

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

Present: Shri U. N. Behera, Chairperson
Shri S. K. Parhi, Member
Shri G. Mohapatra, Member

Case No. 05/2021

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

In the matter of: Application for approval of Capital Investment Plan for the FY 2021-22 in the licensed area of TPCODL.

For Petitioner: Shri Shenbagam Manthiram, CEO, TPCODL, Shri Vidyadhar Wagle, Head (Regulations), TPCODL.

For Respondents: Shri K.C.Nanda, DGM (Fin.), TPWODL, Shri Gajanan Kale, CEO, TPWODL, Shri Arvind Singh, CEO and Shri Milind Pravakar Kulkarni, Chief Operation Services of TPSODL, Shri Bhaskar Sarkar, CEO, TPNODL, Shri B.K.Das, Sr. GM (RT & C), OPTCL, Shri R.P. Mahapatra, Shri L.K.Mishra, GRIDCO, Shri Ramesh Satpathy, Shri Prabhakar Dora, Shri Bibhu Charan Swain on behalf of Power Tech Consultant Pvt. Ltd. and UCCI and Ms. Sonali Patnaik, ALO, DoE, GoO.

ORDER

Date of Hearing: 29.06.2021

Date of Order: 18.09.2021

1. The TP Central Odisha Distribution Limited (TPCODL), the Petitioner has submitted an application for approval of Capital Expenditure to the tune of Rs. 567.98 Cr. for FY 2021-22 to carry out various system improvement & safety activities in its area of operation. This application has been filed pursuant to the direction of the Commission at para 42 of the vesting order in Case No.11/2020.
2. TPCODL's licensed area is spread over 29,354 sq.km and serves a registered consumer base of around 28 lakhs. TPCODL procures power from GRIDCO through Odisha Power Transmission Corporation Limited (OPTCL)'s 220/132/33 kV grid substations at sub transmission voltage level of 33 kV and then distributes the power at 33 kV/11 kV/440 volt/230 volt depending on the demands of the consumers. A snapshot of infrastructure of TPCODL has been provided in the table as follows:

Sl. No.	Particulars	Unit	Details (as on 31-Mar 21)
1.	33/11 kV transformers	Number	717
2.	Capacity of PTRs	MVA	4,267
3.	Distribution transformers (11/0.4 kV & 33/ 0.4 kV)	Number	70,164
4.	Capacity of DTRs	MVA	4,966
5.	33 kV Line	Ckt. km.	3,639
6.	11 kV Line	Ckt. km.	37,757
7.	LT Line	Ckt. km.	48,035

3. TPCODL in line with the Vesting Order has to seek the approval of the Capital Expenditure Plan in line with the 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 crores (Indian Rupee One thousand five hundred and forty-one crore only) for period FY 2021 to FY 2025 as follows:*

Table 1: TPCL Capital Expenditure Commitment

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

(Values in Rs. crore)

- (c) To allow flexibility in the capital expenditure planning, the Commission stipulates that, in the capital expenditure plan to be submitted by 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: TPCL Cumulative Capital Expenditure for 5 years

(Values in Rs. crore)

Up to 31-Mar-2021	Up to 31-Mar-2022	Up to 31-Mar-2023	Up to 31-Mar-2024	Up to 31-Mar-2025
201	594	904	1,242	1,541

- (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.”*

4. Further, in line with the Odisha Electricity Regulatory Commission (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations 2014 the licensee is required to take approval from the Commission for undertaking Capex in the licensee served area. The relevant extract of the OERC Tariff Regulations, 2014 is provided as follows:

“Capital Investment

- 7.33 *Capital investment shall cover spending on capital equipment that augments fixed assets and capitalisation of corresponding interest expenses determined as per the applicable accounting policies and guidelines. Capital investments may address a variety of needs such as meeting load growth, refurbishment and replacement of equipment, reduction of losses, improvement of voltage profile, improvement of quality of supply and system reliability, metering, communication, computerisation etc.*
- 7.34 *The licensee shall propose in its filing a detailed capital investment plan. The plan must separately show ongoing projects that will spill into the year under review and new projects that will commence but may be completed within or beyond the tariff period. For the new projects, the filing must provide the justification as stipulated under relevant investment guidelines of the Commission.*
- 7.35 *In addition to the approved capital investment plan, the licensee can seek provision for additional capital expenditure anytime during the tariff year to meet natural calamities involving substantial investments. The Commission shall examine and if satisfied shall approve the corresponding costs for inclusion in revenue requirement in the next period.*
- 7.38 *The Commission shall review the licensees capital investment plan for approval and for this purpose may require the licensee to provide relevant technical and commercial details including corresponding transmission system feasibility. The costs corresponding to the approved capital investment plan of a licensee for a given year will normally be considered for its revenue requirement*
- 7.41 *Licensee could retain financial benefit arising out of savings in financing costs due to faster implementation at lower cost because of better project management or procurement practices. Financial loss on account of time and cost overrun is to be an account of the licensees only.”*
5. As per the Licence Condition 11 and 32 the investment above Rs. 5 Cr. is to be made by the distribution licensee in the licensed business area of operation with the approval of the Commission. The relevant provisions of Licence Condition 11 and 32 are stipulated 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.*

11.10 *For the purposes of this Condition 11, the term "Major Investment" means any planned investment in or acquisition of Distribution facilities, the cost of which, when aggregated with all other investments or acquisitions (if any) forming part of the same overall transaction, equals or exceeds an amount contained in the Specific Conditions applicable to the Licensee or otherwise decided by the Commission from time to time by a general or special order (Refer Condition no. 32.1).*

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 crore or otherwise determined by the Commission from time to time by a general or special order. For smaller transactions for which prior approval of the Commission has not been obtained, the proposals will be considered at the time of annual true-up subject to prudence check by the Commission."*

6. Accordingly, in line with the above, TPCODL has submitted the current petition for approval of Capital Expenditure Plan for FY 2021-22.
7. In July 2020, the Petitioner had submitted a petition for approval of capital expenditure to the tune of Rs. 344.44 Cr. for FY 2020-21 to carry out various activities in its area of operation. The Commission vide its order dt.08.09.2020 in Case No. 32 of 2020 had disposed off the petition approving a Capex of Rs. 280.63 Cr. for FY 2020-21.
8. TPCODL submitted that it receives electrical power at 33 kV level from 51 numbers of 220/33 kV or 132/33 kV transmission substation located within and in the vicinity of TPCODL operational area. TPCODL distributes power at 33 kV/ 11 kV/ 440 V/ 230 V depending on the demand of the consumers. One of the major challenges faced by TPCODL is that the present network condition which at some locations is not compliant with the statutory guidelines and poses threat to safety of employees, public at large and animals. The 33 kV overhead lines are long, radial with undersized, worn out bare conductor having extremely long spans, having damaged, bent, tilted poles, poor joints, compromised safety clearances, and non-availability of guard wires in MV overhead feeders. Therefore, the network needs urgent investment to address the operational, commercial, and safety related challenges to improve the reliability of supply, customer services, and safety of staff, general public and animals.
9. TPCODL has further submitted that it has identified a number of challenges related to Safety, 33 kV/11 kV/0.415 kV network, Metering infrastructure, Customer Services, and Technology usage. These challenges are planned to be addressed through a systematic investment plan, a part of which was proposed by TPCODL for FY 2020-21 in the petition filed in Case No 32 of 2020. The proposed Capex plan represents a justified and efficient level of total capital investment to meet the service obligation, ensuring safe and reliable network, maintaining high level of service standards and to reflect upon the commitment of benchmark customer services through process improvement, capacity building and technology adoption.
10. TPCODL has also submitted a separate proposal for capital expenditure of Rs. 52.79 Cr. for implementation of complete Geographical Information System (GIS) over next 3 years and Rs. 252.23 Cr. for implementation of smart metering. In the order dated 08.09.2020, the Commission has approved capital expenditure proposal for implementation of GIS to the extent of about Rs. 2 Cr. In addition, there was a

proposal for capital expenditure of Rs. 15.36 Cr. for Smart Metering for Distribution Transformers. Both of these were approved by the Commission.

