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

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

Case No. 98/2022

..... Petitioner

M/s. TPCODL Vs. DoE, GoO & Others

Date of Hearing: 30.05.2023

..... Respondents

- In the matter of: Application for approval of CAPEX Plan for the FY 2023-24 in compliance to the directions of the Commission vide para 42 of the Vesting Order dt 26.05.2020 passed in Case No. 11 of 2020.
- For Petitioner:Shri M. Shenbagam, CEO, TPCODL,
Shri Puneet Munjal, Chief Regulatory & Govt. Affairs, TPCODL.
- For Respondents: Shri Lalit Mishra, DGM (Finance), Shri B.K.Das, Sr.GM, GRIDCO Ltd., Ms. Banishree Pradhan, DGM (RT&C), OPTCL, Shri B. B. Mehta, Director, SLDC, Shri Prasanta Kumar Satpathy, Sr.GM, SLDC and Ms. Sonali Patnaik, ALO I/C., DoE, GoO.

ORDER

Date of Order:21.06.2023

The Petitioner-Tata Power Central Odisha Distribution Limited (TPCODL) has filed an application for approval of its Capital Expenditure plan for FY 2023-24 for system improvement & safety activities in its area of operation. In its original application on 23.12.2022, TPCODL has submitted its capital investment plan for FY 2023-24 to the tune of Rs.512.37 Crore. However, consequent upon the approval of the Board of Directors (BoD) of TPCODL, it has submitted a revised capital investment plan to the tune of Rs.300.04 Crore before the Commission on 29.04.2023 and prayed for approval of the same.

- 2. In line with the Vesting Order, TPCODL has to seek the approval of the Capital Expenditure Plan in line with the OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations. The extracts from the Vesting Order are as follows:
 - "42. Capital investment plan

(b) In its Bid submitted in response to the RFP, TPCL committed capital expenditure of Rs. 1,541 Crs. (Indian Rupee One thousand five hundred and forty-one Cr only) for period FY 2021 to FY 2025 as follows:

Table 1: TPCL Capital Expenditure Commitment	Table	l: TPCL	Capital	Expenditure	Commitmen
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(Values in Rs. Cr)

FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	Total
201	393	310	338	299	1541

(c) To allow flexibility in the capital expenditure planning, the Commission stipulates that, in the capital expenditure plan to be submitted by TPCODL as per the license conditions, the capital expenditure commitment for each year of the period FY 2021 to FY 2025 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 TPCODL for the period FY 2021 to FY 2025 must be as provided in the table below:

Table 2: T	PCL Cumulative	Capital	Expenditure	for 5 years	
				(Vo	111

Up to 21 May Up to 21 May Up to 21 May Up to 21 May	
Op to 51-Mar- Op to 51-Mar- Op to 51-Mar- Op to 51-Mar- Op to	31-Mar-
<i>2021 2022 2023 2024 2</i>	2025
201 594 904 1,242	,541

- (e) TPCODL would be required to seek the Commission's approval on the detailed capital expenditure plan in line with the regulations. TPCODL shall satisfy the Commission that the capital expenditure plan submitted in line with regulations adheres to the capital expenditure plan submitted as part of the Bid."
- 3. Further, in line with the Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022 the licensee is required to take approval from the Commission for undertaking Capex in the licensed area. The relevant extract of the OERC Tariff Regulations, 2022 is provided as follows:

"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.

3.2.6. 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.

3.2.10. 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.

3.3.3. The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff:

Provided that the prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time;

Provided that in case the capital cost incurred exceeds the approved cost, the Distribution licensee shall submit the justifications for such additional expenditure to the satisfaction of the Commission for allowing such cost over and above the approved cost.

3.3.5. The Commission may get the capital cost of any project vetted by an independent agency or an external expert. However, the same shall be considered as guiding factor only and not binding on the Commission as such.

- 4. As per the Licence Condition 11 and 32, 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. Licence Condition at 11 and 32 stipulate 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. 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 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."
- Accordingly, in line with the above provisions, TPCODL has submitted the application for approval of its Capital Expenditure Plan for FY 2023-24 on 23.12.2022 for an amount of Rs. 512.37 Cr. However, after approval of its Board of Directors, TPCODL has filed a revised application of its Capital Expenditure Plan for FY 2023-24 on 29.04.2023 for an amount of Rs. 300.04 Cr.
- 6. The public notice was issued on 04.05.2023 inviting suggestions/objections to the Capex Plan for FY 2023-24 of the DISCOMs which were to be filed on or before 20.05.2023. The public hearing in the matter was held on 30.05.2023. The Commission during hearing heard

the Petitioner-TPCODL and the stakeholders namely OPTCL, GRIDCO, SLDC and DoE, GoO.

- 7. Earlier, TPCODL had proposed for approval of its capital expenditure to the tune of Rs.344.44 Cr. for the FY 2020-21 to carry out various activities in its area of operation and the Commission, vide its order dated 08.09.2020 in Case No. 32 of 2020, had approved the Capex of Rs. 280.63 Cr. for FY 2020-21.
- 8. Similarly, TPCODL had proposed for approval of its capital expenditure to the tune of Rs.607.46 Cr. for the FY 2021-22 to carry out various activities in its area of operation and the Commission, vide its order dated 18.09.2021 in Case No. 05 of 2021, had approved the Capex of Rs.233.81 Cr. for FY 2021-22. However, in a separate order dated 04.09.2021 in Case No.32 of 2020, the Commission had allowed capital expenditure of Rs.17.32 Cr. for implementation of Geographic Information System (GIS) during the period from FY 2020-21 to FY 2022-23 and Rs.47.60 Cr. towards Smart Metering Implementation during the period from FY 2020-21 to FY 2020-21 to FY 2023-24. In totality, the Commission had approved a Capex of Rs.298.73 Cr. in respect of TPCODL for FY 2021-22.
- 9. Subsequently, the Commission, vide its order dated 19.07.2022 in Case No.14 of 2022, had approved an amount of Rs.243.31 crore towards capital expenditure of TPCODL for the FY 2022-23 against their proposal of Rs.480.76 crore. Further, vide order dated 16.12.2022 in Case No.51 of 2022, the Commission had allowed an additional/ supplementary capex amounting to Rs.137.25 crore in respect of TPCODL for the FY 2022-23 for mitigating overloading of lines & transformers and low voltage problem, particularly in Bhubaneswar, Cuttack, Puri & Dhenkanal under the Scheme "Reliability" and "Load growth". In totality, the Commission had approved a Capex of Rs.380.56 Cr. in respect of TPCODL for FY 2022-23.
- The status of the CAPEX approved under five measures categories (Statutory & Safety, Loss Reduction, Reliability, Load growth and Technology & Infrastructure) vis-à-vis actual upto FY 2022-23 is given in the table below:

SI	Major Category	Vesting Order	Capex Approved	Actual Capex till 31-03-2023	Capitalised till 31-03-2023	Balance to be Capitalised	
FY	FY 2020-21						
1	Statutory & Safety		68.17	66.95	71.31	-3.14	
2	Loss Reduction	201.00	39.63	21.12	16.06	23.57	
3	Reliability		72.48	63.6	58.69	13.79	

TPCODL CAPEX Approved Vis-a Vis Actual upto FY 2022-23

SI	Major Category	Vesting Order	Capex Approved	Actual Capex till 31-03-2023	Capitalised till 31-03-2023	Balance to be Capitalised
4	Load Growth		9.00	7.18	2.16	6.84
	Technology &					
5	Infrastructure		91.35	88.68	85.36	5.99
	Total	201.00	280.63	247.53	233.58	47.05
FY 2021-22						
1	Statutory & Safety		17.59	14.98	10.71	6.88
2	Loss Reduction		67.36	34.98	31.92	35.44
3	Reliability	393.00	114.42	107.13	102.5	11.92
4	Load Growth	575.00	30.52	27.14	17.84	12.68
5	Technology & Infrastructure		68.84	41.94	34.45	34.39
	Total	393.00	298.73	226.17	197.42	101.31
FY	2022-23					
1	Statutory & Safety		17.66	7.37	3.76	13.90
2	Loss Reduction		52.85	24.74	18.3	34.55
3	Reliability	310.00	131.63	51.85	40.54	91.09
4	Load Growth		118.26	46.43	16.64	101.62
5	Technology & Infrastructure		60.16	13.1	10.09	50.07
	Total	310.00	380.56	143.49	89.33	291.23
To	tal upto 31-03-2023					
1	Statutory & Safety		103.42	89.30	85.78	17.64
2	Loss Reduction		159.84	80.84	66.28	93.56
3	Reliability	004.00	318.53	222.58	201.73	116.80
4	Load Growth	904.00	157.78	80.75	36.64	121.14
5	Technology & Infrastructure		220.35	143.72	129.90	90.45
	Total	904.00	959.92	617.19	520.33	439.59

11. TPCODL's licensed area is spread over 29,354 sq. km and serves a registered consumer base of around 30.75 lakhs. TPCODL procures power from GRIDCO through Odisha Power Transmission Corporation Limited (OPTCL)'s 220/33 kV or 132/33 kV or 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/0.440 kV/0.230 kV depending on the demands of the consumers. A snapshot of distribution infrastructure of TPCODL in its area of operation is given in the table below:

Sl. No.	Particulars	Unit	Details (As on 31-March-23)
1	Area	Sq. km	29,354

Sl. No.	Particulars	Unit	Details (As on 31-March-23)
2	Consumers	No.	30,75,430
3	Circles	No.	5
4	Divisions	No.	20
5	Subdivisions	No.	65
6	Total No of PSS	No.	369
7	33/11 kV PTR	No.	816
8	Transformation Capacity of PTRs	MVA	4,863
9	11kV feeders	No.	1,411
10	33 kV feeders	No.	233
11	Sections in network	No.	246
12	Length of 11 kV Feeders	km	39350 (OH-38767 & UG- 583)
13	Length of 33 kV Feeders	km	4082 (OH-3734 & UG- 348)
14	Length of LT Lines	km	50435 (OH-50365 & UG- 70)
15	11/0.433 kV DTR	No.	77,549
16	Transformation Capacity of 11/0.433 kV DTR	MVA	5,702

- 12. TPCODL has submitted that it receives electrical power at 33 kV level from 58 numbers of 220/33 kV or 132/33 kV transmission substations of TPCODL located within and in the vicinity of TPCODL's area of operation. TPCODL distributes power at 33 kV/11 kV/440V/230V depending on the demand of the consumers. Capital investment is required to improve power supply reliability, reduce the AT&C losses, ensure the safety and security of network, make the network adequate enough to cater the load growth and implementation of the technology to bring process efficiency in the operations. Further, other infrastructure inherited by the Company viz. Office, Stores, Customer Care/Service Centres etc. require significant refurbishment.
- 13. In view of achieving the above objectives, the TPCODL has framed its Capex Investment plan based upon the following need/requirements.

