

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

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

**Case No. 08/2021**

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

**In the matter of:** Application for approval of CAPEX Plan for the FY 2021-22 in compliance to the directions of the Commission in the vesting order dated 28.12.2020 passed in Case No. 83/2020.

**For Petitioner:** Shri Arvind Singh, CEO, TPSODL and Shri Milind Pravakar Kulkarni, Chief Operation & Services, TPSODL.

**For Respondents:** 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, Shri Pramod Ku. Sahu, Shri Manoj Panda and Ms. Sonali Patnaik, ALO, DoE, GoO.

**ORDER**

**Date of Hearing: 29.06.2021**

**Date of Order: 18.09.2021**

1. The petitioner, Tata Power Southern Odisha Distribution Limited (TPSODL), has submitted an application for approval of Capital Expenditure (CAPEX) to the tune of Rs. 408.47 Crore for FY 2021-22 to carry out various system improvement and safety activities in its area of operation. This application has been filed pursuant to the direction of the Commission at para 43 in the vesting order in Case No.83/2020.
2. TPSODL's licensed area is spread over a geographical area of 48751 sq.km and it serves a registered consumer base of around 23 lakhs. TPSODL 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. TPSODL has submitted that it has inherited the power distribution network in dilapidated state at some places, which is not compliant with the requisite statutory standards and poses threat to consumers, staff, etc. Further, underrated/undersized/worn out conductors, poor earthing, presence of either faulty equipment or non-availability of equipment/switchgears/protection devices are creating potential safety hazards to the employees, consumers, children, animals,

public, etc. TPSODL has therefore, come up with this Capital Investment Plan with the primary objective of ensuring safe reliable power supply and ensuring best customer service to its end consumers. TPSODL has categorised the various activities of the Capital Investment Plan under 5 major broad subheads, i.e., (i) statutory and safety, (ii) loss reduction, (iii) network reliability, (iv) load growth, (v) technology and civil infrastructure.

3. The petitioner has submitted that every area under its operation has different characteristics and thus, has different challenges. However, some common challenges have been identified for taking up the work in the first year of its operation. TPSODL receives power from 28 no. of EHT Grid S/s and handles about 3000 MU with around 23,24,777 total consumers. It has 224 no. of 33/11 kV substations (6459 nos. of transformer), 33/0.415 kV substations (459 nos. transformer)] and 53658 nos. of 33/0.415 kV, 11/0.415/0.230 kV DTR. There are 3632.06 ckt. km. of Over Head (OH) 33 kV line, 3.9 ckt. km. of Under Ground (UG) 33 kV line, 40440.2 ckt. km. of OH 11 kV line, 47.2 ckt. km. of UG 11 kV line, 9600.15 ckt. km. of bare LT line and 27036.95 ckt. km. of ABC LT line.
4. The petitioner has submitted that due to vast geography, wide-spread network and absence of preventive maintenance, the existing network has become very weak to serve the consumers. Major factors causing damage to the poles/lines include structural deterioration of poles due to flood, cyclone, heavy vegetation, etc. The petitioner has proposed to replace the damaged poles, replace worn out conductors, do re-stinging of the conductor, install the mid-span pole, install stay-wire at start and end of the line and at every H pole. The petitioner has also proposed to strengthen earthing system by introducing fresh earthing in both Distribution Sub-Station (DSS) and Primary Sub-Station (PSS) as a part of refurbishment activity, which will enhance the life of the equipment with proper functioning of protection relays. The petitioner has also proposed various activities required to be performed for the aforesaid job.
5. The petitioner has further submitted that most of the 33/11 kV and 11/0.415 kV substations either have broken boundary fence or no boundary fence. Hence, it has proposed to put up fencing/build boundary wall under Statutory and Safety. The petitioner has also proposed to procure Personal Protective Equipment (PPE) and safety equipment for its staff to ensure safety to which the Licensee is mandated to comply as per the prevailing Regulations.
6. Therefore, TPSODL has submitted the Detailed Project Report (DPR) for CAPEX plan of Rs. 408.47 Crore for FY 2021-22 categorised under the following five broad sub-heads:
  - (i) **Statutory & Safety** – which includes purchase of PPEs, safety and testing equipment, providing Cradle guard at major road crossings, Fencing of Distribution substations (DSS), Boundary wall for Primary substations (PSS) and establishment of

meter testing lab.