11. The Commission in its Order dated 08.09.2020 in Case No. 32/2020 had approved the Capex of Rs.280.63 Cr for FY 2020-21. Subsequently to increase operational efficiency and to enhance reliability of supply the Commission in its order dated 04.09.2021 has approved an expenditure of Rs.47.6 crores for FY 2021-22 out of in-principle approval of Rs.71.37 crores for development of smart meter backend infrastructure & procurement cost of DT smart meters upto FY 2023-24. The Commission in the same order has also approved an expenditure of Rs.17.32 crores for implementation of GIS road map for FY 2021-22 out of cumulative in-principle approval of Rs.52.79 crores upto FY 2022-23.
12. The present Capex proposal was submitted by TPCODL on 01.02.2021. TPCODL in its proposal highlighted various challenges in the existing infrastructure and network against which it has proposed the capital expenditure.
13. Similar to the methodology adopted in capital expenditure plan for FY 2020-21, TPCODL has submitted Capital Expenditure for FY 2021-22 under five categories described as follows:

a) Statutory, Safety and Security:

TPCODL submitted that the present network at some locations is not compliant to statutory guidelines and pose threat to safety of employees, public at large and animals. TPCODL has proposed to implement a Health Management System to prevent work-related injuries & ill-health to the workers and to provide a safe & healthy workplace to the employees. Further, TPCODL submitted that during a survey conducted it was observed that the boundary walls or fencing are either damaged or doesn't exist thus posing safety threat to stray animal and public at large.

TPCODL also proposed Capex towards upliftment/ development of some of the office locations which have been converted into low lying areas due to raising of road levels by the Roads Department leading to accumulation of water during rains.

TPCODL has further proposed Capex for refurbishment of meter testing labs. At present, there are 5 labs in TPCODL area where 7-meter test benches are installed for testing of Single Phase and Three Phase meters. Owing to the dilapidated condition of the existing labs and to ensure high quality in bulk supply of meters, TPCODL plans to develop meter testing lab in every Circle in the next three years.

TPCODL has further proposed Capex for refurbishment of Distribution Substation (DSS). DSS comprises of various equipment which perform specific task to ensure delivery of power supply at appropriate voltage to the end consumer. Some of the main components are 11 kV Switching device, 11 kV Protection, Transformer, LV Protection, Earthing, fencing and O/G LV feeders. For FY 2021-22, TPCODL has submitted a plan to carry out DSS refurbishment for 200 numbers of 500 kVA DSS and 150 numbers of 250 kVA DSS.

The petitioner has proposed a Capex of Rs. 27.33 Cr. against the various works under the Statutory, Safety and Security head.

b) Loss Reduction:

The Petitioner has proposed Capex towards replacement of old electromechanical/ defective meters, smart metering, improving infrastructure for spot billing and collection, procurement of testing equipment and conversion of LT Overhead bare cable to LT AB Cables.

As per the Petitioner, nearly 5.8 lakh meters are reported to be Electromechanical meters. In FY 2021-22, TPCODL has proposed to replace / install around 2.91 lakhs meters which are directly contributing to the non-technical losses or are not in line with statutory guidelines. Further, TPCODL has submitted that ~70,000 meters are likely to become defective in FY 2021-22. The Petitioner has proposed Capex towards replacement of such meters along with the associated costs of service cables, meters boxes and other accessories.

With regards to smart meter implementation, the Petitioner has submitted a Detailed Project Report (DPR) to implement smart metering for consumers having consumption ≥ 300 kWh, DTs of rating ≥ 100 kVA and all new three phase connections. The scheme is for a four-year period starting from FY 2020-21 till FY 2023-24 with a plan to install 2.50 lakh smart meters along with the backend IT infrastructure.

The Petitioner in addition to above has also proposed Capex towards upgradation of infrastructure for spot billing and collection, procurement of testing equipment for meter readers/ field employees and conversion of LT bare cable to AB cable which, in totality, will assist in overall reduction of AT&C losses.

The petitioner has proposed a Capex of Rs. 191.49 Cr. against the various works under the Loss Reduction head.

c) Network Reliability:

The Petitioner has proposed to implement two major multiyear schemes viz. SCADA and GSAS. Further, in order to improve the network reliability additional works towards augmentation of overloaded DT's, replacement of 33/11 kV sick equipment and 33/11 kV reliability schemes are planned to be undertaken.

The Petitioner has submitted a DPR detailing its proposal for SCADA. As per the DPR, SCADA facility with remote monitoring and control arrangements is available at Bhubaneswar (controlling 30 numbers of 33/11 kV substations), Cuttack (controlling 22 numbers of 33/11 kV substations) and Puri (controlling 4 numbers of 33/11 kV substations). The existing SCADA system has been implemented under R-APDRP (Part-A) and designed for 60 and 44 numbers of sub-station at Bhubaneswar and Cuttack, respectively. However, with Phase 1 and Phase 2 of "SCADA Deployment Plan", the existing SCADA system can only handle 110 numbers of sub-stations, which will exhaust the current capacity of the systems installed. In addition to 110 numbers of substations, TPCODL has proposed to integrate additional 261 numbers (approx.) 33/11 kV sub-station. To meet this requirement, existing SCADA system needs to be upgraded for Hardware and Software licenses with existing functionalities.

Also, the Petitioner has proposed to setup a Centralised Power System Control Centre along with Area Power System Control Centre to coordinate the network operations in real-time by implementing state of the art technologies. The Petitioner has submitted that the existing SCADA Systems architecture is of standalone type and therefore monitoring and controlling is limited to substations in respective towns with no data exchange between the systems. Also, the functionalities are constrained and designed as per the Model Technical Specification (MTS) of R-APDRP.

The Petitioner has also submitted that the existing SCADA System hardware is around 4 years old and is going to be obsolete in a year or two. Ageing hardware is resulting in frequent failures and requirement for repairing / replacement of the defective parts with no support from OEMs. Further, Petitioner has highlighted that the Operating System (OS) of Servers and Workstations and SCADA Software have reached their End of Life (EOL) which impacts SCADA applications and functionalities.

In view of the above limitations of the existing system, the Petitioner has proposed to replace the existing SCADA system to cover the entire TPCODL distribution network covering all the five circles i.e. Bhubaneswar-I, Bhubaneswar-II, Cuttack, Dhenkanal and Paradeep comprising of 371 numbers of 33/11 kV Primary Sub-Stations (PSS).

With regards to GSAS implementation, the Petitioner submitted that all the grids are proposed to be automated for operation through SCADA system. To enable equipment operation through SCADA, control and relay panel at 33/11 kV substation needs to be replaced with new panels fitted with state-of-art IEDs and data concentrator. These substations shall be equipped with devices to make all control, monitoring and protection signals available at remote control center for efficient control and monitoring of electrical network.

The Petitioner further submitted that certain sick equipments have been identified based on a survey, which are required to be replaced on immediate basis. The replacement will help in utilization of the resource to the optimum level, managing the load in case of any exigency and mitigate the issue of overloading, etc.

The Petitioner also submitted that the 33/11 kV overhead lines are long, radial with undersized, worn out bare conductors having extremely long spans. It has therefore proposed Capex to strengthen existing 33 kV network to lay some interconnectors in the existing network to make the ring system and mitigate the issue of single connectivity. In addition, the Petitioner has proposed to install 33 kV RMU at all such locations which will give flexibility to field teams to transfer the load without any interruption to existing consumers.

Proposal to install RMU, Load break switches, conductor augmentation with interposing poles, etc. in the existing 11 kV network has been proposed to strengthen the 11 kV network. In addition, DT augmentation to cater to increasing load demand and avoid overloading of transformer has been considered.

The petitioner has proposed a Capex of Rs. 160.75 Cr. against the various works under the Network Reliability head.

d) Load Growth:

The Petitioner has proposed Capex towards release of new connections on account of increase in demand along with the cost of associated works to be undertaken such as Capex towards network installation and augmentation/ addition of Power Transformers.

In line with past trends, the Petitioner has estimated 50,000 new connections to be released in FY 2021-22 for which network infrastructure needs to be strengthened, and new energy meters and accessories need to be installed.

Considering the new connections, the Petitioner has proposed augmentation/ extension of the existing network for which additional expenditure shall be required to be incurred. Further, the Petitioner has proposed PTR augmentation for catering to the increasing load demand, avoiding overloading and meeting N-1 criteria.