Statutory & Safety – Investment required for addressing unsafe conditions and making the network statutory compliant. It covers refurbishment jobs, set up of safety culture through PPEs and testing equipment.

Loss Reduction – Investment required for improving billing and collection efficiency and also reducing the technical losses in the network. It includes energy auditing, LT Bare to AB Cable and defective cable replacement.

Reliability – Investment required to improve the Reliability and Quality of Power Supply by taking various initiatives like feeder addition / augmentation, transformer addition /augmentation and N-1 redundancy etc.

Load Growth – Investment required to meet the Load Growth in the network and making the network ready for future load growth. It includes Augmentation / Addition of Feeder, Transformers etc.

Technology and Infrastructure – Investment related to technology adoption and strengthening of various infrastructure to improve internal as well as external customer satisfaction. It includes IT infrastructure, GIS implementation, Civil infrastructure, Transformer Workshop and Admin assets.

- 14. TPCODL has identified a number of other challenges related to metering infrastructure, customer services, and technology usage and planned to address these challenges through a systematic investment plan prepared by it, a part of which was proposed for FY 2020-21, FY 2021-22 and FY 2022-23. Tata Power has been an early implementer of latest technology in India and has number of standalone and integrated technology platforms in use. These technologies have been instrumental in improving the overall performance of the company and able to deliver benefit in terms of lowering losses and improving reliability and better management of business and consumers. TPCODL has prepared its strategy to create value for the customers by improving the reliability of supply for better customer experience. So, Capex intervention is required to reinforce the network to enhance the useful life of assets and bring in new technology. The proposed Capex plan represents a justified and efficient level of total capital investment estimated by TPCODL to meet its service obligation ensuring safe and reliable network, maintaining high level of service standards and to provide customer services at benchmark level through process improvement, capacity building and technology adoption.
- 15. Adopting the similar methodology of previous years, TPCODL has submitted its Capital Expenditure proposal for the FY 2023-24 under five heads. TPCODL, in the proposed expenditure for the FY 2023-24, has covered the roadmap schemes wherein investments would be spread over more than one year. TPCODL has proposed CAPEX plan keeping in view improve Power supply reliability, reduce the AT&C losses, ensure the safety and security of network, make the network adequate enough to cater the load growth and implementation of the technology to bring process efficiency in the operations. The details of the proposed Capex under various heads/ schemes/ activities are described as follows:

A) Safety and Statutory

This includes Investment required for addressing unsafe conditions and making the network statutory compliant and covers Refurbishment jobs, set up of safety culture through PPEs and testing equipment.

- a) Safety and security arrangement at critical locations:
 - CCTV Installation, Racking system Installation: For proper watch and ward, safety, security and monitoring of all high value items and to avoid the risk of theft/burglary, CCTV installation is necessary at all stores. Due to space constraints, the Licensee is unable to keep meters & meter boxes, jointing kits etc. within available space inside the stores at Choudwar and Bhubaneswar. As these items cannot be kept in open space, it requires racking system for proper storage of the indoor items in these stores. Petitioner has estimated 0.10 Cr. for this purpose.
 - Access control system for PSCC: TPCODL has submitted that the 33/11 kV PSSs are controlled remotely via SCADA from PSCC, which as the nerve center of TPCODL. Since there is no mechanism to check unauthorised access to PSCC, TPCODL has proposed to develop an access control system specifically for PSCC to avoid unauthorized entry. The scope of this proposal includes implementation of access control system for PSCC and to protect PSCC desk engineers during unfavorable scenarios like public unrest, mob, etc. The Petitioner has estimated 0.15 Cr. for the above Access control system for PSCC.
- b) **Testing Equipment for STS**: Under the scope of proposal, TPCODL has planned to purchase standardize testing k i t s /equipment, calibration of the kits, distribution of the kits to each of its EMR office and provide training wherever required. For this purpose, the petitioner has proposed CAPEX of Rs. 3 crore for the FY 2023-24.
- c) Interposing Poles: To ensure safety and cater reliable power supply to end consumers, TPCODL proposes refurbishment of 33kV, 11kV and LV lines, i.e., installation of interposing poles in a phased manner emphasizing critical areas such as schools, hospitals, markets and other key installations of frequent human mobility. With use of interposing poles at low clearance locations, statutory compliances will be met and hence safety of employee, public and animals will be enhanced, reducing the chances of electrocution. The Petitioner has estimated 3.25 Cr. for this purpose.
- d) Installation / Construction of DT Plinth, Boundary Wall and Fencing of DSS: The Petitioner has submitted that at many places, the condition of the Boundary wall of DSS

are in a very poor and in unsafe condition and DT plinth are in deteriorated condition. Ensuring safety of people & equipment is very important and hence it is required to be attended on priority. To ensure safety to end consumers, TPCODL proposes construction of boundary wall/ fencing and plinth for the DSS wherever required in a phased manner. TPCODL has given estimation of Rs. 5 cr. for this purpose.

e) Unsafe to Safe Location: TPCODL has submitted that it has a vast LT network of 53914 Ckt. kms. which comprises of LT OH bare conductors, UG cables and LT AB cables. As per TPCODL, many LT Bare conductors and defective LT AB cables in the network result in accidents of common commuters and animals in the area. To ensure safety and cater reliable power supply to end consumers, TPCODL proposes replacement of LT Bare overhead conductors and defective LT AB cable with new LT AB cable in phased manner emphasizing critical areas such as schools, hospitals, markets and other key installations. TPCODL has given estimation of Rs. 4.5 cr. for this purpose.

Main Budget head	Activity	Board approved Budget (In Cr.)
Safety & Statutory	Safety & Security arrangement at critical locations	0.25
	Testing Equipment for STS	3.00
	Interposing Pole	3.25
	Fencing / Boundary Wall / DT plinth	5.00
	Unsafe to Safe	4.50
	Total	16.00

Proposed CAPEX Under the Head Safety and Statutory

B) Loss Reduction

Under this head, TPCODL has proposed Damaged Service Line Replacement, Metering at Feeder level for Energy Accounting and LT Bare to LT AB Cable Conversion.

- a) Damaged Service Line Replacement: TPCODL has submitted that, every year 50,000 to 1 Lac defective meters are identified which are connected with cables those have joints. These damaged cables can become cause of electrocution and electricity pilferage. TPCODL has proposed a budget of Rs.5.00 Cr for replacement of defective cables, if a cable is identified as damaged or having joint on inspection by officers.
- b) Metering at Feeder level for Energy Accounting: TPCODL has submitted that Energy Accounting prescribes accounting of all energy inflows at various voltage levels in the distribution periphery of the network, including renewable energy generation and open access consumers, as well as energy consumption by the end consumers. Further, CAPEX will be required for maintenance of metering system at Feeders level. Therefore, TPCODL has proposed a budget of Rs.10.00 Cr for metering at 33 kV and

11 kV feeders including replacement of defective CTs/PTs/breakers, control cables etc., if same are identified as defective or not available on site on inspection by officers.

c) LT Bare to LT AB Cable Conversion: TPCODL has submitted that the bare conductor lines are subject to electricity theft through direct hooking and thus causing revenue leakage in the system. In order to avoid direct hooking, TPCODL has proposed to convert LT Over Head bare conductor into LT AB cable which will protect its revenue leakage and reduce AT & C loss. Through the execution of the above proposal, TPCODL expects that approximately 13200 span of LT bare conductor are to be changed and it will save around 8 MU which is being lost through theft of electricity in a year. Further, frequent tripping can also be avoided by use of aerial bunched insulated cables instead of bare conductors. Therefore, to improve the safety factor, minimize the safety accident risk, reduce the chances of fault and strengthen existing 415V network, TPCODL has suggested for replacement of overhead bare conductors with new aerial bundled cables, which will help in providing reliable power supply for all consumers & stakeholders. TPCODL has proposed a CAPEX of Rs.20 Cr. for this purpose.

Main Budget head	Activity	Board approved Budget (In Cr.)
Loss reduction	Defective Meter replacement (Including Modem Rectification and Meter replacement for tariff compliance)	5
	33KV & 11kv Feeder Metering for Energy Accounting	10
	Conversion of LT Bare to LT AB Cable	20
	Total	35

Proposed CAPEX Under the Head Loss Reduction

C) Reliability

TPCODL has proposed CAPEX for various schemes for FY 2023-24 under the head of Reliability with an estimated amount of Rs. 124 Cr. as described below.

- a) **SCADA enablement of conventional substations:** For the FY 2023-24, TPCODL has proposed for SCADA enablement of 50 Nos. of 33/11 kV Primary Substations with an estimated cost of Rs. 8 Cr.
- b) FRTU and Communication for RMU: Standalone RMUs are being installed and commissioned across the distribution network to improve the reliability of the network. So, FRTUs with GPRS/3G/4G/5G modems are proposed to be installed at RMUs locations for remote monitoring and control, which will enable centralized visibility of Secondary Distribution network at Centralised Power System Control Centre (PSCC) for faster decision-making and restoration of the network. The Automation of RMU is essential

for implementation of ADMS applications for localization of fault, for faster isolation and restoration of the secondary distribution network. This proposal is for SCADA enablement of 50 Nos. of RMUs in FY 2023-24 with an estimated cost of Rs. 1 Cr.

- c) GSAS Implementation: Implementation of GSAS comes in an integrated package of involvement of less manpower, smart utilization of asset, quick decision making, automated remote monitoring and control along with state of the art asset management. Primarily, 67 stations of Urban, Industrial and Semi urban categories were selected for GSAS in FY 2022-23 to accelerate the future reliability indices of the system along with the unmanning of the stations in TPCODL area. Due to restricted budget of only Rs.16 crore in FY 2022-23, TPCODL could implement GSAS only in 27 stations with improvised solutions leaving 40 stations to be covered in FY 2023-24 and to make total 60 stations they will take another 20 stations from phase 3 in FY 23-24 the budget for the 30 conventional stations is Rs.13.75 Cr.
- d) Weather Stations Installations and Central Integration with Data Accumulation and Analytics: TPCODL has submitted that DISCOM's demand varies significantly with change in weather. In order to study DISCOM's demand variation with respect to change in weather, historical weather database is required which is currently procured from third parties and is often very subjective, superficial, expensive and unreliable. Hence, TPCODL proposes to deploy own weather stations to gather all essential weather parameters reliably at one place. Since there is no mechanism to record historical weather format in-house currently, it is further proposed to develop a weather monitoring network specifically for TPCODL to have a bird eye view of current weather condition of all major locations across its license area. The scope of this proposal includes installation of weather stations at 20 strategic locations in TPCODL area and establishing connectivity of all field devices to a central server where all the weather data can be stored. TPCODL has estimated Rs.0.25 Cr. for this purpose and proposed to execute the same in phase wise over the course of 3 financial years.
- e) Replacement of Sick Equipment: TPCODL has submitted that based on the detailed survey reports, intervention at Equipment level is required at some places to make the network strong & trouble free, so as to ensure reliable power distribution till customer point. To strengthen the existing network, it is suggested to replace the sick equipment in the existing network which will help in utilization of the resources to the optimum level, managing the load in case of any exigency and mitigate the issue of overloading etc. TPCODL has estimated Rs. 5 Cr. for the same.

