of above consideration and due to the necessity of the proposed capital investment plan, the Commission hereby grants in principle approval of Rs. 493.77 Cr. for FY 2024-25 and Rs 336.60 Cr for FY 2025-26 against the TPWODL's CAPEX proposal of Rs.571.97 Cr for FY 2024-25 and Rs 403.13 Cr for FY 2025-26 The details are shown in the table below:

Table-26: Capex proposed by TPWODL & approved by the Commission for the FY 2024-25 & FY 2025-26

Sl. No	Capex Head	Activity	TPWODL Proposal as per BoD (Rs Cr)		Commission's approval (Rs Cr)	
			FY 2024-25	FY 2025-26	FY 2024-25	FY 2025-26
1	Statutory, Safety and Security	i) Life enhancement of network and maintaining safe horizontal / vertical clearances	9.74	8.98	9.74	8.98
		ii) Provision of Testing Equipment & PPEs to workforce	11.2	9.2	11.2	4.2

		iii) Fencing, Boundary Wall and infrastructure works at Primary & Distribution substation	30.59	30.11	30.59	30.11
	Sub Total- Statutory, Safety and Security		51.53	48.29	51.53	43.29
2	Loss Reduction	i) Energy Audit & Meter related activity	43.68	37.12	43.68	37.12
		ii) Replacement of LT Bare conductor with AB cable	10.93	10	10.93	10
	Sub Total-Loss Reduction		54.61	47.12	54.61	47.12
3	Reliability	i) Replacement/Addition of network component in 33/11KV Primary Substation.	28.58	18.76	28.58	18.76
		ii) Replacement/Addition of network component in 33KV & 11KV Line.	114.55	92.18	99.95	75.81
		iii) Replacement/ Addition of network component in Distribution Substation.	12.97	8.59	12.97	8.59
	Sub Total-Reliability		156.1	119.53	141.5	103.16
4	Load Growth	i) Network enhancement / Unforeseen emergency.	218.27	124.95	208.27	119.95
	Sub Total- Load Growth		218.27	124.95	208.27	119.95
5A	IT Infrastructure	i) Technology Intervention-IT & Technology.	16.63	6.44	16.63	5.28
	SubTotal- IT Infrastructure		16.63	6.44	16.63	5.28
5B	OT Infrastructure	ii) Technology Intervention-GIS, Communication & Others Implementation.	18	8.5	4.5	4.5
	Sub-Total- OT Infrastructure		18	8.5	4.5	4.5
5C	Civil, Admin and Other Infrastructure	iii) Improvement of Civil Infrastructure	47	45	10	10
		iv) Store infrastructure	6.41	3.3	5.26	3.3
		v) Ready to Use assets for Offices	3.42	0	1.47	0
	Sub Total- Civil & Admin Infrastructure		56.83	48.3	16.73	13.3
	Sub Total-Technology & Infrastructure 5A+5B+5C		91.46	63.24	37.86	23.08
	Grand Total		**571.97**	**403.13**	**493.77**	**336.6**

48. The summary of year-wise and cumulative approval of Capex by the Commission against vesting order is as under:

Financial Year	**Minimum Capex required as per Vesting Order (Rs Cr)**	**Capex Approved by the Commission (Rs Cr)**
FY 2021-22	306	333.16

FY 2022-23	500	477.72
FY 2023-24	333	381.91
FY 2024-25*	322	493.77
FY 2025-26*	202	336.6
Cumulative Capex till FY 2025-26	**1663**	**2023.16**

49. The approved cost shall be passed in the ARR as per the norms subject to rational utilization by the Petitioner and prudent check through audit.

50. The Commission has disallowed certain works to be covered proposed in the Capex proposal of TPWODL for FY 2024-25 and FY 2025-26 as there was no justification / cost break up / details of work to be done. TPWODL may approach the Commission on a later stage with sufficient justification for approval of such proposals if they desire so. The details of the proposal disallowed are follows:

Sl. No	**Capex Head**	**Activity**	**TPWODL Proposal as per BoD (Rs Cr)**		**Commission's approval (Rs Cr)**	
			FY 2024-25	**FY 2025-26**	**FY 2024-25**	**FY 2025-26**
1	Statutory, Safety and Security	Provision of Testing Equipment & PPEs to workforce	11.2	9.2	11.2	4.2
2	Reliability	Replacement/Addition of network component in 33KV & 11KV Line.	114.55	92.18	99.95	75.81
3	Load Growth	Network enhancement / Unforeseen emergency.	218.27	124.95	208.27	119.95
4	IT Infrastructure	Technology Intervention-IT & Technology.	16.63	6.44	16.63	5.28
5	OT Infrastructure	Technology Intervention-GIS, Communication & Others Implementation.	18	8.5	4.5	4.5
6	Civil, Admin and Other Infrastructure	Improvement of Civil Infrastructure	47	45	10	10
		Store infrastructure	6.41	3.3	5.26	3.3
		Ready to Use assets for Offices	3.42	0	1.47	0
	Total		**435.48**	**289.57**	**357.28**	**223.04**