Accordingly, in order to address the upcoming demand and enhance the existing infrastructure, the Petitioner has proposed a Capex of Rs. 58.72 Cr. against the various works under the Load Growth head.

e) Technology and Civil Infrastructure:

TPCODL has proposed multiple works under this head which includes the following:

- TPCODL has proposed Capex to strengthen facilities at its Customer Care Centers/ Divisions/ Sub-divisions/ Sections to cater to the customer base of 27 lakhs. Also, it has proposed to establish call centres and customer care centres (257 numbers) in each of the sections of TPCODL licensed area.
- For FY 2021-22, TPCODL has plans to make its network more robust, theft free and secure. For achieving this objective, it has proposed to implement latest and updated versions of Firewall, Antivirus, email spam protection systems and Backup systems for critical applications. Further, it plans to set up locational network, for which switches, routers, UPS supply and Wi-Fi devices will be required and to connect Bhubaneswar and Cuttack through fibre cable.
- Currently, each division is following their own practices for their operations at site based on their local knowledge of network. TPCODL plans to implement GIS which would simplify record management and entire asset base of TPCODL will be available in one single data base with its connectivity. Being a multi-year scheme, 33/11 kV sub-stations, their networks and consumer indexing of Bhubaneswar Circle I shall be covered in FY 2021-22.
- Presently, transformers are required to be removed from service and sent to registered agencies for reconditioning/ repair in case of fault requiring significant processing time and transportation cost. TPCODL has proposed to develop an in-house transformer repair workshop at Choudwar, Cuttack to reduce the processing/turnaround time and the cost of repair.
- Upgradation of existing Central Stores Department at Bhubaneswar and Cuttack has been proposed to enhance the storage space and proper upkeep of equipment.

- Proposal to establish Hands on Technical Training Centre (HOTT) infrastructure to impart training to employees with bright guidance adhering to all safety parameters.
- Refurbishment of present section offices and creation of additional seating space by constructing additional floor on the existing building.
- TPCODL has proposed refurbishment of furniture available at offices which is nearly 10 - 15 years old and is in non-serviceable condition and to develop a hygienic, well ventilated, and spacious working environment.
- Accordingly, the Petitioner has proposed a Capex of Rs. 109.69 Cr. against the various works under the Technology and Civil Upgradation head.

f) Others

TPCODL has sought additional Capex of Rs. 20 Cr. towards unplanned Capex which will cater to any kind of incidental expenditure that is not included in the planned Capex which may primarily include works such as replacement of burnt transformers, enhancement of feeders, replacement of sick and defective equipment, etc.

In addition, TPCODL has proposed that employee cost associated with the projects or Capex schemes would also form a part of the Capex and would be eventually capitalized with the capital expenditure which has been assumed to the extent of 6% of total Capex. TPCODL has proposed an expenditure of Rs. 34.10 Cr. against Employee Costs. Other than above, TPCODL has also proposed Interest During Construction (IDC) of Rs. 5.40 Cr. on the Capex assuming 70% as debt component.

Accordingly, TPCODL has proposed additional expenditure of Rs. 59.50 Cr. over and above the Capex proposed under various categories as elaborated above.

14. The table below summarises the overall Capex plan proposed by TPCODL for FY 2021-22:

Sl. No.	Particulars	Proposed Capex (Rs Cr)
A	Statutory, Safety and Security	
1	Equipment enhancing safe work environment	5.50
2	Installation / Construction of Plinth fencing or Boundary wall of DSS or GSS	2.50
3	Area upliftment/development	4.50
4	Development of Meter Testing Labs	2.82
5	DSS refurbishment	12.01
	Sub-Total	27.33

Sl. No.	Particulars	Proposed Capex (Rs Cr)
B	Loss Reduction	
1	Old electromechanical/ defective meter replacement	113.04
2	Smart Metering	54.97
3	Infrastructure for spot billing and spot collection	3.55
4	Testing equipment	0.92
5	LT O/H bare to LT AB Cable conversion	19.01
	Sub-Total	191.49
C	Network Reliability	
1	SCADA implementation	31.00
2	GSAS implementation	35.11
3	33 kV and 11 kV Sick equipment replacement	15.48
4	33 kV System improvement schemes	49.74
5	11 kV System improvement schemes	21.93
6	Distribution Transformer augmentation	7.50
	Sub-Total	160.75
D	Load Growth	
1	Meter Installation for all new connection	23.47
2	Network Extension to release New Connection	20.00
3	Addition / Augmentation of Power Transformers	15.25
	Sub-Total	58.72
E	Technology and Civil Infrastructure	
1	Infrastructure for Customer Care, Call Centre, Payment Centre, and Section Offices	5.00
2	IT & Technology for process efficiency	38.41
3	GIS Implementation	26.78
4	Augmentation of Communication Network	10.46
5	Transformer Repairing Workshop	7.00
6	Central Stores development	5.00
7	Civil Infrastructure Upgradation	14.80
8	Ready to Use assets for Offices	2.25
	Sub-Total	109.69
F	Others	
1	Unplanned Capex	20.00
2	Employee Costs	34.10
3	Interest During Construction (IDC)	5.40
	Sub-Total	59.50
	Total	607.46

15. The OERC in Case 32/2020 had approved the Capex plan of Rs. 280.63 Cr. for TPCODL for FY 2020-21. The Commission sought status update from TPCODL on the actual progress on ground against which TPCODL submitted that an overall Capex of Rs. 84.49 Cr. has been implemented as on 31.03.2021 while orders of Rs. 194.52

Cr. have been placed. TPCODL submitted that the implementation has been limited as they had only four months in FY 2020-21 for implementation post approval of the Capex plan. The following table summarises the Capex approved by the Commission for FY 2020-21 vis-à-vis progress as on 31.03.2021.

Sl. No.	Particulars	Approved Capex (Rs Cr)	Actual Capex (Rs Cr)
A	Statutory and Safety		
1	33 kV Network refurbishment to ensure Horizontal/Vertical Clearance	4.60	4.60
2	PPEs, FFEs, Safety & Testing Equipment	9.48	6.16
3	DSS Refurbishment for safety of employees, public & animals	47.34	7.72
4	Establishment of Meter Testing Lab	6.78	0.28
	Sub-Total	68.17	18.76
B	Loss Reduction		
1	Meter replacement against Burnt/ Faulty & Mechanical/No Meter	13.65	5.61
2	Installation of DT Meters	15.36	-
3	Solution for Meter Reading and Spot Billing	3.00	-
4	Optimizing the length of 11 kV Feeders (to reduce technical loss)	7.62	1.56
	Sub-Total	39.63	7.17
C	Reliability		
1	GSS refurbishment for SCADA operationalization	26.43	9.93
2	Installation of Auto reclosure / Sectionalizer, FPI & RMU	23.88	6.58
3	Installation of LV protection at DSS	6.73	2.06
4	Replacement of Battery and Battery charger	2.26	1.51
5	Installation of 11 kV AB and 33 kV switches	13.18	1.34
	Sub-Total	72.48	21.42
D	Load Growth		
1	Meter installation for all new connection	-	-
2	Network augmentation / addition to meet load growth	9.00	0.16
	Sub-Total	9.00	0.16
E	Infrastructure		
1	Infrastructure for Customer Care, Call Center, Payment Center and Section Offices	6.36	0.15
2	ERP, MBC, CIS and BI Systems S/w &	67.22	29.83

Sl. No.	Particulars	Approved Capex (Rs Cr)	Actual Capex (Rs Cr)
	H/w and User End Devices Laptop, Desktop, Printers		
3	Implementation of GIS 1 st phase	2.00	0.84
4	Security system in Central Store	2.92	0.60
5	Civil Upgradation	7.95	4.03
6	Ready to use assets for offices	4.90	1.51
	Sub-Total	91.35	36.97
	Total	280.63	84.49

16. TPCODL has sought approval from the Commission to permit carry forward of the capital expenditure of FY 2020-21 to FY 2021-22.
17. The Commission also sought the relevant board approval from TPCODL in support of the Capex plan submitted for FY 2021-22. The Petitioner has proposed a Capex of Rs. 607.46 Cr. against the Board approval of Rs. 314 Cr.
18. In view of the variation between the Capex proposal and board approval, justification was sought by the Commission. TPCODL submitted that Capex proposal of Rs. 314 Cr. was presented to the Board subsequent to the submission of tariff petition and limited availability of time was factored while presenting the plan to the Board.
19. The Commission raised various queries across the major and sub heads of Capex proposed by TPCODL against which the following additional information was submitted:

a) General

- i. The unit rates of the various equipment/ material have been taken from approved Cost Data for FY 2018-19 for electrical equipments to be used in distribution system of DISCOMs issued by Department of energy, Government of Odisha or previous Purchase Order copy or rates as discovered by Tata power Mumbai & TPDDL or erstwhile CESU approved scheme rates. Further, overheads such as Contingency, Tools & Plants, Transportation, Erection Charges, others including supervision charges have been considered in accordance with the OERC (Conditions of Supply) Code, 2019. Additionally, GST has been considered over and above the total cost estimate.
- ii. TPCODL clarified that schemes implemented by Govt of Odisha are different from that proposed by TPCODL in the petition and there is no duplication with respect to proposed Capex.