- f) Installation of Micro Grids: TPCODL has submitted that its license area is spread over 29354 Sq. km and serve the registered consumer base of 2.6 million. The license area comprises of many different types of terrains, dense forests, rural areas with sparse population, etc. which restricts the utility to serve reliable and quality power supply to all. In order to ensure reliable power supply to the consumers of such areas, huge investments like construction of substations, network connectivity lines, etc. are not justifiable as long-term load demand in such area is not promising. Thus, in order to mitigate the issue and provide reliable and quality power supply to the consumers, micro grids are proposed. On the principle that big projects take longer time than to develop than smaller ones, micro grids can accelerate the transition to clean energy. With smaller footprints and reduced environmental impacts, micro grids are subject to fewer regulations and to less community opposition, expediting development. Therefore, TPCODL has estimated 3.00 Cr. under this head to facilitate reliable and quality power supply to the distant consumer.
- g) Installation of LVRT (Line Voltage Regulator Transformer) at Low Voltage Areas: In order to mitigate low voltage issues in the 11kV network and reduce huge investments, TPCODL has proposed for installation of LVRT in the existing network. TPCODL has submitted that its service area is extended over long distances (up to 100 km) to feed loads scattered over large rural areas. Poor Voltage regulation / Low voltages has been a common problem for years. The measured customer's voltage is found in the range of 60 to 70% of standard supply voltage in many remote areas of DED, NED and NYED divisions of TPCODL. The major cause of low voltages is due to lengthy and radial feeders. Since constructing of new 33kV substation is expensive & cannot be justified for the areas where load is very small i.e. < 1000 kVA, installation of Line Voltage Regulator Transformer at mid line location will boost the voltages up to 35% on downstream network. LVRT is a specially designed Autotransformer with inbuilt on load Tap Changer & a voltage control relay. LVRT is the most economical solution & it is an "alternative to costly grid expansion". TPCODL has proposed Rs. 4 Cr. for installation of 8 nos. of LVRTs.</p>
- h) Capacitor Bank Installation for Reactive Power Compensation: In order to mitigate low voltage issues in the downstream network, i.e. improvement of voltage at LT side of DT, TPCODL has proposed for installation of Capacitor Banks to mitigate low voltage issues and avoid huge investments. Further, it is always advisable to install the Capacitor Banks closer to the load end to improve the voltage profile and compensate the reactive power. TPCODL has proposed CAPEX of Rs. 1 Cr. for Capacitor bank installation.
- i) **33kV Network Infrastructure:** TPCODL has proposed CAPEX of Rs. 45 Cr. for construction of new 33kV lines, conductor augmentation, 33kV bus splitting and

installation of HT AVR at PSS in order to optimize the feeder loadings, mitigate feeder overloading, mitigate low voltage issues, power evacuation from Grids and achieving N-1 redundancy. To strengthen existing 33kV network, it is suggested to lay some interconnectors in the existing network to convert the system in ring and mitigate the issue of single connectivity. Further, this interconnection would help in managing the load in case of any exigency and mitigate the issue of overloading. Apart from the interconnectors, the proposed conductor augmentation, 33kV new lines, 33kV bus splitting and installation of HT AVR in substations will address the overloading and low voltage issues and help in providing quality and reliable power supply.

- j) 11kV Network Infrastructure: TPCODL has proposed CAPEX of Rs. 22 cr. for new 11 kV line to optimize the feeder loadings, conductor augmentation, achieving N-1 contingency condition in order to avoid feeder overloading and low voltages. These proposals will help in converting the radial network into ring and mitigate the issue of single connectivity and also in managing the load in case of any exigency and mitigate the issue of overloading. Thus, it will lead to lower interruption and ensure quality power supply leading to consumers' satisfaction.
- k) 33 kV and 11kV Auto Recloser /MCCB/ RMU: To strengthen & make existing 33kV and 11kV network more reliable, TPCODL has proposed to install Auto Recloser, Ring Main Unit (RMU) and MCCBs with an estimated cost of Rs.13 Cr. This scheme is proposed to ensure flexibility to the field teams in 11 kV feeder operation. At some locations there is no LT protection at Distribution Transformers and therefore to attend/work at LT feeder, outage to be taken from 33/11kV structure which results into interruption to all consumers connected to particular 11kV feeder. Moreover, in city area, interconnectors & load break switch is required to address the issue of overloading, load shifting during exigencies & improving reliability. With installation of RMU, equipment safety will increase for field operation team, with less maintenance of the network. SCADA implementation will become easy with smart Ring Main Units.
- 1) 33 kV Feeder Refurbishment: TPCODL has submitted that in order to provide reliable and quality power supply to the consumers, it has conducted the survey of all 33kV feeders to identify the weaker section, which require immediate attention. Based on the survey reports, they found that the conductor sizes are different in some of the feeders resulting in compromising the circuit capacity limited to the lowest size of the conductor available in the circuit. Taking into consideration the existing load demand and factoring the projected load growth, TPCODL has planned to rectify the same to avoid overloading of the network and proposed CAPEX of Rs. 7 Cr. under this head.

m) Earthing: TPCODL has submitted that at most of the places earthing is not available or in damaged condition due to depletion of the earthing electrodes or connections and such situations may pose safety threat to the human beings or animals in the form of shocks. Therefore, as a corrective measure, TPCODL has suggested for earthing of its distribution system to ensure safety of man and material and has proposed CAPEX of Rs.1 Cr. for the same.

Main Budget head	Activity	Board approved Budget (Rs. in Cr.)
	SCADA Enablement of Conventional Substation- 50 Nos. of 33/11 kV Primary Substations	8
	FRTUs and Communication for RMU	1
	GSAS Implementation	13.75
	Weather stations installation and central integration with data accumulation and analytics	0.25
	Replacement of Sick Equipment	5
	Installation of Micro Grid (2 Nos)	3
Reliability	LVRT (8 Nos)	4
	Capacitor Bank Installation for Reactive Power compensation	1
	33KV Network Infrastructure	45
	11KV Network Infrastructure	22
	AR/FPI/MCCB/RMU	13
	33KV Feeder Refurbishment	7
	Earthing	1
	Total	124

Proposed CAPEX Under the Head Reliability

D) Load Growth

TPCODL has proposed CAPEX for FY 2023-24 under the head of Load Growth with an estimated amount of Rs.50 Cr. as described below.

- a) New Connection Release: TPCODL has submitted that in order to meet the growing load, network infrastructure needs to be strengthened, and new energy meters to be installed to release the new connection. Some of the connections can be released from the existing network and some may require augmentation/addition/extension before release of new connections. Hence, TPCODL has proposed CAPEX of Rs.10 cr. towards expenditure on release of New Connections.
- b) **Power Transformer Augmentation:** TPCODL has submitted that to cater the increasing load demand, Power Transformer (PTR) augmentation is required to avoid any overloading condition and to ensure reliable power supply to the consumers, PTRs

are to be kept at optimum loading so as to avoid any mechanical stress on the transformers due to overloading. To avoid any overloading issues especially in urban areas where the load growth is high, TPCODL has undertaken the assessment of the loading of the power transformers and found that to meet the estimated summer load, augmentation of some power transformers is required which may get overloaded considering the current peak and load growth for the next two years. Therefore, TPCODL has proposed PTR augmentation, PTR swapping and Load Shifting from one transformer to other transformer within the substations to reduce the overloading of PTRs and improve the reliable power supply to the consumers. TPCODL has proposed CAPEX of Rs.30 Cr. under this head.

c) **DT Augmentation**: TPCODL has submitted that to cater the increasing load demand, especially with the introduction of schemes like 5T and others, DT augmentation is required to avoid overloading of transformer which leads to failure of transformer and power interruptions. Overloading of the Distribution Transformer may cause premature failure of DT due to operating for long hours on overload condition. Thus, to abide by the safe loading limits, augmentation of distribution transformers is proposed for locations, where loading is exceeding the maximum value i.e. 90% of the rated capacity, especially in urban areas where the load growth is high. TPCODL has estimated CAPEX of Rs. 30 Cr. under this head.

Main Budget	Activity	Board approved
head	Acuvity	Budget (Rs. in Cr.)
	New Connection Release	10
L 1 C	Power Transformer Augmentation	30
Load Growth	DT Augmentation	10
	Total	50

Proposed CAPEX under the Head of Load Growth

E) Technology & Infrastructure

a) Call Management System for PSCC: As per TPCODL, due to the significant growth in number of PSSs controlled centrally from Power System Control Centre (PSCC), there is a huge call inrush during peak outage hours as well as in inclement weather conditions and managing those calls from standalone mobile phones are difficult since there is no option of call forwarding, recording and logging of incoming/outgoing calls. A central call management system is required in order to streamline and manage the operation desk effectively so that the outages can be managed in minimum possible time without any hassle to the on-desk engineer as well as the person who has requested for an outage over call. Therefore, TPCODL has proposed for implementation of a central

call management system for PSCC. TPCODL has estimated CAPEX of Rs. 1.0 Cr. under this head.

b) APSCC Modernization Work for 15 Nos. of APSCC at all Divisions: TPCODL has proposed for modernization of 15 nos. of Area Power System Control Centre (APSCC) to monitor and manage the PSSs which are not controlled remotely via SCADA.APSCCs are very crucial for system operation and statistics gathering point of view. Hence, it is proposed to modernize these APSCCs and equip them with better facilities. The scope of this proposal includes installation of two no. of workstations at each APSCC along with necessary infra for control room such as tables, chairs, toilets, drinking water facility, etc. with typical control room standards. TPCODL has estimated CAPEX of Rs. 1.0 Cr. under this head.

c) IT-Software, User Devices, Backup System, Storage Devices and Application:

TPCODL has plan for its IT Capex Scheme for the FY 2023-24 to FY 2027-28 and proposed its CAPEX of Rs. 11 Cr. for FY 2023-24 under this scheme as described below.