- (ii) **Loss Reduction** – which includes Input Energy Monitoring System (ABT/AMR) – IEMS, Replacement of burnt, Faulty and Electromechanical meters and meter installation at no Meter cases, Bare LT to ABC conversion and initiatives under Demand Side Management.
- (iii) **Network Reliability** – which includes 33 kV and 11 kV Network refurbishment, installation of 33 kV and 11 kV AB Switch, PSS and DSS Refurbishment, installation of LV protection at DSS , installation of Auto reclosure/sectionalisers, RMU and FPIs, Trolley Mounted Pad Substations and Package Distribution Substations.
- (iv) **Load growth** – which includes Network augmentation/addition to meet load growth/11 kV line, PTR, DTR, LT line and installation of meters for new connection.
- (v) **Technology and Civil infrastructure** – Technology includes installation of Smart Meters along with back end IT Infrastructure, Augmentation of IPDS Software licenses pan TPSODL, development of IT Infrastructure (H/W and Field office infra for augmentation of IPDS application licenses), Communication Network Infra, SCADA and GIS implementation. Further, Civil works includes development of Civil infrastructure, Civil Work for Meter Test Bench, Civil work for Call center and PSCC, Upgradation of DT workshop, Security system in Central Store and assets for offices.

7. The petitioner has submitted various documents/ information in the Annexures of its DPR as listed below:

- **Annexure-1:** Sample Pictures of existing poor network condition and violation of statutory compliance posing safety threat to public, employees and animals.
- **Annexure-2:** Statutory Guidelines of CEA's Safety Regulations, which requires that lines, poles, earthing, transformer mounting, substation (S/S) fencing, etc., should be in order.
- **Annexure-3:** DPR for Personal Protective Equipment, Safety and Testing Equipment has been submitted. The total projected cost is Rs. 19.98 Crore. This shall ensure benefit in the shape of reduced physical harm/hazards, improved quality of work, reduced man-hour loss and quick decision on attempting work on an equipment.
- **Annexure-4:** DPR for Cradle guard at major road crossings and Construction of Plinth fencing of DSS and Boundary wall for PSS has been submitted of which Rs. 8.53 Crore is proposed for cradle guard, Rs. 15 Crore for fencing of DSS and Rs.

15.40 Crore for Boundary wall for PSS. Total projected cost is Rs. 38.93 Crore. It avoids accidents caused by snapping of conductors of overhead MV feeders.

- **Annexure-5:** DPR of establishment of meter testing lab has been submitted. It includes cost for both testing lab facilities and on-site testing equipment. The proposed cost is Rs. 2.47 Crore. It shall create environment for meeting the statutory requirement.
- **Annexure-6:** DPR for loss reduction initiatives has been submitted. The total projected cost is Rs. 90.93 Crore. It is in 4 parts, viz.:
  - (i) 1<sup>st</sup> part relates to Input Energy Monitoring System (ABT/AMR), which will cover all exchange points from 220 kV to 33 kV where the power flows from OPTCL into TPSODL territory. TPSODL to set up its own monitoring and efficient system. Total cost is Rs. 10.97 Crore.
  - (ii) 2<sup>nd</sup> part relates to Meter replacement, which includes meter cost, meter box, cables and metering accessories like poly-carbonate seals. Total cost is Rs. 62.98 Crore. It has been proposed to replace 3.86 lakh faulty meters in FY 2021-22.
  - (iii) 3<sup>rd</sup> part relates to Bare LT to ABC conversion costing Rs. 11.98 Crore. This shall improve the safety factor, minimize the safety accident risk, reduce the chances of faults and strengthen existing 415 V network.
  - (iv) 4<sup>th</sup> part relates to Demand Side Management (DSM), which costs Rs. 5 Crore. This shall improve the efficiency of energy system, reduce financial needs to build new energy facilities (generation), minimize adverse environmental impacts, reduce power shortage and power cut, improve the reliability and quality of power supply.
- **Annexure-7:** DPR for network reliability, refurbishment of selected 33 kV feeder assets so as to restore the efficiency of the S/S and feeders and improve the safety and reliability of network assets including enhancing the operational life of the equipment. Some are to be refurbished with 232 sq.mm. AAAC and some with 148 sq.mm. AAAC, totaling to Rs. 10.08 Crore. This shall result in benefits in the form of improved voltage profile, reduced outages, increased vertical clearance, reduced downtime of the equipment, reduced un-served energy, enhanced reliability of supply and reduced accidents.
- **Annexure-8:** DPR for Primary Substations (PSS) and 11 kV Distribution Substations (DSS) refurbishment has been submitted. It involves major overhauling of the