- iii. The scope of work covered under FY 2021-22 Capex plan is independent and over and above the Capex plan proposed in FY 2020-21.
- iv. Post takeover of the erstwhile CESU, TPCODL submitted that it has conducted various studies viz. study of the network through Network Analysis tool, Grid Audit, analysis of available data and system parameters, etc. to ascertain the healthiness of the network system. Some of the key findings of the studies has been summarised in the following table:

Sl. No.	Particulars
1	33kV Feeders: <ul style="list-style-type: none"> • Number of 33 kV Feeders: 209 • Overloaded feeders: 19 Feeders in 30 Sections • Feeders where 'N-1' condition is failing: 131
2	33/11 kV DSS: <ul style="list-style-type: none"> • Number of 33/11 kV DSS: 307. • Single source connectivity (i.e. complete shutdown in case of failure of source): 192 • Total 690 numbers of 33/11 kV PT installed in these DSS, out of which ~300 numbers of PT not fulfilling 'N-1' Condition.
3	11 kV Network: <ul style="list-style-type: none"> • 11 kV feeders in Bhubaneswar City: 235 • Feeders not fulfilling N-1 condition: 88

b) Safety, Statutory and Security

- i. Installation/ Construction of Boundary wall, fencing has been proposed at 280 locations within the sub-stations.
- ii. Plinth fencing has been proposed at 25 locations on priority basis wherever safety hazard is observed.
- iii. Compound wall of 1000 Running meters is proposed at Rasulgagh Division, Puri Division, Dhenkanal Division and Kendapada Division.
- iv. Area Development is planned at 33/11 kV PSS at Pipli and Sakshigopal PSS to restrict flooding.
- v. The Power house at Angul subdivision office and the existing building of Ranihat office are proposed to be renovated due to their dilapidated condition.
- vi. In Capex plan for FY 2020-21, refurbishment of 1,136 numbers of DSS was proposed, whereas in Capex plan for FY 2021-22 refurbishment of additional 350 numbers of DSS has been proposed due to severity of unsafe installation.

c) Loss Reduction

- i. The number of meter replacement has been proposed based on the information received from field offices. In the FY 2020-21 the defective count of meters was 2.56 lakhs which has already been replaced.
- ii. 64.70% of existing LT network has AB cable and further 2.25% of length of LT bare cable is proposed to be converted to LT AB Cable

d) Network Reliability

- i. 56 sub-stations in Bhubaneswar, Cuttack and Puri region are SCADA enabled and were covered under the RADRP/ODSSP schemes. Currently, control centres of Bhubaneswar and Cuttack are in isolation which are to be integrated along with further addition of sub-stations. TPCODL is in the process of integrating ODSSP Substations (approx. 134) for remote monitoring and control from Power System Control Centre along with the existing RAPDRP sub-stations.
- ii. 137 VCB have been identified as sick under 33 kV & 11 kV out of which 75 have been proposed for replacement in FY 2021-22.
- iii. The total budget requirement to replace all sick equipment in 178 PSS is approx. Rs. 51 Cr. out of which TPCODL has proposed to invest Rs. 10.01 Cr. in FY 2021-22 with the remaining planned to be replaced in a staggered manner as per priority.
- iv. No DT augmentation was proposed in Capex of FY 2020-21. TPCODL has proposed 103 DTs for augmentation (78 numbers of 250 kVA + 25 numbers of 500 kVA) in Capex of FY 2021-22.
- v. After completion of works proposed under network reliability the existing SAIDI and SAIFI levels are expected to reduce from 290 hrs to 285 hrs and 416 to 360. respectively from FY 2020-21 to FY 2021-22.

e) Load Growth

- i. At several locations whenever one of the PTR outages is taken for preventive or breakdown maintenance the second PTR is unable to take entire load due to rating constraint. Partial load shedding is required during the maintenance activities. To maintain uninterrupted power supply and achieve N-1 reliability

at PSS, TPCODL has proposed augmentation of PTR with higher rating to achieve N-1 reliability at PTR level.

f) Technology and Civil Infrastructure

i. In FY 2020-21, 5 Customer Care Centres at Division along with 35 sections and 16 Sub-division offices were refurbished. In FY 2021-22, Customer Care Centre at 15 Division Offices along with 38 section offices are considered for refurbishment. Major components of cost for Customer Care Centre at Division Offices are as follows:

- Refurbished building to enhance the ambience.
- Air Conditioning, Water Cooler for visiting customers.
- Furniture for staff and customers (Chairs in waiting area).
- Desktop (5 numbers), Printer (3 numbers), Scanner (1 number).
- Queue Management System for managing the footfall.
- Self Help Kiosk for accessing the requirement information by customers.
- Tab for capturing customer feedback.

20. The comments received from stakeholder/ respondent GRIDCO has been summarised as follows:

- a) GIS based mapping approach is quite expensive and also difficult to sustain. With SCADA and Dashboards, TPCODL can get all information of the customers through a friendly application (data available on consumer's mobile phone and with the section officer). Since, TPCODL is also planning to use the Cloud, storage of maps, spotting of O&M sites, etc., asset management can be done without classical Consumer Indexing, Pole level painting and GIS based hard mapping. Hence, it is not clear as to why the consumer indexing is required to start from scratch.
- b) The number of smart meters proposed in smart metering scheme is quite high. Hence, an approach for need based replacement should be taken up and prioritization should be done for implementation of smart meters
- c) TPCODL has proposed to centralize operations through implementation of SCADA which would include inventory, O&M replacement, planning network

switching, interruption management, pilferage control, etc. Such highly centralized wide area network control is likely to face problem of data corruption and cyber security. It is therefore prudent to opt for cluster approach and decentralized data and communication handling. This will allow the existing system to continue and new ones to be added keeping in view the interoperability.

- d) Only one NABL accredited Lab can suffice for TPCODL. Presently, meters are being procured from registered vendors and customer meter testing is simply an accuracy check.
 - e) 33 kV feeder refurbishment plan may be deferred as a number of sub-stations charged under ODSSP are expected to be handed over to TPCODL which shall help in reducing the load on OPTCL lines. It is a known fact that the numbers of 33kV sub-stations planned under ODSSP are quite adequate to meet the increasing demand for another 10 years.
 - f) TPCODL may be directed to clarify as to why spot billing CMRI and the need for visiting customer's premises for validation of the meter cannot be improved and at which level the data is integrated with ERP. Prepaid metering should be adopted and considered as an alternative.
 - g) The 33 kV system improvement schemes can be deferred as sub-stations under ODSSP are to be handed over to TPCODL which would reduce the system overloading.
 - h) Under the 11 kV system improvement schemes feeders should be categorised based on the impact on AT&C losses, impact on voltage and future load growth and should be governed under a priority order.
 - i) At site, earthing needs to be checked and changed, if necessary. Changing of earthing pipes at 1000 locations appears to be on higher side.
 - j) With regards to procurement of 500 kVA and 250 kVA transformers, the present load and future load should be studied, and procurement should be done as per requirement in a phased manner.
21. One of the Respondent M/s. Grinity Power Tech Pvt. Ltd provided following comments:
- a) Huge investment may adversely impact tariff.

- b) DISCOM should clarify that there should not be any likely tariff hike because of the Capex proposed and considering the likely AT&C Loss Reduction, tariff shall rather reduce.
- c) DISCOM may be directed by the Commission to submit the likely AT&C loss reduction in FY 2021-22 based on the Capex plan submitted.
- d) Detailed Capex plan for each Industrial Park, MSME Cluster, new upcoming Industrial Estate along with definite timeline should be submitted.
- e) There is no mention of mandatory procurement of Goods and Services from MSMEs of the State. Being public utilities and a Joint Venture Company of State Government, Tata Power should honestly adhere to the principle of mandatory procurement from MSMEs and waive the associated cost towards EMD, Tender Fees for the MSMEs as per the existing policy of MSME and should give preference to the local vendors, suppliers, contractors in implementation of Capex plan.
- f) TPCODL has submitted a Capex plan of Rs. 568 Cr. including loss reduction project of Rs. 191.49 Cr., however the cost benefit analysis, loss reduction potential, likely energy saving due to Loss reduction, financial savings, and payback period arising due to above Capex investment has not been submitted.
- g) DISCOM should submit the sample rates, quotation, and specifications of 33 kV and 11 kV distribution line component, transformer, breakers, sample quotation, specification of meters, etc. proposed in the plan. Backup documents like quotation for the supply of items, erection charges, and probable list of suppliers should be submitted by the DISCOM.
- h) DISCOM should submit the Capital Structure, Capitalization Schedule, Financing Plan, Cost-Benefit Analysis, Performance Improvement envisaged due to Capex along with Division wise Capital Investment Plan.
- i) TPCODL has proposed Capex of Rs. 252 Cr. towards Smart Meter implementation which is found to be arbitrarily high. TPCODL is advised to submit the details of Meters Cost, list of suppliers, Technical Specification etc. of meters
- j) No Capex has been proposed for implementing demand side measures at the consumer side for flattening of curve and reduction of peak drawl.