- Laptops\Desktops: TPCODL has submitted that in order to achieve best services for consumers (increasing at around 6% per annum), it is proposed to procure Laptops and Desktops with 5 years' warranty till FY 2024-25 and to replace out old Warranty Devices during FY25-26 FY27-28. Under the scheme total 1950 numbers of laptops and desktops are to be procured/replaced. For the FY 2023-24, TPCODL has proposed for procurement of 60 numbers of laptops and 80 numbers of desktops with an estimated cost of Rs.1.18 Crore.
- **Printers and Scanners:** Under its IT Capex Scheme no printers and scanners has been proposed for capital expenditure for the FY 2023-24.
- Enterprise Grade Next GEN Firewall: TPCODL has proposed for procurement of Enterprise Grade Next GEN Firewall as IT security equipment towards additional security measure to ensure data protection, traffic filtration and vulnerability assessment of deployed additional IT applications in the data center and disaster recovery center. This will help to protect networks and data from unauthorized access, better management of security, improved information security & business continuity management, improved stakeholder confidence in information security arrangements and improved company credentials with the correct security controls in place. TPCODL has estimated Rs.2.30 Crore under this head for the FY 2023-24.

- Enterprise Aggregation Router: TPCODL has submitted that to support business growth, multiple offices have been opened up at various locations and users are expected to increase at these locations. Hence, network connectivity at these locations is required to enable employees to perform business critical processes like metering, billing, collection, power outage management and meeting performance assurance timelines. Further, these devices combine traffic links at greater speeds to support the growing need for remote access to internal networks and external networks like the internet and cloud. Therefore, it is required to procure enterprise aggregation Routers to provide robust and secure network connectivity at office locations. TPCODL has proposed the CAPEX of Rs.0.21 Crore for FY 2023-24.
- **Storage upgrade:** Though, there is proposal for upgradation of storage capacity under IT Scheme of TPCODL, it has not proposed for CAPEX for the FY 2023-24 under this head.
- **Backup Software:** TPCODL has submitted that back up software offers protection for business data by copying data from servers, databases, desktops, laptops and other devices in case of user error, corrupt files or physical disaster. In the event of data loss, data is restored to its previous state from a backup. Therefore, TPCODL has proposed to procure 70 instances back up software with 7 years warranty to cater the new backup requirement. TPCODL has estimated a CAPEX of Rs.0.27 Crore under this head for FY 2023-24.
- Upgrade Existing Tape library: TPCODL has submitted that all of its offices need to be enabled with IT system for functioning of important business processes, backup and archiving of massive amount of business data and meeting the PA timelines. Therefore, TPCODL is required to upgrade existing Tape Library during FY 2023-24 to cater to increasing amount of business data and has proposed CAPEX of Rs.1.2 Crore under this head for FY 2023-24.
- **Digitization of Documents:** TPCODL has submitted that implementation of centralized Digital Workplace Suite (namely, TP DWS) will bring transparency & accountability in the system and provide additional tool for the officials of TP Odisha DISCOMs to effectively track the inward and outward communications across the organization over one integrated platform. The proposed system can be leveraged for other business process automation in future as per future business needs and thus, the proposed solution is expected to be flexible, scalable and

modular framework with provision for future service configuration and customization. TPCODL has proposed a CAPEX of Rs.6.00 Crore under this head for FY 2023-24.

- Server with OS at DR and DC: As per the 5 years CAPEX plan of TPCODL, there is proposal to setup a Disaster Recovery Center by procuring and installing 30 numbers of Servers with Operating System (OS) at Disaster Recovery (DR) Center for business continuity propose and to procure and installed 30 numbers of Servers with OS at Data Center (DC) to replace the out of warranty Severs. However, TPCODL has not proposed any CAPEX for the FY 2023-24 under this head.
- d) Centralized Server Room at Technology Center, PAC, & BMS–IT Scheme: TPCODL has submitted that the Technology Center established at power house area to host all the IT and OT Systems pertaining to metering, billing, collection and SCADA for all four TP Distribution Utilities. Other three DISCOMs will enter into agreement for hosting their servers in this server room on chargeable basis. Many critical services like AMR, GIS, CRM, SAP, ERP, SAP-ISU etc. are being implemented and run on 24 x 7 basis for providing reliable power supply to consumers. TPCODL has proposed to set up Server room with 100-rack space at Technology Center which will enable operational excellence, optimized distribution system performance, energy efficiency & conservation and environmental sustainability. TPCODL has estimated a CAPEX of Rs.25 Cr. to establish this centralized server room at Technology Centre.
- e) Civil Upgradation:- In the Infrastructure Head, TPCODL has planned many civil related activities in the next 5 years which includes Distribution Transformer Foundation 100 numbers/year, PSS Compound Wall works 25 numbers/year, Chain-link fencing in switch yard, Structural strengthening of Section Offices, New construction for rented to own locations, Workshop at Infocity, Furniture at offices, New store Shed at KED-I, Store-Security enhancement and Concrete flooring, DT overhauling workshop division wise, Civil Infrastructure for Technology center. TPCODL has estimated CAPEX of Rs.20 Cr. for this purpose.
- f) RMU / DT Workshop: TPCODL has proposed to set up a switchgear workshop with basic in-house testing & repair facility to carry out various activities such as repairing SF6 gas tanks, fabrication of switchgear doors & covers, replacement of complete mechanisms, renovation of flash over RMU/CSS with painting, ACB pole replacement, CSS overhauling, auto recloser spare replacement with testing etc. TPCODL expects that these activities would help to enhance the life of switchgear

through in-house 'testing & repair' facility as well as reduce the operational expenditure (OPEX) as compared to repairing of this high value assets at vendor premises. TPCODL has estimated CAPEX of Rs.1.2 Cr. for this purpose.

- g) GIS Implementation: TPCODL has submitted that due to climatic condition and local resistances, the consumer indexing activity got delayed and to be completed by FY 24. In the meantime, the changes happening at site is also being captured to make the GIS data updated till final roll out of the project. Due to delay and absence of funds (As only 20 Cr approved against 33 Cr for FY 23), work order for Land base, Data Migration activity couldn't be processed. Implementation of upgraded GIS with DC and DR Configuration along with other modules (SCADA, Smart Meter/ MDAS) could also not be started. In the present CAPEX plan for FY 2023-24, TPCODL has proposed the CAPEX of balance Rs.13 Cr. for approval of the Commission under this head.
- h) Ready to Use Office Assets: TPCODL has submitted that they are now facing challenges in using current buildings and infrastructure to accommodate more employees in their office space which is currently crowded and lacks proper seating plan. Some of the offices are owned and others are on rented property. In last 3 years, they have renovated many parts of the existing offices, which included shifting of old files and shelves thereby increasing the floor area and also using proper seating arrangement in a planned manner. To facilitate smooth operation and support hygiene and conducive work environment, TPCODL has proposed Rs.1.84 Cr. under this head.

Main Budget head	Activity	Board approved Budget (Rs. in Cr.)
	Call Management System for PSCC	1.00
	APSCC Modernization work for 15 APSCC at all Divisions	1.00
Technology &	IT - Software, User Devices, Backup system, Storage devices and Applications	11.00
Infrastructure	Server Room PAC & BMS	25.00
	Civil Works at various stores	21.00
	RMU / DT Workshop	1.20
	GIS Implementation	13.00
	Ready to Use Admin Asset	1.84
	Total	75.04

Proposed CAPEX under the Head Technology & Infrastructure

			(Rs. in Cr.)
Main	Activity planned	As submitted	Revised capex
Budget		in filing dated	as per Board
head		22.12.2022	approval
Safety &	Safety & Security arrangement at Critical locations	0.25	0.25
Statutory	Testing Equipment for STS	5.00	3.00
	Interposing Pole	4.00	3.25
	Fencing / Boundary Wall / DT plinth	8.00	5.00
	Unsafe to Safe	5.00	4.50
	Safety & Statutory	22.25	16.00
Loss	Defective Cable Replacement	9.46	5.00
reduction	33KV & 11kv Feeder Metering for Energy Accounting	13.44	10.00
	Conversion of LT Bare to LT AB Cable	40.00	20.00
	Loss reduction	62.90	35.00
Reliability	SCADA Enablement of 50 Nos. of 33/11 kV Primary	8.95	8.00
	Substations		
	FRTUs and Communication for RMU	1.62	1.00
	GSAS Implementation	25.00	13.75
	Weather stations installation and central integration with	0.25	0.25
	data accumulation and analytics		
	Replacement of Sick Equipment	10.00	5.00
	Installation of Micro Grid (5 Nos)	5.00	3.00
	LVRT (10 Nos)	3.50	4.00
	Capacitor Bank Installation for Reactive Power	1.00	1.00
	compensation		
	33KV Network Infrastructure	113.51	45.00
	11KV Network Infrastructure	50.00	22.00
	AR/FPI/MCCB/RMU	23.00	13.00
	33KV Feeder Refurbishment	24.00	7.00
	Earthling	1.00	1.00
	Reliability	266.83	124*
Load	New Connection Release	20.00	10.00
Growth	Power Transformer Augmentation	35.48	30.00
	DT Augmentation	20.00	10.00
	Load Growth	75.48	50.00
Infrastruc	Call Management System for PSCC	1.00	1.00
ture	APSCC Modernization work for 23 APSCC at all	1.50	1.00
	Divisions		
	IT - Software, User & Storage Devices, Backup system,	12.11	11.00
	Applications		
	Server Room PAC & BMS	29.84	25.00
	Civil Works at various stores	23.99	21.00
	RMU / DT Workshop	1.63	1.20
	GIS Implementation	13.00	13.00
	Ready to Use Admin Asset	1.84	1.84
	Infrastructure	84.91	75.04
	Grand Total	512.37	300.04