existing DSSs by providing switchgear-controlled LV protection and appropriate switches. The 500 kVA DSS' shall require Rs. 2.39 Crore, 250 kVA shall require Rs. 2.56 Crore and 100 kVA shall require Rs. 5.06 Crore totaling to Rs. 10.01 Crore of investment. It shall benefit in the shape of enhancement of life of assets, reduction in the no. of tripping due to LT faults and safety of human/ animal due to fencing/ earthing.

- **Annexure-9:** DPR for Auto-Recloser, Sectionalizer, FPI, RMU and AB switches at 33kV and 11kV Feeders at a cost of Rs. 15.96 Crore has been proposed, comprising Rs. 2.04 Crore for Auto reclosure, Rs. 3.09 Crore for 11kV sectionaliser, Rs. 1.34 Crore for FPI, Rs. 2.26 Crore for 3-way RMU and Rs. 2.23 Crore and Rs. 5 Crore, respectively, for 33kV & 11kV AB switches. These shall provide benefit of easy fault location, reduced power outage, ensuring continuous power supply, ensuring safety to the operator, providing better flexibility to isolate faulty feeders only.
- **Annexure-10:** DPR for LT protection at DSS has been submitted. MCCBs shall be installed in the pole mounted 100 kVA (500 nos.) at the cost of Rs. 3.33 Crore, 250 kVA (400 nos.) at the cost of Rs. 4.17 Crore and ACB – 500 kVA (140 nos.) at the cost of Rs. 2.59 Crore in Distribution substations. This shall ensure lower power cuts, reduction of consumer complaints, better reliability, and improvement in SAIFI/SAIDI. This shall be at a cost of Rs. 10.09 Crore.
- **Annexure-11:** DPR for Trolley Mounted Pad substations and Package has been submitted. Trolley Mounted Pad substations of 6 nos. shall be installed at the cost of Rs. 1.31 Crore and 5 nos. of 630 kVA package Substation at the cost of Rs. 1.64 Crore. The total projected cost is Rs. 2.95 Crore.
- **Annexure-12:** DPR for Network augmentation/addition of 11 kV line, PTR, DTR, LT line to meet load growth has been submitted at the cost of Rs. 26.52 Crore, comprising Rs. 4.41 Crore for Augmentation to 8 MVA Power Transformer (4 nos.), Rs. 9.92 Crore for Augmentation to 315 KVA Distribution Transformer (100 nos.), Rs. 8.06 Crore for New 11 kV Overhead bare Line, and Rs. 4.13 Crore for New 11 kV Overhead LT ABC Line.
- **Annexure-13:** DPR for Release of New Connections has been submitted, comprising proposed new meter (Rs. 4.79 Crore), service cable (Rs. 7.84 Crore), metering accessories (Poly-carbonate seals) (Rs. 0.08 Crore) totaling to Rs. 12.71 Crore.
- **Annexure-14:** DPR for Smart Meter has been submitted, costing Rs. 28.28 Crore.
- **Annexure-15:** DPR for IT, which has got 5 parts, viz.:

(i)	Augmentation of IPDS Software licences pan TPSODL:	: Rs. 18.24 Crore
(ii)	IT Infrastructure (H/W and Field office infra for augmentation of IPDS application licenses)	: Rs. 29.26 Crore
(iii)	Communication Network Infra	: Rs. 5.38 Crore
(iv)	SCADA Implementation	: Rs. 16.71 Crore
(v)	GIS Implementation	: Rs. 10.46 Crore
	<b>TOTAL</b>	<b>: Rs. 80.05 Crore</b>

- **Annexure-16:** DPR for Civil Works, Store and Administration, which has got 6 parts,  
viz.:

(i)	Civil infrastructure	: Rs. 20 Crore
(ii)	Civil Work for Meter Test Bench	: Rs. 2 Crore
(iii)	Call Centre, PSCC Infrastructure	: Rs. 4 Crore
(iv)	Store	: Rs. 4.25 Crore
(v)	Upgradation of DT workshop	: Rs. 1 Crore
(vi)	Administration	: Rs. 4.95 Crore
	<b>TOTAL</b>	<b>: Rs. 36.20 Crore</b>

8. The summary of the above CAPEX as proposed by the petitioner is given in the table below:

Sl. No	Major Category	Activity	DPR Cost (Rs. Crore)
1	Statutory & Safety	PPEs, Safety & Testing Equipment	19.98
		Cradle guard at major road crossings	8.53
		Fencing of Distribution substations (DSS)	15.00
		Boundary wall for Primary substations (PSS)	15.40
		Establishment of Meter Testing Lab	2.47
		<b>Total</b>	<b>61.38</b>
2	Loss Reduction	Input Energy Monitoring System (ABT/AMR) –IEMS	10.97
		Replacement of burnt, Faulty and Electromechanical meters and meter installation at no Meter cases	62.98
		LT Bare to ABC conversion	11.98
		Demand Side Management	5
		<b>Total</b>	<b>90.93</b>
3	Network Reliability	33 KV Network refurbishment	10.08
		Installation of 33 KV AB Switch	2.23
		PSS Refurbishment	12.17
		11 KV Network refurbishment	11.16
		Installation of 11 KV AB Switch	5.00
		DSS Refurbishment	10.00
		Installation of LV protection at DSS	10.09
		Installation of Auto reclosure /Sectionalizers, RMUs & FPIs	8.72
		Trolley Mounted Pad Substations	1.31
		Package Distribution Substations	1.64
		<b>Total</b>	<b>72.40</b>
4	Load Growth	Network augmentation / addition to meet load growth/11 KV line, PTR, DTR, LT line	26.52
		Meter Installation for all new connections	12.71

Sl. No	Major Category	Activity	DPR Cost (Rs. Crore)
		Total	39.23
5	Technology & Civil Infrastructure	Installation of Smart Meters along with back end IT Infrastructure	28.28
		Augmentation of IPDS Software licenses pan TPSODL	18.24
		IT Infrastructure (H/W & Field office infra for augmentation of IPDS application licenses)	29.26
		Communication Network Infra	5.38
		SCADA Implementation	16.71
		GIS Implementation	10.46
		Civil Infrastructure	20
		Civil Work for Meter Test Bench	2
		Civil work for Call centre & PSCC	4
		Upgradation of DT workshop	1
		Security system in Central Store	4.25
		Assets for Offices	4.95
		Total	144.53
Grand Total			408.47

9. In addition to the above, the petitioner has submitted the following details, which are dealt in different annexures as stated above:
- Details of availability of Safety items and PPE as on 31.03.2021 and availability of Testing and Measuring Equipment as on 31.03.2021.
  - Circle-wise actual performance for the period from FY 2016-17 to FY 2020-21 and category-wise projected Energy Sales for the period from FY 2021-22 to FY 2024-25.
  - Relevant document of Demand Side Management as per Energy Efficiency Services Limited (EESL) and Tata Power Delhi Distribution Limited (TPDDL) and also submitted that they are preparing and developing couple of DSM Schemes, which will be finalized and submitted by September, 2021.
  - Quarter-wise details of SAIDI, SAIFI and MAIFI for the period from FY 2016-17 to FY 2020-21 and year-wise details of projected SAIDI and SAIFI for the period from FY 2021-22 to FY 2025-26.
  - Circle-wise details of the interruptions and outages for the period from FY 2016-17 to FY 2020-21, which includes the abstract of outages due to trippings of HT feeder, Failure of Transformer (nos.) and Major disturbances due to EHT failure.
  - Details of consumer related information like T1-Consumption details, T6-Consumer Commercial Information, P10-Information on System Demand, P13-Status of Metering, for the period from FY 2016-17 to FY 2020-21.