- k) TPCODL should provide the procurement procedure to be followed for implementation of SCADA and GIS in the TPCODL area.
22. Respondent Mr. Ramesh Chandra Satpathy submitted as follows:
- a) TPCODL should provide the progress of works of the various Central/State Government schemes being undertaken in the licensee served area
 - b) The Capex plan of TPCODL should not be accepted on the ground that Government of Odisha had brought/ implemented a Capex programme post 2010 under which significant amount of funds were utilised for renovation and modernisation of network.
 - c) Optimal utilisation of funds should take place against the funds released by Government of Odisha to CESU/ TPCODL post FANI
23. Another Respondent Mr. R. P. Mahapatra submitted as follows:
- a) Details of feeders/ sub stations where capital investment is proposed has not been provided. Further, TPCODL has not confirmed whether the estimates taken into account are as per approved costs notified by the EIC-cum-PCEI, GoO.
 - b) During introduction of IT Phase II by the Government of India in 2016, some states were struggling for data storage and retrieval in cloud system. TPCODL should examine the option.
 - c) Under the RAPDRP schemes the Implementing Agency provided software license for a period of 5 years. Bhubaneswar and Cuttack were declared Go Live in January 2020 and for rest of the towns in February 2021. Hence TPCODL's submission for AMC is not acceptable for at least five years after Go Live declaration.
 - d) Even though the cost of Smart consumer meters will not be included in the Capex scheme, installation of smart meters in the consumers premises would result in very high meter rent which will burden the consumers.
 - e) Third party meter testing laboratories should be encouraged so that the meter testing can be done in a judicious and independent manner.
 - f) Review should be done against Capex to be done for replacement of electro-mechanical meters.

- g) In conversion of LT bare conductor lines into AB cables, instead of interposing poles (7 numbers per km) in coastal belt/ cyclone prone area PSC spun poles should be considered.
24. The Respondent from M/s UCCI submitted additionally that the power sector plays an important role for the survival of Micro Small Medium Enterprise (MSME) and boost the economy of the sector as a whole. TPCODL should honestly adhere to the principle of mandatory procurement from MSMEs and waive the associated cost towards EMD, Tender Fees for the MSMEs as per the existing policy of MSME and should give preference to the local vendors, suppliers, contractors in implementation of Capex Plan.
25. In its rejoinder the Petitioner submitted as follows:
- a) TPCODL in its Capex Plan for FY 2021-22 has considered location-based proposal and has provided the details of the locations/ GSS/ feeders where the Capex is proposed
 - b) As regards the Cost data, TPCODL has relied on the rates approved by Department of Energy, GoO for FY 2018-19 for arriving at the rate estimate. For items that are not a part of approved cost data book, rate reference has been taken from Tata Power Delhi, Mumbai and TPCODL where the material has been procured on competitive bidding basis.
 - c) The period of validity of the warranty (for Hardware and Software) is thirty-six months from the date of commissioning or forty-two months from date of delivery at Purchaser's stores whichever is earlier. The support and maintenance of all the software solution is provided for a period of three years from the date of installation. As per Gol guidelines, for R-APDRP, the project implementation cost along with FMS for 1 year is funded by PFC/ Gol and FMS cost for remaining 4 years is to be borne by the utility. Hence, the timeline of 3+ years for TPCODL has already been completed from the date of installation of the system.
 - d) The meter sanctioned under RAPDRP, DDUGJY and IPDS were approx. 3.5 lakhs which were not sufficient to replace all mechanical meters in TPCODL area. It is estimated that TPCODL still has about 5.6 lakhs electro-mechanical meters which are to be replaced as per OERC (Conditions of Supply) Code, 2019. Further, the newly introduced Electricity (Rights of Consumers) Rules,

2020 mandates that no new connection shall be given without a meter and such meter shall be smart pre-payment type or pre-payment meter. As regulations are making smart meters mandatory, smart prepaid meters are proposed to be installed.

- e) TPCODL is in touch with few suppliers for Spun concrete poles and survey has been done for a pilot project in Nimapara Division. Installation is being done on pilot basis and after successful implementation, these poles shall be considered in future projects.
- f) The Government schemes so far executed for the lines are extension of network for facilitating new connections in rural and urban area. The Petitioner has analysed the system on 'as is basis' and has made proposal for refurbishment and strengthening of network.
- g) As regards to the sharing of location wise details, where work in the network is to be executed, the Petitioner has stated that since the involvement at 11 kV and below level is huge, it has only mentioned to take up work in 1,136 numbers of three phase DTRs in FY 2020-21 and additional 350 DTRs in FY 2021-22.
- h) As regards the sharing of location wise temporary restoration work post-FANI, the Petitioner states that more than 600 feeders were restored temporarily and now estimate is being prepared to carry out rectification work. The Petitioner shall submit the corresponding progress report in regular intervals to the Commission.
- i) TPCODL's Procurement Policy does not make it mandatory to procure goods and services through local MSMEs. However, TPCODL has been procuring many goods and services through local and other MSME industries. The mandatory requirement for payment terms have been extended to all contracts with MSMEs. The tender fees and EMD are as per TPCODL's Procurement Policy. However, considering the current pandemic, the tender fees and EMD deposits are kept at nominal levels to ensure higher participation and hence discovery of competitive prices to meet the overall objective of reducing costs for the consumers.
- j) As regards the inclusion of cost of meter in the DPR, the Petitioner has stated that it shall be incurred for installation of meters.

- k) Regarding funding of the Capex Plan, the Petitioner states that the funding shall be done by 30% equity and 70% loan from Commercial Banks / FIs for which negotiation is on.
 - l) While explaining the manner of treatment of income through sale of scraps the Petitioner says that such income is a non-tariff income in the ARR. However, treatment of such income needs to be looked in the context of nature of scrap (Capex/ Opex) as well as the depreciated value as amount realized through sale.
 - m) Procurement of goods and services is being done through the competitive bidding process
 - n) Contingency, Tools & Plants, Transportation, Erection Charges, Other overheads (including supervision charges) etc. have been considered as per the OERC (Conditions of Supply) Code, 2019 by OERC and as per various mandates of the Government of Odisha
26. Heard the parties at length. Before going to the merit of the proposal of the licensee we will discuss the background and provisions basing on which the investment plan shall be approved. As per section 42 of the Electricity Act, 2003 read with Condition 7 of the licence condition and Regulation 4 of the General conditions of Distribution License of the OERC (Conduct of Business) Regulation, 2004, it shall be the duty of the distribution licensee to develop and maintain an efficient, coordinated, economical distribution system in its area of supply and to supply electricity in accordance with the provisions in the Act, Rules, Regulations and the direction of the Commission. The Commission is guided under section 61(c) of the Electricity Act, 2003 by the factors which would encourage, competition, efficiency, economical use of the resources, good performance and optimum investments while determining the tariff.
27. The Commission also decided to avail services of a third-party consultant to assist it in verification of each scheme, assessment of component wise requirements along with the cost. The Commission engaged a third party consultancy firm for the evaluation of the Capital Expenditure Plan of TPWODL. The Consultants conducted some field visits and had several rounds of discussion with the concerned officials of Licensee and examined various aspects of the proposal including the requirement, investment priority, commercial rationale etc., keeping in mind the concerns raised by different stake holders during the process of hearing. The consultants submitted their report to the Commission. The Commission took this report also into consideration.

28. In the present case as per para 42(b) of the vesting order, the Petitioner committed capital expenditure of Rs. 1,541 Cr. for the period FY 2020-21 to FY 2024-25 as follows:

(Value 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

- i. As per para 42(c) of the vesting order:

“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 : TPCL Cumulative Capital Expenditure for 5 years

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

(Values in Rs. crore)

- ii. As per the Licence Condition 11 and 32 the Investment above Rs. 5 Cr. is to be made by the distribution licensee in the licensed business area of operation with the approval of the Commission.
29. The main objective of the investment plan is to develop and maintain an efficient, coordinated, and economical distribution system in its area of operation. TPCODL shall effect supply of electricity to consumers in accordance with the provisions of the Act, Rules, Regulations, Orders framed there under and the direction of the Commission. The Commission further considers the following major aspects while finalizing the investment plan proposed by TPCODL.
- Whether the scheme is required to meet the statutory standards set in the Act, specified under Regulations, standards etc.
 - Whether it will be helpful to meet the consumer’s expectations of economic, quality, and reliable power.
 - Whether the investment is cost efficient?
 - Whether the proposal shall have any tariff impact on the consumers?