- 17. Several rounds of discussion were held with the concerned Officials of TPCODL in which they have submitted clarifications with respect to the queries raised by the Commission. Further, the Commission had sought various queries across the major heads and sub heads of Capex proposal and in response to those queries, the Petitioner-TPCODL has submitted the following.
 - Regarding declaration of Fixed Asset Register showing year-wise, scheme-wise (i.e Government, Consumer Contribution, Commission's Capex approval, etc.), location wise and component wise up to FY 2022-23, TPCODL has submitted that Fixed Asset Register is available in the System in the manner as sought by the Commission. However, the Fixed Asset Register does not have information on approved Capex that shall be arranged separately.
 - Regarding name and location of the proposed activities and assets to be created during FY 2023-24, TPCODL has submitted that the location wise details against the activities proposed in the Capex plan for FY 2023-24 are already furnished in Annexure-1 to15 of their application.
 - iii. Regarding detailed statement on swapping of lower capacity DTRs/ PTRs, TPCODL has submitted the details of swapping of DTRs & PTRs.
 - iv. Regarding the declaration that there is no duplication of work between the activities to be carried out in the proposed Capex and the assets created through Government Schemes/ support, TPCODL confirmed that there is no duplication of work between the activities to be carried out under their proposed Capex Investment proposal under consideration of the Commission and the assets created through Government Schemes/ support.
 - Regarding consideration of extended warranty with certain items under IT infrastructure as part of Capex, but not as Opex, TPCODL clarifies that only warranty which comes as bundled cost along with items like PC, Server, storage, etc. are taken under Capex. Any additional procurement of AMC or warranty are covered under Opex
 - vi. Regarding the query that the Fencing for DTs and existing primary substations which are not capital in nature as per REC standards, however, in DPRs, it is included under Capex, TPCODL has submitted that any new fencing or fencing which is replaced and has life more than a year falls under Capex. However, any repair or maintenance to the existing fencing falls under Opex. Even for existing DTs etc, if fencing has completed its life and new fencing is going to protect for more than a year, it falls under capex as major upgradation to the life or safety of plant.

vii. Regarding justification on proposal for separate expenditure for SCADA and GSAS implementation where equipment to be installed are almost similar in nature or are to be interfaced with each other, TPSODL has submitted that though SCADA (SCADA enablement of Substation) is an integral part of GSAS, they have proposed SCADA enablement of Primary and Secondary distribution network under two separate Schemes. *SCADA:* Under this proposal installation of RTU, Networking accessories and Communication Infrastructure has been considered for SCADA enablement of substation gain control from Power System Control Centre. The infra creation under this scheme does not involve any upgradation, replacement or any tempering of the existing system, hence it is completely independent in nature and new asset creation at substation by installing RTU, networking and establishing communication link between Substation and Control Centre SCADA System.

GSAS: Under this proposal, Grid Modernization is envisaged by installation of IEDs, CRP and strengthening of existing Electrical Infrastructure. The installation of Switchgear (CRP, Breaker, and Isolators etc.) involves the replacement of old; defunct, malfunctioning, equipment completed its service life with new system, which enables the Remote Monitoring and Control of the substation seamlessly from Power System Control Centre. Under this proposal the equipment and the process of implementation is complex as some equipment are upgraded and some are replaced.

As both the schemes are different in nature, TPCODL has submitted the proposal separately for better understanding, evaluation and approval from the OERC. Under SCADA enablement of Primary and Secondary distribution network, the major components are RTU, IEDs, Networking Accessories and Communication Infrastructure with modernization of electrical equipment i.e. Switchgear, IEDs, CRP, RMUs, AR, FPI etc. under GSAS for enablement of Smooth operations from Centralized Power System Control Centre.

- viii. Regarding details on accounting, treatment and movement of decapitalized assets, TPCODL has submitted that it has a detailed decapitalization process which is mapped in SAP and the Fixed Asset Register of the Company. TPCODL has explained that: All Assets that are to be de-capitalized are required to be recorded as decapitalized in the DISCOM's FAR.
 - A detailed Decapitalization Note is to be provided for decapitalization of any existing asset, arising due to factors such as non-availability of Asset or it being found unfit for use on Physical Verification of Vested Assets transferred as per

Opening Balance Sheet, theft, burnout, complete damage assessed not capable or commercially viable for repair, obsolescence, etc.

- The Decapitalization Note requires the following information to be provided: (i)
 Asset No. to be retired (ii) Asset Class (iii) Asset Description (iv) Date of
 Acquisition/Completion/HOTO (v) Sl. No. (vi) Quantity (vii) Base Unit of
 Measure (viii) Status (Why requires decapitalization), viz. Theft/ Burnt/
 Damaged/ Retirement, etc. (ix) Name of Division (x) Name of Section (xi) Exact
 Location/ Area (xii) Store Receiving No. with Acknowledgement of Damaged/
 Scrap Assets (xiii) Name of Scheme (100%, 6%, Own Capex, etc.)
- On approval of Decapitalization proposal, necessary decapitalization is carried out with the Original Cost of such fixed Assets and Accumulated Depreciation being removed from the FAR and Financial Account.

In accordance with the Regulation 3.8.6 of the 'Odisha Electricity Regulatory Commission (Terms and Condition for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2022, any loss on such retirement/ decapitalization shall be allowed to be recovered through ARR subject to approval of the Commission for such retirement/ decapitalisation.

Based on the above, any Decapitalisation of Asset is brought to the Hon'ble Commission for approval.

- The Decapitalized Asset, subject to it being commercially viable (viz. transport cost being less than likely scrap sale proceeds) is transferred to the Stores.
- A committee examines the material, and only on its recommendation for scrapping, the same is taken up for sale through auction. The income from such scrap sale is accounted for in terms of Regulation 5.9.2 (b) of Tariff Regulations, 2022, which is reproduced below:

"5.9.2 (b) Income from sale of scrap pertaining to period prior to effective date and Profit/Loss from sale of scrap of assets created after effective date."

ix. Regarding comprehensive plan on component-wise requirement of different assets in future years (at least 5 years) vis-a-vis actual availability and plan of action to meet the requirements; TOCODL has stated that it has submitted its Business Plan for FY-25 to FY-28 on 31.05.2023. The Business Plan for FY 2023-24 was earlier submitted on 30th January 2023. Taking into account TPCODL's Business Plan for FY 24 to FY-28, the broad activity / component-wise requirement for next five year is as provided in table below.

Activity	Unit	Quantity	Quantity	Quantity	Quantity	Quantity	Remarks
		in FY 24	in FY 25	in FY 26	in FY 27	in FY 28	
Intermediate poles for							
unsafe to safe location	No.s	975	1200	1200	1500	1500	
Fencing & Boundary							
Wall of Distribution							Ensuring safe Working
substations (DSS)	No.s	370	500	580	580	500	environment
Unsafe to Safe							
(damaged LT AB							
Cable Repl)	ckm	66	75	90	80	70	
Conversion of LT Bare							For Loss reduction in
to LT AB Cable	ckm	296	370	450	350	350	system via theft
11kV New Line	ckm	21.7	20	25	25	25	
Upgradation of 11 KV							
Line	ckm	105	100	120	125	100	English
Upgradation of 33 KV							improvement
Line	ckm	95	100	100	100	100	schemes
33kV New							
Line	ckm	11	10	10	10	10	
LVRT	No.s	8	10	10	10	10	
PTR augmentation	No.s	11	12	12	11	8	Augmentation of
DTR augmentation	No.s	63	63	63	63	63	existing system, due to load growth

- Regarding justification for proposing separate DR centres for TPCODL, TPNODL & x. TPSODL at TPWODL area instead of being housed in one centre, as most of equipment are common in nature and replication cost may be avoided, TPCODL has submitted that DR Center Civil and Electrical Infrastructure including Precision Cooling and Building Management System shall be singular for better management as well as reduction of CAPEX and OPEX costs. Such DR Center has already been proposed by TPWODL to be set up at Burla. TPWODL shall only be providing the passive infrastructure, which is the Data Center Building including Air-conditioning and Electricity. All the DISCOMs own their respective IT and Automation Server infrastructure exclusively for each of their respective applications viz. ERP, MBC, Smart-Metering, GIS, Network Analysis, SCADA and bespoke Applications. Such applications shall have Disaster Recovery setup with Servers (compute, network and storage capacity) considering their respective resource requirement for data replication as well as activation of the DR System in case of disastrous situation at Data Center. Accordingly, the DISCOMs have proposed their respective Server Infrastructure for their exclusive use, to be housed at the TPWODL owned DR Center proposed at Burla.
- Regarding repetition of work in certain heads such as replacement of bare conductor with AB cables shown in "Safety" head as well as "System Augmentation" head, TPCODL has submitted that amount proposed by TPCODL under Safety head for LT AB cable is for replacement of defective LT AB Cable by new LT AB Cable. However,

under "Loss Reduction" Head, TPCODL has proposed for LT AB Cable which is for replacement of bare LT conductor to AB Cable, for reduction of technical loss and to reduce theft in the system. No budget has been claimed for this activity under "System Improvement Head"

- xii. Regarding cost variation of Drones among the DISCOMs, (i.e. Rs 20 lakhs per unit for TPCODL, 15 lakhs per unit for TPNODL, Rs 25 lakhs per unit for TPSODL and Rs 40 lakhs per unit for TPWODL), TPCODL has submitted that they have taken estimated rates from the supplier but no budgetary offer taken. Hence no documentary evidence of the rates considered in the DPR.
- xiii. Regarding ready the details of ready to use office assets, TPCODL has submitted that the details of ready to use office assets that are estimated to be procured by TPCODL for meeting its requirement are as provided below.

SL.	Particulars	Amount	Quantity	Offices to be covered
No				
1	Office	₹ 1,00,00,000	Table- 200 nos. Office	Division Offices, SDO
	Furniture		Chair- 400 nos. Almirah-	Offices, Section Offices,
			100 nos. Storage Units- 200	CCC, MRT, EMR, GRF,
			nos. Pedestrials- 250 nos.	Stores
2	Water Cooler	₹ 5,60,000	25 nos.	SDO Offices, CCC, MRT,
				EMR, Stores and other
				additional offices
3	Water Purifier	₹ 7,20,000	90 nos.	Section Offices, CCC,
				MRT, EMR, Stores and
				other additional offices
4	AC	₹ 55,00,000	110 nos.	Corporate Offices,
				Division Offices, SDO
				Offices, CCC, MRT, EMR,
				Stores and other additional
				offices
5	Photocopier	₹ 4,00,000	5 nos.	MRT, EMR, Stores
6	Misc.	₹ 12,00,000		Emergency items for
				offices on as and when
				required basis

xiv. TPCODL was asked that the expenditure proposed by it for PTR augmentation seems to be on higher side. Since the loading in most PTRs is around 30% to 40% as shown during presentation, hence even if future load growth is taken into consideration, there is no significant requirement for upgradation of the existing PTRs in network, which needs justification. In response, TPCODL has submitted that it has carried out an analysis by applying a two years load growth on the PTR loading data of Summer'22 to arrive at the estimated loading of PTR during next summer i.e. Summer'24. Based on this analysis, TPCODL has identified the PTRs that will be critically overloaded for

which augmentation is proposed in Capex plan for FY-24. In its submission TPCODL has furnished the analysis and identified PTRs for augmentation based on their loading and stated that the PTRs which have been identified for augmentation are all exceeding 78 % loading in Summer '24 (most exceeding 90% and some even 100%).