51. The investment under Capex is always linked to benefit to consumer in terms of reliability & availability of power supply and other key performance parameters. The licensee has not submitted cost benefit analysis, prioritization of the proposed investment, quantification of physical targets & achievements and works required

to be taken up for system improvement. It is observed that the licensee has not yet capitalized/ completed all works related to Capex approved under FY 2021-22 and FY 2022-23. The actual investments by TPWODL under CAPEX including WIP are Rs. 316.19 Crs. (about 95% of approved Capex of Rs 333.13 Crs.) for the FY 2021-22, Rs. 323.59Crs. (about 67.7% of approved Capex of Rs 477.72 Crs.) for the FY 2022-23, and Rs. 29.37 Crs (about 7.7% of approved Capex of Rs 381.91 Crs.) for the FY 2023-24 upto September 2023, which is not a very good trend and and investment under CAPEX of only Rs. 669.15 Cr (56.1%) including WIP against approved CAPEX of Rs.1192.76 crs, upto the FY 2023-24, which is very poor. Hence, it is expected that the total investment as proposed by the licensee for a financial year will not be utilized during respective financial year and is likely to spill over to subsequent financial year(s). Considering past trend of the expenditure done during previous financial years and justification for various works, Rs 830.37 Cr is approved by the Commission for the FY 2024-25 & FY 2025-26 (Rs 493.77 Cr for FY 2024-25 & Rs 336.60 Cr for FY 2025-26). Accordingly, the cumulative investment of Rs 2023.16 Cr is approved (against minimum cumulative investment of Rs 1663 Cr.) under CAPEX upto the FY 2024-25.However, for any additional requirement over and above the approved amount, the licensee may approach the Commission for approval with relevant details and proper justification.

52. In addition to above observations, the Commission directs the licensee to:

(i) Submit quarterly progress report for the works along with the details of materials utilised vis-à-vis various activities shown in the DPR.

(ii) Formulate implementation plan for the approved Capital Investment and take steps for execution accordingly to avoid cost and time overrun.

(iii) 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 (limiting the no. of ratings) and capacity of any PSS need to be standardized across the Discoms and standard specifications need to the adopted across the Discoms.

(iv) Ensure that there is no duplication of work covered under the Capex approved for FY 2024-25 & FY 2025-26 and the assets created/ to be created through Government Schemes/support.

(v) Consider upgradation of existing PSS (instead of creating new PSS in nearby areas) keeping adequate provision for future expansion to avoid unnecessary burden on consumers. Even existing AIS installation can be converted to GIS, if required, which will improve reliability of the distribution system at reduced O&M cost.

(vi) Plan new 33/11 kV substations with (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.

(vii) 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 TPWODL 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 TPWODL for their distribution system.

(viii) Submit details of compliances of the direction given in the Capex Orders of previous years.

(ix) Provide load flow study report for the next 5 years matching with proposed work covered under the Capex plan.

(x) Submit the status (on the date of taking over and expected as on 31.03.2026) of existing distribution system for each division indicating the achievement (quantification) and amount of further investment required to be taken up in respect of following areas by March 2026 as justification submitted are general in nature:

- Replacement of existing overhead conductor by higher size based on long term load flow study;
- Reduction in feeder / line / section length (existing at 33kV & 11kV level);
- Reduction in overloading of 33kV & 11kV lines, PTRS, DTRs;
- Reduction in tapping of 33 kV & 11 kV lines;
- Reduction in low voltage pockets;
- Completion of boundary walls for PSSs and fencing of DSSs;

- Providing (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 (CB/ AB switch, etc. & associated protection relays) for 33kV & 11kV overhead lines & UG cable, PTRs & DTRs (primary & secondary side);
- Removal of Group Control Breaker operation (at 33 kV & 11 kV level);
- Improvement in earthing in PSS &DSS;
- Provision of RMU, Auto-reclosers & Sectionalizers to avoid outage of power supply to a large group of consumers;
- Length (in ckt.km.) of overhead line converted and proposed to be converted to ABC in future;
- Completion of asset mapping & consumer indexing, etc.

(xi) Submit the constraints and bottlenecks in capitalisation of approved CAPEX of previous years and steps being taken for utilization of such CAPEX.

53. With the directions stated above, the case stands disposed of.

Sd/-

(S. K. Ray Mohapatra)
Member

Sd/-

(G. Mohapatra)
Officiating Chairperson