30. The Commission has examined the Capex plan submitted by TPCODL in detail. The Commission, while examining the investment proposals has considered all the views/ objections/ suggestions expressed by the stakeholders in writing and during the public hearing to the extent they are relevant. It has also taken the third party consultant's report into consideration.
31. The Commission believes that the Board is the ultimate decision-making body on behalf of the company. Approval of Board is an integral aspect in undertaking important business initiatives. Further, the company shall be able to raise resources (debt as well as equity) to the extent of capital investment amount approved by the Board. Hence, the numbers approved by the Board have been considered, by and large, the upper ceiling while approving the numbers for various schemes.
32. The Commission for the purpose of approval of Capex has reviewed the as-is-status of the infrastructure, the quantity of equipment proposed, and areas covered, and the unit rates assumed by TPCODL for the various equipment to be deployed. The scheme wise analysis has been provided in subsequent paras.

A. Statutory, Safety and Security:

33. The Commission has noted the submissions of the Petitioner under this scheme. The Commission has reviewed the unit rates of the various items proposed under the Capex plan which are found to be in accordance with the Odisha Cost Data Book. For items, whose rates are not available in the Cost Data Book, the rates for such items have been reviewed based on previous Purchase Order copy or erstwhile CESU approved scheme rates as submitted by the Petitioner.
34. The activity wise analysis of the schemes are as follows:

a) Safety Equipment, Fencing/ Boundary Wall:

TPCODL submitted that the present network at some locations is not compliant to the statutory guidelines and pose threat to safety of employees, public at large and animals. TPCODL has proposed to implement a Health Management System to prevent work-related injuries & ill-health to the workers and to provide a safe & healthy workplace to the employees. TPCODL submitted that during a survey conducted it was observed that the boundary walls or fencing are either damaged or doesn't exist thus posing safety threat to stray animals and public at large. TPCODL has proposed to procure safety equipment such as Arc flash suits, safety shoes, safety helmet, full body safety harness, safety goggle etc. In subsequent submissions,

TPCODL submitted that area development is planned at 33/ 11 kV PSS at Pipli and Sakhigopal PSS to restrict flooding. TPCODL further proposed that plinth fencing has to be done for 25 locations on priority basis where major safety hazards have been observed. TPCODL further submitted that for 52 numbers of 33/ 11 kV PSS the construction of boundary wall is in progress and is expected to be completed by Nov 2021. The Capex for the same was approved in FY 2020-21.

Owing to the imminent need to invest on safety and security of employees, public and animals, the Commission decides to consider the Capex proposal to the extent approved by the Board towards procurement of safety equipments, construction of boundary wall/ fencing and area upliftment/ development.

b) DSS Refurbishment

TPCODL has proposed refurbishment of various DSS including investments in 11 kV Switching device, 11 kV Protection, Transformer, LV Protection, Earthing, fencing and O/G LV feeders. For FY 2021-22, TPCODL plans to carry out DSS refurbishment for 200 numbers of 500 kVA DSS and 150 numbers of 250 kVA DSS across the TPCODL area in FY 2021-22.

In the Capex plan for FY 2020-21, the Commission had approved Capex for refurbishment of 1,136 numbers of DTs. Given the need of investment in DSS refurbishment, the Commission has allowed Capex to the extent approved by the Board of Petitioner.

c) Development of Meter Testing Labs

In the Capex plan, TPCODL has mentioned dilapidated condition of existing 5 labs with 7 meter test benches for testing of Single Phase and Three Phase meters. Meter testing lab in every Circle in next three years has been envisaged which would ensure the statutory requirement of meter testing across TPCODL area. Three Meter Testing Labs (NABL Accreditation) have been envisaged in Bhubaneswar -1, Bhubaneswar- 2 and Cuttack circle in three years. The OERC (Conditions of Supply) Code, 2019 also provides for setting up of Meter testing Lab in the area.

As per the clause no. 102 (d) of OERC (Conditions of Supply) Code, 2019

“The licensee/supplier shall set up appropriate number of accredited testing laboratories or utilize the services of other accredited testing laboratories. The licensee/supplier shall take immediate action to get the accreditations of their existing meter testing laboratories from NABL, if not already done”.

Hence, in accordance with the provisions of the OERC (Conditions of Supply) Code, 2019, the Commission allows the expenditure proposed towards development of Meter Testing Labs to the extent approved by the Board of the Petitioner.

35. The summary of the analysis is provided as follows:

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
1	Equipment enhancing safe work environment	5.50	4.76	4.76
2	Installation / Construction of Plinth fencing or Boundary wall of DSS or GSS	2.50	4.33	4.33
3	Area upliftment/development	4.50		
4	Development of Meter Testing Labs	2.82	2.44	2.44
5	DSS refurbishment	12.01	6.06	6.06
	Sub-Total	27.33	17.59	17.59

36. Based on the above analysis and considering the amount approved by the Board, the Commission decides to allow Capex of Rs 17.59 Cr against claim of Rs 27.33 by the Petitioner.

B. Loss Reduction:

37. The Commission has noted the various submissions under this scheme and claims of the Petitioner. The Commission has reviewed the unit rates of the various items proposed under the Capex plan which are found to be in accordance with the Odisha Cost Data Book. For items, whose rates are not available in the Cost Data Book, the rates for the same have been reviewed based on previous Purchase Order copy, rates discovered in Tata Power Mumbai and TPDDL, or erstwhile CESU approved scheme rates.

38. Activity wise analysis of the schemes are as follows:

a) Old electromechanical/ defective meter replacement:

TPCODL has submitted that nearly 5.8 lakhs meters are reported to be Electromechanical meters. In FY 2021-22, TPCODL has proposed to replace/ install around 2.91 lakhs meters which are directly contributing to the non-technical losses or are not in line with statutory guidelines. Further, TPCODL has submitted that 70,000 meters are likely to become defective in FY 2021-22 and 10,000 meters are expected to be non-compliant in FY 2020-21. The Petitioner has proposed Capex towards replacement of such meters along with the associated costs of service cables, meters boxes, other accessories etc.

Further, as per TPCODL's submission, for the FY 2020-21 the defective count of meters was 2.56 lakhs which has already been replaced.

As per the provisions of the OERC (Conditions of Supply) Code, 2019, the cost of the defective/ burnt/ lost meters shall be only recovered through Meter Rent. The relevant provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 2019 are as follows:

“Cost of Replacement of Defective/ Burnt/ Lost Meters

113. (i) If, as a result of testing it is established that the meter became defective/burnt due to technical reasons viz. voltage fluctuation, transients etc. attributable to the licensee/supplier, the cost of the meter shall be borne by the licensee/supplier. In that case, the licensee/supplier shall recover only the balance meter rent due from the consumer so far.

(ii) If, as a result of testing, it is established that the meter was rendered defective/burnt due to reasons attributable to the consumer such as defect in consumer installation, connection of unauthorized load by the consumer etc., the cost of the meter shall be borne by the consumer. The licensee/supplier shall inform the consumer to replace the meter and associated equipment as per provisions of this Code within 30 working days. In case the consumer fails to do so, the licensee /supplier shall install a new meter.

Provided that in case the licensee/supplier installs the new meter, they shall recover the cost of the new meter from the consumer as per the meter rent approved by the Commission.

(iv) In case of loss of meter, the cost of new meter and other apparatus shall be borne by the consumer unless the meter was installed in the licensee/supplier's office or substation. Provided that if the licensee/supplier replaces the meter, the cost of new meter shall be recovered from the consumer as per the meter rent approved by the Commission.”

From the above provisions it is clarified that the cost of meter is to be recovered through meter rent and hence the Commission is not inclined to allow the proposal for cost of the defective/ burnt/ lost meters, procurement of meter, meter box, metering accessories etc. under Capex as in case of FY 2020-21. Accordingly, the Commission decides to allow the cost claimed only for the replacement of old service cables for FY 2021-22.

b) Smart Metering:

Petitioner has submitted a Detailed Project Report (DPR) to implement smart metering for consumers having consumption ≥ 300 kWh, DTs of rating ≥ 100 kVA and all new three phase connections. The scheme is for a four-year period starting from FY 2020-21 till FY 2023-24 with a plan to install 2.50 lakhs smart meters along with the backend IT infrastructure. Total cost for implementation of Smart metering in

TPCODL License area is estimated to be about Rs. 252.23 Cr. to be spend from FY 2020-21 to FY 2023-24.