- 18. The submissions of the Respondent-OPTCL are summarized as follows:
 - a) Under Safety & Statutory, the Applicant has proposed Rs.16.00 Cr. for FY 2023-24 which, inter alia includes Rs. 4.5 Cr for replacement of LT bare/ defective deteriorated LT AB cable to LT AB cable. TPCODL needs to furnish the CAPEX related to conversion of deteriorated LT AB cable to LT AB cable to LT AB cable separately.
 - b) TPCODL has proposed Rs. 35 Cr. under Loss Reduction for FY 2023-24 which includes of Rs. 20 Cr for replacement of 296 Km of LT bare to LT AB cable. Previously the Commission had approved Rs 16.00 Cr for replacement of 351 Km of LT bare to LT AB cable for FY 2022-23. Applicant should provide the completion of the work during FY 2022-23 with details of length and the name of the feeder.

Further, defective Cable Replacement is a routine activity and to be covered under R&M Activities for which Rs. 276 Cr. has already been approved via RST Order dated 23.03.2023. The proposed associated cost of. Rs.20.0 Cr. may be excluded from the Capex proposal for FY 2023-24.

- c) Under Reliability, the Applicant has proposed Rs. 124 Cr. for FY 2023-24 including proposal of Rs. 22.75 Cr. under SCADA/GSAS implementation. It was observed that TPCODL had capitalized only Rs.3.27cr. out of Rs. 21.71 Cr. approved under CAPEX for the FY 2021-22 under above activity. As a result, Commission had allowed Rs11.5 Cr for FY 2022-23 against proposal of Rs. 23 Cr. under above category. So, applicant needs to furnish capitalisation of the CAPEX work for FY 2021-22 and FY 2022-23.
- d) Under Load Growth for FY 2023-24, the Applicant has proposed Rs. 50 Cr. while during FY 2022-23 an amount of Rs. 24.87 Cr was allowed against the proposal of TPCODL for above item. Applicant had already been allowed to spend Rs 10 Cr. for augmentation of power transformer in Bhubaneswar and Cuttack City. But Applicant has again proposed Rs 27 Cr. for the same. Hence, the Commission may allow the capex for above augmentation work with due diligence.
- e) Under Infrastructure, TPCODL has proposed Rs. 75 Cr. for FY 2023-24 including Rs.
 1.84 Cr. for office assets. Proposal for Office assets under Capex may be rejected as the

same is to be covered under A&G Expenses already approved in the RST order for 2023-24.

- f) In view of the above, OPTCL, has requested the OERC to consider the following points before approval of Capex-2023-24 of the TPCODL.
 - The Commission may appoint third party Consultants to verify the claim of the Discom in the matter of quantum of works completed and expenditure incurred thereon under Capex: 2022-23 before allowing further Capex.
 - Allow Capex in areas where cost is neutralised in terms of lower tariff or lower loss and enhanced consumer satisfaction.
 - Allow as much Capex such that, the work can be completed within March, 2024 without being carried forward to the next FY 2024-25.
 - To direct the petitioner to furnish the audited account from an independent consultant in terms of work completed, expenditure incurred thereof, pending works if any, schedule for completion of balance pending works, assets capitalisation etc.
- 19. The submissions of the Respondent- GRIDCO are summarized as follows:
 - a) The CAPEX Plan should be implemented considering the actual requirement of new/ augmentation/ renovation of the existing system with proper requisite planning, considering the upcoming industrialisation in various locations, increasing demand of industries, growth in domestic and commercial sectors, impact due to climate change commensurate with latest technology.
 - b) The expenses earmarked and in the nature of R&M activities and also of similar nature may be excluded from the scope of the Capex Plan and need to be considered under R&M heads.
 - c) The deferral of expenses may be considered evaluating the priority for expenses allocation vis-a-vis the cost benefit analysis of the proposal, justifying the Capex plan with reference to the basic parameters including increase in revenue, load growth requirement, reduction in AT&C loss, improvement in supply, etc.
 - d) The Comprehensive Capex plan needs to be implemented by TPCODL, with the approval of the Commission for the Tariff control period with the annual breakup considering the actual requirement vis-a-vis progress made under various heads for all ongoing projects.

- e) The Commission is required to conduct due diligence and prudence check of the Capex Proposal under various components while approving the CAPEX Plan for the FY 2023-24 to meet the end objectives of CAPEX investments so as to be tariff neutral in the greater interest of the consumers of the State.
- 20. The respondent, Department of Energy, has not submitted any specific comments on the activities proposed by the petitioner under CAPEX for FY 2023-24. However, during the hearing. the representative of DoE, GoO has orally submitted the following:
 - a) It needs to be ensured that there should not be any repetition of work under the proposed CAPEX and the work already approved/executed under different Government funded schemes.
 - b) Proper scrutiny of the CAPEX proposal needs to be carried out by the Commission before approving the CAPEX amount in order to avoid unnecessary burden on consumers.
- 21. Heard the petitioner and respondents at length through hybrid mode (physical and virtual mode) and considered their submissions and arguments during the hearing. As per Section 42 of the Electricity Act, 2003 read with Condition 7 of the Licence Conditions and Regulation 4 of the General Conditions of Distribution Licence, and the OERC (Conduct of Business) Regulations, 2004, it shall be the duty of the Distribution Licensee to develop and maintain an efficient, coordinated, economic distribution system in its area of supply and to supply electricity in accordance with the provisions in the Act, Rules, Regulations and the directions of the Commission. The Commission is guided by Section 61(c) of the Electricity Act, 2003, i.e., by the factors, which would encourage, competition, efficiency, economical use of the resources, good performance and optimum investments while determining the tariff.
- 22. As per the provisions in the OERC Wheeling and Retail Supply Tariff Regulations, 2022, TPCODL has submitted the specific details of works i.e., location at which the works have been proposed, cost benefit analysis for majority of the schemes and the Board approval for the same. As per the submissions of TPCODL, it was observed that TPCODL has been able to utilise around 88.21% of the approved CAPEX during FY 2020-21, 75.71% of the approved CAPEX for the FY 2021-22 and 37.70% of approved CAPEX for the FY 2022-23. TPCODL has submitted that the pending CAPEX works will be completed and capitalised in FY 2023-24.
- 23. The Commission analyzed the Capex plan for FY 2023-24 basing on the submissions made by petitioner. In the present case as per para 42 of the Vesting Order, the petitioner has

committed capital expenditure of Rs.1541 Cr for the period from FY 2020-21 to FY 2024-25 as follows:

"42. Capital investment plan

(b) In its Bid submitted in response to the RFP, TPCL committed capital expenditure of Rs. 1,541 Crs. (Indian Rupee One thousand five hundred and forty-one Cr only) for period FY 2021 to FY 2025 as follows:

Table 1: TPCL Capital Expenditure Commitment

(Values in Rs. Cr)

FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	Total
201	393	310	338	299	1541

(c) To allow flexibility in the capital expenditure planning, the Commission stipulates that, in the capital expenditure plan to be submitted by TPCODL as per the license conditions, the capital expenditure commitment for each year of the period FY 2021 to FY 2025 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 TPCODL for the period FY 2021 to FY 2025 must be as provided in the table below:

				(Values in Rs. Cr)
Up to 31-Mar- 2021	Up to 31-Mar- 2022	Up to 31-Mar- 2023	Up to 31-Mar- 2024	<i>Up to 31-Mar-2025</i>
201	594	904	1,242	1,541

Table 2: TPCL Cumulative Capital Expenditure for 5 years

24. As regards Capex Proposal for FY 2023-24, the petitioner has submitted that as per the Vesting Order it has to achieve a cumulative Capex of Rs.1242.00 Cr upto FY 2023-24. The Commission has approved Rs.959.92 Cr. under the Capex Plan till FY 2022-23. Hence, to comply with the commitment made in the Vesting Order, TPCODL should have submitted minimum Capex of Rs.282.08 Cr. to meet the cumulative Capex commitment of Rs.1242.00 Cr. However, TPCODL in the current revised Capex DPR has proposed an investment of Rs.300.05 Cr. for FY 2023-24 as shown below:

Balance Capex to be made during FY 2023-24 as per Vesting Order	Board Approved Capex	Capex as per revised DPR Submitted
282.08	300.05	300.05

Sl. No.	Capex Head	Board Approved Capex	Capex as per revised DPR Submitted
1	Statutory & Safety	16.00	16.00
2	Loss Reduction	35.00	35.00
3	Reliability	124.00	124.00
4	Load Growth	50.00	50.00
5	Technology & Infrastructure	75.05	75.05
	Total Proposed Capex	300.05	300.05

(Rs. in Cr.)

26. The Commission has analyzed the Detailed Project Report (DPR) for Capex plan of above Rs. 300.05 Cr for the FY 2023-24 under the following five major categories i.e. (i) Statutory and safety, (ii) Loss reduction, (iii) Reliability, (iv) Load growth and (v) Technology & Infrastructure in the submission of TPCODL's Capex DPR. The same have been evaluated considering the following points:

- (a) The present condition of the Distribution Infrastructure.
- (b) Whether the Schemes claimed are in line with the provision of various Regulations of OERC, Act, Orders of the Commission etc.
- (c) Whether investment will meet the consumers' expectations in respect of reliability, availability & quality of power supply in a cost-effective manner.
- (d) The status of capex approved and actual capitalization till FY 2022-23.
- (e) The requirement of the capex activity/work proposed for FY 2023-24.
- (f) Tariff impact on the consumers.
- 27. Statutory & Safety: The Commission has examined the capex proposed by the petitioner for each activity under statutory & safety head. We observe that the proposal for CCTV installation and Racking system installation at the stores of the licensee is required for proper storage of the material and their protection from theft. Similarly, Access Control System for PSCC is also required for controlling unauthorized access. Further, standardized testing k i t s / equipment and its regular calibration is required for assessing the health of the equipments. In addition, for ensuring statutory safety compliances and for providing reliable power supply, refurbishment of 33kV, 11kV and LV lines with interposing poles is essential to maintain statutory safety clearance. Further as a part of the safety measures, proper placing of DTRs on plinth/pole, Boundry wall/ Fencing of PSSs and DSSs is also required wherever it does not exist or damaged. The proposal of TPCODL, for replacement of LT Bare overhead conductors and defective LT AB cable with new LT AB cable in phased

manner emphasizing critical areas such as schools, hospitals, markets and other key installations, is accepted by the Commission as it is to ensure safety, prevent theft of electricity and improve reliability of power supply to the consumers. Considering the above, the Commission approves the proposed CAPEX of Rs. 16.00 Cr. for FY 2023-24 under the head Statutory and Safety. The activity wise details proposal and the Commission's approval are given in the table below:

	Board approved	Commission's
Activity	Budget	Approval
Safety & Security arrangement at critical		
locations	0.25	0.25
Testing Equipment for STS	3.00	3.00
Interposing Pole	3.25	3.25
Fencing / Boundary Wall / DT plinth	5.00	5.00
Unsafe to Safe	4.50	4.50
Sub-total	16.00	16.00

28. Loss Reduction: - The petitioner has stated that, during site visit and review of database, they have found 2 lakhs old electromechanical meters which are to be replaced. These meters have cables with joints which may cause electrocution and pilferage of electricity. These ramshackle cables will aid in pilferage, thereby reducing billing efficiency and consequential higher AT & C losses. Therefore, the petitioner has proposed CAPEX of Rs. 5 Cr. for replacement of damaged service cables. Further, the petitioner has proposed CAPEX of Rs.10 crore for procurement of metering accessories, CTs, PTs, breakers, control cables etc. towards metering at feeder level. Further, under loss reduction head the petitioner has proposed CAPEX amount of Rs.20 crore for replacement of LT bare conductor with LT AB cable to reduce direct hooking on LT bare conductor and thereby reducing commercial losses in threat prone areas. Considering the above, the Commission approves the proposed CAPEX of Rs.35.00 Cr. for FY 2023-24 under the head Loss reduction. The activity wise details proposal and the Commission's approval are given in the table below:

Activity	Board approved Budget	Commission Approval
Defective Meter replacement (Including Modem Rectification and Meter replacement for tariff compliance)	5.00	5.00
33KV & 11kv Feeder Metering for Energy Accounting	10.00	10.00
Conversion of LT Bare to LT AB Cable	20.00	20.00
Sub-total	35.00	35.00

29. Reliability: -Under this head TPCODL has proposed CAPEX of Rs.8.00 crore for SCADA enablement of conventional substations, Rs.1.00 crore for FRTU (Feeder Remote Terminal Unit) & communication for RMU (Ring Main Unit) and Rs.13.73 crore towards implementation of GSAS (Grid Station Automation System), for improvement in power reliability & MTTR (Minimum Time to Repair) the system, reduction in equipment failure and unmanning of the stations in future. The petitioner has proposed CAPEX of Rs.0.25 crore for weather stations installation at 20 strategic locations and central integration with data accumulation and analytics, which will help DISCOMs to determine demand variation with respect to change in weather. The petitioner has further proposed CAPEX of Rs.5.00 crore for replacement of sick equipment in order to strengthen the existing network for managing the load in case of any exigency and mitigate the issue of overloading etc. We are not agreeable with this proposal of TPCODL since replacement of sick equipment can very well be done through R & M. Under the proposed microgrid installation plan, TPCODL has proposed CAPEX of Rs.3.00 crore for installation of two numbers of micro grids at Kharmul under Dhenkanal Division and Dimripali under Nayagarh Division in order to provide reliable power supply to the consumers having loads in scattered locations and sparsely populated area. Further, TPCODL has proposed CAPEX of Rs.4.00 crore for installation of 8 nos. of LVRT (Low Voltage Regulator Transformer) at low voltage areas to mitigate low voltage issues in the 11 kV network. We observed that LVRT is not a long term solution to improve voltage profile. Number of other measures/initiatives like upgradation of Transformers & line conductors, creation of new PSS to shift loads etc. are being taken up through capex. Therefore, we do not find any requirement for LVRT in 11 kV feeders. Accordingly, we do not approve the same. TPCODL has proposed CAPEX of Rs.1.00 crore for installation of capacitor bank for reactive power compensation to mitigate low voltage issues in downstream LT network. TPCODL has proposed CAPEX of Rs.45.00 crore for construction of new 33 kV lines, conductor augmentation, 33 KV bus splitting and HT AVR at PSS in order to optimize feeder loading, mitigate feeder over loading & low voltage issue, power evacuation from grids and achieving N-1 redundancy. TPCODL has further proposed CAPEX of Rs.22.00 crore for construction of new 11 kV lines, conductor augmentation, to avoid feeder overloading & low voltages and achieving N-1 contingency condition. TPCODL has further proposed CAPEX of Rs.13.00 crore for installation of Auto Recloser, RMU and MCCBs to strengthen and make the existing 33 kV and 11 kV network more reliable by preventing/interrupting faults and ensuring flexibility to the field teams in 11 kV feeder operation. The TPCODL has further proposed CAPEX of Rs.7.00 crore for 33 kV feeder refurbishment for improving the circuit capacity by replacing the weaker section with appropriate conductor size. The petitioner has further submitted CAPEX of Rs.1.00 crore for strengthening the earthing system in power distribution system which will ensure less chances of fault and equipment safety. Considering the above, the Commission approves the CAPEX of Rs.115.00 Cr. for FY 2023-24 under the head 'Reliability'. The activity wise details proposal and the Commission's approval are given in the table below:

SL. No	Activity	Board approved Budget	Commission Approval
1	SCADA Enablement of Conventional Substation – 60 Nos. of 33/11 kV Primary Substations	8.00	8.00
2	FRTUs and Communication for RMU	1.00	1.00
3	GSAS Implementation	13.75	13.75
4	Weather stations installation and central integration with data accumulation and analytics	0.25	0.25
5	Replacement of Sick Equipment	5.00	0.00
6	Installation of Micro Grid (2 Nos)	3.00	3.00
7	LVRT (8 Nos)	4.00	0.00
8	Capacitor Bank Installation for Reactive Power compensation	1.00	1.00
9	33KV Network Infrastructure	45.00	45.00
10	11KV Network Infrastructure	22.00	22.00
11	AR/FPI/MCCB/RMU	13.00	13.00
12	33KV Feeder Refurbishment	7.00	7.00
13	Earthing	1.00	1.00
	Sub-total	124.00	115.00

30. Load Growth: The petitioner has submitted that in order to meet the growing load, network infrastructure needs to be strengthened and new energy meters to be installed to release the new connection. For this purpose, some existing network may require augmentation/ addition/ extension before release of new connection. The petitioner has proposed CAPEX of Rs.10.00 crore under load growth for carrying out such work. Further, the petitioner has proposed CAPEX of Rs.30 crore for power transformer augmentation to cater to the increasing load demand and avoid any over loading issues. The petitioner has proposed for such PTR augmentation after considering PTR swapping and load shifting from one transformer to other transformer within the substation. The petitioner has further proposed CAPEX of Rs.10.00 crore for DTR augmentation for catering to the increasing load demand and to avoid overloading of transformer leading to transformer failure and power interruption. Considering the above, the Commission approves the proposed CAPEX of Rs.50.00 Cr. for FY 2023-24 under Load Growth. The activity wise details proposal and the Commission's approval are given in the table below:

Sl. No.	Activity	Board approved Budget	Commission Approval
1	New Connection Release	10.00	10.00
2	Power Transformer Augmentation	30.00	30.00
3	DT Augmentation	10.00	10.00
	Sub-total	50.00	50.00

31. **Technology & Infrastructure:** The petitioner has submitted that to manage the operation of huge numbers of PSSs remotely there is a need of infrastructure development. The petitioner has proposed CAPEX of Rs.1.01 Cr. to implement a central call management system in order to streamline and manage the operation desk effectively so that the outages can be managed in minimum possible time without any hassle. We approve this proposal without inclusion of proposed expenditure of Rs.0.15 Crore towards body & mind fitness enhancing equipment for desk engineers. The petitioner has proposed CAPEX of Rs. 1.00 Cr. for modernisation of its 15 nos. of APSCC centers by installing two numbers of work stations at each APSCC along with necessary infra similar to the standard of a typical control room. Further the petitioner has proposed CAPEX of 11.00 Cr. for IT-software, user device, Back-up system, storage device and application for FY 2023-24 out of its total five years IT CAPEX plan of 54.39 Cr. We approve this proposal without inclusion of proposed expenditure of Rs.6.00 Crore for document digitization. This work can be very well done through A&G expenses. The petitioner has proposed CAPEX of Rs. 25.00 Cr. for set-up of Centralised Server Room with 100-rack space at Technology Centre at Bhubaneswar, which will be built by TPCODL and will be used by all four DISCOMs and deliver distribution services to all the consumers of the state. But we do not agree for inclusion of rodent repellent under this head of server room PAC and BMS which can be done under A&G head. Therefore, we disallow the proposed expenditure of Rs.0.06 Crore for rodent repellent under this head. The petitioner has proposed CAPEX of Rs. 21.00 Cr for upgradation of Civil infrastructure. After scrutiny of each item, it is observed that the total proposed civil works estimated is Rs. 20 Cr. But erroneously in CAPEX plan it is shown as Rs. 21 Cr. The petitioner has proposed CAPEX of Rs. 1.20 Cr for RMU/DT workshop which include setting up of a switchgear workshop with basic in-house testing and repair facility, which will help to enhance the life of the switchgears as well as reduce the operational expenditure. Further, the petitioner has proposed CAPEX of Rs. 13.00 Cr for GIS implementation in order to improve the safety of the people and stray animals and improve the safety of the equipment. Further, the petitioner has proposed CAPEX of Rs.1.84 Cr under Ready to Use Admin Asset which includes office furniture, water cooler / purifier, Air conditioner etc. It is found that this proposal of Rs.1.84 Crore includes Rs.0.12 Crore expenditure of emergency items for offices on as and when required basis. We do not agree for inclusion of this amount of Rs.0.12 Crore in capex as it could be met from A&G expenses. Considering the above, the Commission approves the proposed CAPEX of Rs.67.72 Cr. for FY 2023-24 under the head Technology & Infrastructure. The activity wise details proposal and the Commission's approval are given in the table below:

Sl. No	Activity	Board approved Budget	Commission's Approval
1	Call Management System for PSCC	1.01	0.86
2	APSCC Modernization work for 15 APSCC at all Divisions	1.00	1.00
3	IT - Software, User Devices, Back- up system, Storage devices and Applications	11.00	5.00
4	Server Room PAC & BMS	25.00	24.94
5	Civil Works at various stores	21.00	20.00
6	RMU / DT Workshop	1.20	1.20
7	GIS Implementation	13.00	13.00
8	Ready to Use Admin Asset	1.84	1.72
	Sub-total	75.05	67.72