The Commission has taken up the scheme of Smart Metering for approval in Case No. 32/2020 wherein the matter has been discussed in detail. We adopt the same approach here too.

c) Other Loss Reduction Measures:

The Petitioner has proposed Capex towards upgradation of infrastructure for spot billing and collection, procurement of testing equipment for meter readers/ field employees and conversion of LT bare cable to AB cable. TPCODL plans to deploy a spot billing system wherein a meter reader would be able to generate the energy bill on the spot using a hand-held Android Phone.

Further, Capex towards replacement of LT bare conductor with LT AB Cable in theft prone areas to reduce commercial losses has been proposed. As per TPCODL, approx. 382 km length of LT overhead bare cable is proposed to be converted to LT AB Cable in FY 2021-22. Currently, ~64.7% of existing LT network is AB cable and proposed Capex would cover ~2.25% of LT bare network.

Owing to the need to reduce exorbitant loss levels in the TPCODL area and the requirement of the vesting order to adhere to the AT&C loss trajectory, the Commission is inclined to allow the Capex for measures to be undertaken for loss reduction limited to the extent approved by the Board of the Petitioner.

39. The summary of the analysis is provided as follows:

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
1	Old electromechanical/ defective meter replacement	113.04	19.05	3.77
2	Smart Metering	54.97	47.60	-
3	Infrastructure for spot billing and spot collection	3.55	3.07	3.07
4	Testing equipment	0.92	0.80	0.80
5	LT O/H bare to LT AB Cable conversion	19.01	12.12	12.12
	Sub-Total	191.49	82.63	19.76

40. The Commission decides to allow only Rs 3.77 Cr to meet the requirements of replacement of old service cable under the meter replacement head as against Rs 113.04 Cr. submitted in the Petition.

41. In view of the decision taken by the Commission in Case 32/2020 on the scheme of Smart Metering, we are not inclined to allow the Capex proposal on smart metering here as the same has been dealt separately in the above mentioned case.
42. Based on the above analysis and considering the importance of Loss Reduction in the Capital Investment Plan, the Commission decides to allow Rs. 19.76 Cr. against the proposed Capex of Rs. 191.49 Cr. claimed under Loss Reduction scheme.

C. Network Reliability:

43. The Commission has noted and reviewed the various activities proposed under this scheme. The Commission has reviewed the unit rates of the various items proposed under the Capex plan which are found to be in accordance with the Odisha Cost Data Book. For items, whose rates are not available in the Cost Data Book, the rates for the same have been reviewed based on previous Purchase Order copy, rates observed in Tata Power Mumbai and TPDDL, or erstwhile CESU approved scheme rates. Rates for equipment to be deployed under SCADA/GSAS have been referred from the budgetary prices of OEMs at Tata Power Mumbai, Tata Power Delhi and purchase order placed on M/s DFE under RAPDRP scheme for similar project as submitted by Petitioner.
44. Activity wise analysis of the schemes are as follows:

a) SCADA/ GSAS Implementation

The Petitioner has proposed to implement SCADA/ GSAS in the entire TPCODL area by FY 2023-24. Presently, Bhubaneswar Cuttack and Puri regions are SCADA enabled with associated control centres and were covered under the RADRP/ ODSSP schemes. Further, control centres of Bhubaneswar and Cuttack are in isolation which are to be integrated along with further addition of sub-stations. TPCODL plans to integrate 134 numbers sub-stations to be handed over from GoO under the SCADA system. TPCODL also submitted that the existing SCADA System hardware is around 4 years and is going to be obsolete in a year or two. Ageing hardware is resulting in frequent failures and requirement for repairing / replacement of the defective part with no support from OEMs

Owing to the need to integrate the standalone systems to develop a centralised monitoring system for efficient operations and considering the fact that there is a requirement of replacing outdated hardware/ softwares, the Commission is inclined to allow the Capex proposed towards implementation of SCADA for FY 2021-22 to the

extent approved by the Board of the Petitioner. Further, to achieve full scale automation and ensure network reliability the Commission also allows Capex towards GSAS implementation scheme to the extent approved by the Board of the Petitioner.

b) 33/11 kV system improvement schemes:

The Petitioner has proposed works viz. replacement of sick equipment, refurbishment of lines that are long, radial with undersized and worn out conductors having extremely long spans and installation of RMU to strengthen the existing system. The Commission believes that to ensure quality and reliable power supply to consumers, investments in network improvement schemes are necessary. Hence, the Commission is inclined to approve the Capex under this scheme to the extent approved by the Board of the Petitioner.

45. The summary of the analysis is provided as follows:

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
1	SCADA implementation	31.00	21.64	21.64
2	GSAS implementation	35.11	21.71	21.71
3	33 kV and 11 kV Sick equipment replacement	15.48	13.40	13.40
4	33 kV System improvement schemes	49.74	34.35	34.35
5	11 kV System improvement schemes	21.93	18.99	18.99
6	Distribution Transformer augmentation	7.50	4.33	4.33
	Sub-Total	160.75	114.42	114.42

46. To ensure reliable power supply to all the consumers there is an imminent need to upgrade the existing infrastructure with simultaneous introduction of new and upcoming technologies to enhance efficiency in operations. Hence, the Commission decides to allow Rs. 114.42 Cr. as approved by the Board of the Petitioner against the proposed Capex of Rs. 160.75 Cr. claimed under the Network Reliability scheme. With the above CAPEX the improvement in reliability should sufficiently reflect in reduction in SAIDI and SAIFI numbers. The expected reduction indicated by the licensee dealt in para 19 (d) (v) of this order is grossly inadequate and does not justify such a large investment. The Commission directs TPCODL to achieve reduction in SAIDI and SAIFI numbers by 20% from the previous year's (2020-21) level.

D. Load Growth:

47. The Commission has noted and reviewed the various activities proposed under this scheme. Activity wise analysis of the schemes are as follows:

a) Meter Installation for all new connection

Under load growth, the Petitioner has proposed Capex towards release of new connections on account of increase in demand along with the cost of associated works to be undertaken such as Capex towards network installation and augmentation/addition of Power Transformers.

As discussed, in the section on Loss Reduction, the Commission is not inclined to allow any Capex towards metering of new connections as the same is to be recovered by way of meter rentals in accordance with the OERC (Conditions of Supply) Code, 2019.

The relevant provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 2019 are as follows:

“Cost of Replacement of Defective/ Burnt/ Lost Meters

113. (i) If, as a result of testing it is established that the meter became defective/burnt due to technical reasons viz. voltage fluctuation, transients etc. attributable to the licensee/supplier, the cost of the meter shall be borne by the licensee/supplier. In that case, the licensee/supplier shall recover only the balance meter rent due from the consumer so far.

(ii) If, as a result of testing, it is established that the meter was rendered defective/burnt due to reasons attributable to the consumer such as defect in consumer installation, connection of unauthorized load by the consumer etc., the cost of the meter shall be borne by the consumer. The licensee/supplier shall inform the consumer to replace the meter and associated equipment as per provisions of this Code within 30 working days. In case the consumer fails to do so, the licensee /supplier shall install a new meter.

Provided that in case the licensee/supplier installs the new meter, they shall recover the cost of the new meter from the consumer as per the meter rent approved by the Commission.

.....

(iv) In case of loss of meter, the cost of new meter and other apparatus shall be borne by the consumer unless the meter was installed in the licensee/supplier's office or substation. Provided that if the licensee/supplier replaces the meter, the cost of new meter shall be recovered from the consumer as per the meter rent approved by the Commission.”

b) Network Extension to release New Connection

With regards to Capex of Rs 20 Cr submitted towards network extension against release of new connections, the Regulation 22 (vi) of the OERC (Conditions of Supply) Code, 2019, provides for collection of upfront charges by Licensee of Rs 5,000/- per connection at the time of release of connection.

The relevant provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 2019 are as follows:

“(vi) For simplicity notwithstanding anything provided under Regulation 27, without adopting any remunerative calculation norm, the following shall be the standardised new connection charges excluding processing fee, meter and security deposit in case of LT (single phase) consumers of all categories having CD upto 5 KW with the pole within 30 meter from the consumers premises.

upto 2 KW : Rs.1,500/-

beyond 2 KW upto 5 KW : Rs.2,500/-

Provided that if the line extension is required beyond 30 meters, the licensee/ supplier shall charge @ Rs. 5000/- for every span of line extension in addition to the above charges.

Provided further that all the above charges shall be subject to amendment by the Commission from time to time by a general order.”