32. 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 the issues relating to reduction in losses, low voltage, over loading, metering infrastructure, earthing etc. Priority should be given to the works related to above issues over IT & OT infrastructure development, SCADA and automation etc. Based on the above analysis and in view of the necessity of development of distribution infrastructure, reduction in AT&C loss, addressing safety related issues, improving reliability of power supply and better service to the consumers, the Commission approves the Capex of TPCODL amounting to Rs.283.72 Crore (against TPCODL's proposal of Rs.300.05 Crore) for the FY 2023-24. The details of various activities under five measure heads are summarized in the table below: -

TPCODL CAPEX Pro	posal and the Commission's	approval for H	FY 2023-24	(Rs. Crore	e)
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SI. No.	Major Head	Activity	Board approved CAPEX proposal	Commission's Approval
		Safety & Security arrangement at critical		
1	Safety & Statutory	locations	0.25	0.25
		Testing Equipment for STS	3.00	3.00
		Interposing Pole	3.25	3.25

SI. No.	Major Head	Activity	Board approved CAPEX proposal	Commission's Approval
		Fencing / Boundary Wall / DT plinth	5.00	5.00
		Unsafe to Safe	4.50	4.50
		Sub-total	16.00	16.00
	Ţ	Defective Meter replacement (Including Modem Rectification and Meter replacement for tariff compliance)	5.00	5.00
2	reduction	33KV & 11kv Feeder Metering for Energy Accounting	10.00	10.00
		Conversion of LT Bare to LT AB Cable	20.00	20.00
		Sub-total	35.00	35.00
		SCADA Enablement of Conventional Substation – 50 Nos. of 33/11 kV Primary Substations	8.00	8.00
		FRTUs and Communication for RMU	1.00	1.00
		GSAS Implementation	13.75	13.75
		Weather stations installation and central integration with data accumulation and analytics	0.25	0.25
		Replacement of Sick Equipment	5.00	0.00
2	Reliability	Installation of Micro Grid (2 Nos)	3.00	3.00
3		LVRT (8 Nos)	4.00	0.00
		Capacitor Bank Installation for Reactive Power compensation	1.00	1.00
		33KV Network Infrastructure	45.00	45.00
		11KV Network Infrastructure	22.00	22.00
		AR/FPI/MCCB/RMU	13.00	13.00
		33KV Feeder Refurbishment	7.00	7.00
		Earthing	1.00	1.00
		Sub-total	124.00	115.00
		New Connection Release	10.00	10.00
		Power Transformer Augmentation	30.00	30.00
4	Load Growth	DT Augmentation	10.00	10.00
		Sub total	50.00	50.00
		Call Management System for DSCC	1.01	0.86
5	Infrastructure	APSCC Modernization work for 15 APSCC at all Divisions	1.00	1.00
		IT - Software, User Devices, Backup system, Storage devices and Applications	11.00	5.00
		Server Room PAC & BMS	25.00	24.94
		Civil Works at various stores	21.00	20.00
		RMU / DT Workshop	1.20	1.20
		GIS Implementation	13.00	13.00
		Ready to Use Admin Asset	1.84	1.72
		Sub-total	75.05	67.72

SI. No.	Major Head	Activity	Board approved CAPEX proposal	Commission's Approval
		TOTAL	300.05	283.72

- 33. It is observed that earlier the Petitioner-TPCODL, vide its letters dated 27.04.2023 and 08.05.2023, had requested the Commission for approval of Rs.4.50 Crore for immediate upgradation of some overloaded distribution transformer in Bhubaneswar city on urgent basis to meet the summer load. Considering the urgency of requirement, the Commission, vide its letter dated 09.05.2023, had accorded in-principle approval of Rs.4.50 Crore prior to approval of the Capex of TPCODL for the FY 2023-24 and the Commission had directed that approval of Rs.4.50 Crore shall be considered as a part of the Capex proposed by TPCODL for FY 2023-24. Hence, the approval of Rs.283.72 Crore of Capex in respect of TPCODL in the instant order includes the above said interim approval of Rs.4.50 Crore.
- 34. It is further observed that the Commission has already approved Capex of Rs.959.92 Crore for the period from FY 2020-21 to FY 2022-23, out of which TPCODL has made actual Capex of Rs.617.19 Crore as on 31.03.2023 and Rs.520.33 Crore has been capitalized. This indicates that Rs.96.86 Crore (Rs.617.19 Cr. Rs.520.33 Cr.) is under work in progress which is yet to be capitalized and TPCODL has not made utilization of Capex amounting to Rs.342.72 Crore (Rs.959.92 Cr. Rs.617.19 Cr.) out of the total approved Capex of Rs.959.92 Crore as on 31.03.2023. Further, the Commission approves Rs.283.72 Crore for the FY 2023-24 in the instant order. Hence, TPCODL has to utilize Capex of Rs.626.44 Crore (Rs.342.72 Cr. + Rs.283.72 Cr.) during the FY 2023-24. The Commission takes the note of the fact that TPCODL was not able to utilize Rs.342.72 Crore out of the Capex approved as on 31.03.2023. Therefore, TPCODL is directed to make its plan in such a manner that it will be able to utilize the pending Capex of Rs.342.72 Crore as on 31.03.2023 and able to the current FY 2023-24.
- 35. The Commission further observed that the supervision charges are imposed on the consumers when he bears the cost of extension of distribution main or its upgradation under remunerative scheme for availing power supply under Regulation 27 of Supply Code, 2019. The supervision charge is received by the DISCOMs for supervising the work meant for a particular consumer under remunerative scheme which becomes the property of DISCOMs once the infrastructure is energized. Therefore, supervision is meant to ensure that the works are done by the consumers as per standard of the DISCOMs which will be the property of DISCOMs afterwards. But in this case the work will be done by the DISCOMs themselves under Capex for their own use to carry out their own business. Supervising their own work

is the part of the business of DISCOMs which is being allowed through their ARR under employee cost. Again, claiming supervision charges for their own work under Capex is not justified and hence, we advise DISCOMs not to consider supervision charges while capitalizing the assets created under Capex proposal approved by the Commission though it is inbuilt in the Capex approval.

36. The year-wise and cumulative Capex approved by the Commission is shown in the table below:

Financial Year	Minimum Capex	Capex Approved
	required as per Vesting	by the Commission
	Order (Rs Cr)	(Rs Cr)
FY 2020-21	201.00	280.63
FY 2021-22	393.00	298.73
FY 2022-23	310.00	380.56
FY 2023-24	338.00	283.72
Cumulative Capex till FY 2023-24	1242.00	1243.64

- 37. The approved cost shall be passed in the ARR as per the norm subject to rational utilization by the petitioner and prudent check through audit.
- 38. In addition to the observations stated above, the Commission directs TPCODL to
 - (i) Prioritize the completion of important works like strengthening/expansion of distribution infrastructure, measures for loss reduction, metering, addressing overloading & low voltage issue etc. over the Capex plan for IT implementation covering procurement of software, implementation of SCADA/GSAS & work related to DR & DC etc.
 - Plan for utilization of the pending Capex of Rs.342.72 Crore as on 31.03.2023 along with the Capex of Rs.283.72 Crore approved for the current FY 2023-24.
 - (iii) Maintain fixed register including the Capex approved by the Commission from time to time.
 - (iv) Submit the Capex proposal along with the approval of Board of Director for FY 2024-25 onwards for consideration by the Commission.
 - (v) Submit the Capital Investment Plan strictly adhering to the provisions of wheeling & Retail Supply Tariff Regulations, Vesting Orders and the License Conditions prioritizing the operation area of TPCODL (indicating the name of Division & activities undertaken) for proposed investment.
 - (vi) Submit quarterly progress report for the works along with the details of materials utilised vis-à-vis various activities shown in the DPR.

- (vii) Formulate implementation plan for the approved Capital Investment and take steps for execution accordingly to avoid cost and time overrun.
- (viii) Procure the materials/award the contracts only through transparent competitive bidding process. The requirement of materials shall be prepared based on standardisation of distribution elements. The ratings of equipment / material including DTRs & PTRs need to be standardized across the DISCOMs and standard specifications need to the adopted across the DISCOMs.
- (ix) Effort should be made to optimize project cost with efficient project management and leveraging various technology options so that the benefit can be pass on to the consumers.
- Ensure that there is no duplication of work covered under the CAPEX approved for
 2023-24 and the assets created / to be created through Government Schemes/support.
- (xi) Planned new 33/11 kV substations shall have (N-1) contingency provision for incomer & Power Transformers (PTRs), double bus switching scheme/main & transfer bus scheme with Bus coupler and adequate space should be available in PSS for future expansion to avoid additional substations in the nearby areas.
- (xii) TPCODL should have regular interaction with the OPTCL to ensure that the requirement of additional Grid Sub-stations (220/33 kV or 132/33 kV or 220/132/33 kV) are planned as per need of TPCODL 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 TPCODL for their distribution system.
- (xiii) Provide cost benefit analysis and quantification of benefits in terms of percentage of loss reduction, metering & billing, asset mapping, reduction in low voltage areas, reduction in tripping of 33 kV & 11 kV feeders, reduction in failure of equipment/material (PTRs, DTRs, CBs, SAs, etc.), and improvement in safety by reduction in fatal & non-fatal accidents of human being & animals etc. in different divisions of TPCODL's operating area due to addition of distribution infrastructure covered under the capex proposal for the FY 2023-24.
- (xiv) Provide the financial plan for funding of capex proposal along with rate of interest for the FY 2023-24
- (xv) The details of investment in development/augmentation of distribution infrastructure in various divisions of the TPCODL.

- (xvi) Submit the details of compliances of the direction given in the Capex Orders of previous years.
- (xvii) Submit the system study report relating to installation of capacitor banks.
- (xviii) TPCODL need to carry out load flow study of the distribution network for a longer time frame (at least 5 year) as directed during the approval of capex for the FY 2022-23.
- (xix) Submit the status of existing distribution system (prior to taking over and as on 31.03.2023) for each Division indicating the achievement (quantification) in respect of following:
 - Reduction in feeder / line / section length at 33kV & 11kV level.
 - Reduction in overloading of 33kV & 11kV lines, PTRs, DTRs
 - Reduction in low voltage pockets
 - Repairing of boundary walls for PSSs and fencing of DSSs
 - (N-1) contingency for PTRs and incomer at 33kV level in existing PSSs
 - Smart metering 33kV & 11kV feeders, PTRs, DTRs, Govt & non-Govt. establishments and 3 phase consumers etc.
 - Provision of protection for 33kV & 11kV overhead lines & UG cable, PTRs & DTRs (primary & secondary side)
 - Improvement in earthing in PSSs & DSSs
 - Length (in cktkm) of overhead line converted and proposed to be converted to ABC in future
 - No supervision charges shall be considered under Capex.
- 39. Accordingly, the case is disposed of.

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

Sd/-(S. C. Mahapatra) Chairperson