Although this levy accommodates the cost incurred by the Petitioner towards extension of network, in certain cases the cost of network expansion is more than the already designated charge specified in the OERC (Conditions of Supply) Code, 2019. To cater to this expense related to line extension, the Commission is inclined to allow the additional expenditure towards network installation for release of new connections.

c) Addition/ Augmentation of Power Transformers:

The Commission approves the claim of the Petitioner owing to the need to augment the existing infrastructure in line with increasing demand.

48. The summary of the analysis is provided as follows:

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
1	Meter Installation for all new connection	23.47	-	-
2	Network Extension to release New Connection	20.00	17.32	17.32
3	Addition / Augmentation of Power Transformers	15.25	13.20	13.20
	Sub-Total	58.72	30.52	30.52

49. In line with other schemes, the Commission decides to approve the Capex towards addition/ augmentation of Power Transformers only to the extent of Board Approval received against each scheme. With anticipated increase in demand and corresponding requirement to augment the existing infrastructure to cater to the demand, the Commission decides to allow Rs. 30.52 Cr. against the proposed Capex of Rs. 58.72 Cr. claimed under the Load Growth scheme.

E. Technology and Civil Infrastructure:

50. TPCODL under Technology and Civil Infrastructure has proposed multiple works including revamping of existing customer care centres/ Division/ Sub-division/ Section offices, establishment of call centre and customer care centres (257 numbers) in each of the sections of TPCODL licensed area, IT interventions, GIS implementation, augmentation of communication network, establishment of Transformer repair workshop and renovation of other civil infrastructure.
51. The Commission believes that there is a need to revamp the existing infrastructure to develop a robust consumer grievance redressal system and enhance the customer experience. Further, IT interventions are required to develop a robust, theft free and secure network that is in sync with the latest technological innovations happening around the world.
52. Activity wise analysis of the schemes are as follows:
- a) In view of our order dated 08.09.2020 in Case 32/2020 in which certain amounts were allowed for implementation of GIS and further amounts allowed in our order dated 04.09.2021 (Refer para 11 above), we are not inclined to allow the Capex proposal here as the same has been dealt separately in the above Orders.
 - b) With regards to establishment of transformer repairing shop in the TPCODL area, the Commission acknowledges the issues faced by the Petitioner in terms of high repair time as the transformers have to be sent to registered agencies for reconditioning/ repair in case of fault. The Commission allows the Capex towards developing a transformer repair shop to enable the Petitioner to reduce the transformer repair time and efficiently service the consumers.
 - c) With regards to other civil infrastructure and procurement of ready to use assets, the Commission allows the Capex towards the same owing to the dilapidated condition of the existing infrastructure handed over to TPCODL and the need to develop a safe, hygienic and well ventilated working environment for the employees.
53. The summary of the analysis is provided as follows:

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
1	Infrastructure for Customer Care, Call	5.00	4.33	4.33

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
	Centre, Payment Centre and Section Offices			
2	IT & Technology for process efficiency	38.41	21.64	21.64
3	GIS Implementation	26.78	17.32	-
4	Augmentation of Communication Network	10.46	4.73	4.73
5	Transformer Repairing Workshop	7.00	1.73	1.73
6	Central Stores development	5.00	4.33	4.33
7	Civil Infrastructure Upgradation	14.80	12.81	12.81
8	Ready to Use assets for Offices	2.25	1.95	1.95
9	Sub-Total	109.69	68.84	51.52

54. In line with the approach followed in the earlier sections, the Commission limits the Capex to the extent of Board Approval and accordingly decides to allow Rs 51.52 Cr against the claim of Rs 109.69 Cr in the petition.
55. In view of the necessity of the proposed capital investment plan, the Commission hereby grants in principle approval against various schemes summarised as follows:

Approved CAPEX Plan FY 2021-22

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
A	Statutory, Safety and Security			
1	Equipment enhancing safe work environment	5.50	4.76	4.76
2	Installation / Construction of Plinth fencing or Boundary wall of DSS or GSS	2.50	4.33	4.33
3	Area upliftment/development	4.50		
4	Development of Meter Testing Labs	2.82	2.44	2.44
5	DSS refurbishment	12.01	6.06	6.06
	Sub-Total	27.33	17.59	17.59
B	Loss Reduction			
1	Old electromechanical/ defective meter replacement	113.04	19.05	3.77
2	Smart Metering	54.97	47.60	-
3	Infrastructure for spot billing and spot collection	3.55	3.07	3.07
4	Testing equipment	0.92	0.80	0.80
5	LT O/H bare to LT AB Cable conversion	19.01	12.12	12.12
	Sub-Total	191.49	82.63	19.76
C	Network Reliability			
1	SCADA implementation	31.00	21.64	21.64

Sl. No.	Particulars	Proposed Capex (Rs Cr)	Board Approval (Rs Cr)	Approved Capex (Rs Cr)
2	GSAS implementation	35.11	21.71	21.71
3	33 kV and 11 kV Sick equipment replacement	15.48	13.40	13.40
4	33 kV System improvement schemes	49.74	34.35	34.35
5	11 kV System improvement schemes	21.93	18.99	18.99
6	Distribution Transformer augmentation	7.50	4.33	4.33
	Sub-Total	160.75	114.42	114.42
D	Load Growth			
1	Meter Installation for all new connection	23.47	-	-
2	Network Extension to release New Connection	20.00	17.32	17.32
3	Addition / Augmentation of Power Transformers	15.25	13.20	13.20
	Sub-Total	58.72	30.52	30.52
E	Technology and Civil Infrastructure			
1	Infrastructure for Customer Care, Call Centre, Payment Centre and Section Offices	5.00	4.33	4.33
2	IT & Technology for process efficiency	38.41	21.64	21.64
3	GIS Implementation	26.78	17.32	-
4	Augmentation of Communication Network	10.46	4.73	4.73
5	Transformer Repairing Workshop	7.00	1.73	1.73
6	Central Stores development	5.00	4.33	4.33
7	Civil Infrastructure Upgradation	14.80	12.81	12.81
8	Ready to Use assets for Offices	2.25	1.95	1.95
	Sub-Total	109.69	68.84	51.52
F	Others			
1	Unplanned Capex	20.00	-	-
2	Employee Costs	34.10	-	-
3	Interest During Construction (IDC)	5.40	-	-
	Sub-Total	59.50	-	-
	Total	607.46	314.00	233.81

56. In summary, the Commission's year-wise and cumulative approval for Capex is as under:

Requirement of Minimum Capex as per Vesting Order for FY 2020-21	Rs 201.00 Cr
Capex Approved by the Commission for FY 2020-21	Rs 280.63 Cr
Requirement of Minimum Capex as per Vesting Order for FY 2021-22	Rs 393.00 Cr
Capex Approved by the Commission for FY 2021-22 (233.81+17.32+47.6)	Rs 298.73 Cr
Total Minimum Cumulative Capex as per Vesting Order till FY 2021-22	Rs 594.00 Cr
Total Cumulative Capex Approved by the Commission till FY 2021-22	Rs 579.36 Cr

57. The approved cost shall be passed in the ARR as per the norm subject to rational utilization by the Petitioner and prudence check through audit.
58. The Commission feels it appropriate to make an observation on the role of GRIDCO in the matter of TPCODL's CAPEX proposal. GRIDCO holds 49% equity in TPCODL and it has 4 out of 9 Directors in its Board. TPCODL is required to obtain approval of its Board of Directors while submitting its CAPEX proposal. Commission, as a matter of principle, limits its consideration to the amounts approved by the Board. GRIDCO as such has a substantial role in shaping the CAPEX proposal at its formulation stage itself. Instead of doing that, we observe that they have raised a number of objections in the case here. While we have considered the comments of GRIDCO in its perspective, we advise GRIDCO to play their role in the right earnest at the level of the Board of Directors of TPCODL.
59. The petitioner is directed to :
- a) submit CAPEX Proposal along with the copy of Board Approval from FY 2022-23 onwards.
 - b) submit the Capital investment plan strictly adhering to the provisions of the Tariff Regulations, Vesting Order and the license conditions from FY 2022-23 onwards.
 - c) submit quarterly progress report of the works along with the details of materials utilized vis-à-vis various activities shown in the DPR.
 - d) take stock of the inventory available in the stores and make its effective utilization.
 - e) procure the material/award the Contracts only after transparent open competitive bidding process.
60. Accordingly, the case is disposed of.

Sd/-
(G. Mohapatra)
Member

Sd/-
(S. K. Parhi)
Member

Sd/-
(U. N. Behera)
Chairperson