- (g) Details of Status of consumer category-wise applications for new service connections pending as on 29.07.2021.
- (h) Details of new service connections proposed to be released during FY 2021-22 as follows:

<b>New service connections proposed to be released during FY 2021-22</b>		
<b>Type of meter</b>	<b>Qty. (No.)</b>	<b>Total Cost (in Rs) Supply + Installation</b>
<b>Single Phase meters</b>	24,641	2,51,86,833
<b>Three Phase Whole Current meters</b>	4,462	1,29,02,064
<b>Three Phase LT CT meters</b>	80	8,75,126
<b>Three Phase HT CT meters(11kV/110V)</b>	115	71,10,951
<b>Three Phase HT CT meters(33kV/110V)</b>	15	17,98,355
<b>Grand Total</b>	<b>29,313</b>	<b>4,78,73,329</b>

- (i) Status of division-wise current load profile and expected load growth of the transformer along with location-wise details of the transformer.

10. The replies of Respondents are summarized in the paragraphs below:

11. GRIDCO made the following submissions in the Capital Investment Plan of TPSODL for consideration of the Commission:

- The petitioner has not submitted the source of Unit rate considered in the cost estimate, as well as the cost estimate for establishment of Meter Testing Bench.
- TPSODL/Cost Data Book (CDB) Rate for FY 2019-20 for validation has not been submitted.
- Augmentation/refurbishment in 232 sq. mm conductor needs to be reassessed, line loading, voltage profile along with contingency analysis report to be submitted for validation.
- The figures mentioned for the number of consumers who are consuming power without meter and improper metering arrangement is 3,08,460 consumers, which is 13% of total consumers in TPSODL area, which has to be rechecked.
- The petitioner to provide the basis for presuming 0.8 Lakh meters to be declared defective.
- Technical and commercial loss analysis needs to be carried out before a comprehensive system CAPEX Plan.
- The length of 11 kV feeder more than 100 ckt. km. needs to be re-checked.
- The petitioner has not clarified about the requirement of 33 kV I/D and O/D



Termination kit instead of 11 kV I/D and O/D Termination kit.

- i) A realistic load forecasting needs to be carried out before investment in load growth. It is observed that 8% load growth is not happening during last few years. Basis of considering addition of 2.9 lakh consumers in FY 2021- 22 has to be provided.
- j) For SCADA and IT implementation, priority must be given for urban areas only, viz., Berhampur, Bhanjanagar, Aska, Jeypore in the first phase and subsequently, should be expanded to rural areas.
- k) Cost estimate of Smart meter installation has been based on the Mumbai tender with escalation of 8% per year. Hence, the Mumbai tender rate and justification of 8% pa escalation has to be provided.

12. Respondent Shri Bijay Kumar Das on behalf of OPTCL has submitted that:

- a) The petitioner has not submitted the document of Capital Structure, Capitalization Schedule, Financing Plan, Cost-Benefit Analysis and Performance Improvement envisaged due to CAPEX along with Division-wise Capital Investment Plan.
- b) Amount of Rs. 62.98 Crore proposed for replacement of burnt, faulty and electromechanical meters and meter installation at no meter scenario may be denied as the cost of the meter is to be recovered through meter-rent except for meters for DTRs.
- c) TPSODL has envisaged to install ABT complaint meters at all energy exchange points and they have suggested to use the same metering core, which is used by OPTCL. Hence, the investment on this head has to be justified as OPTCL is already having main and check meter for billing purpose.
- d) Planning for construction of new 33 kV lines for connecting it to new EHT grids has to be provided.
- e) Requirement of installation of relays in TPSODL's primary 33/11 kV substations has not been provided in the CAPEX plan.
- f) OPTCL have constructed many 33/11 kV substations under ODSSP, DDUGJY and IPDS schemes, which are not being taken over and made operational.
- g) As per the scope of DDUGJY and IPDS, 10,14,515 single-phase meters will be installed out of which 8,20,146 meters are already installed till date. Hence, CAPEX for meters should be allowed only after prudence check.
- h) Amount of Rs. 72.41 Crore proposed under the category of Reliability should be allowed only after prudence check.

- i) Majority of the transformers and breakers can work satisfactorily if minimum care is taken by the utility M/s TPSODL except for power transformers, which may be allowed wherever absolutely necessary.
  - j) CAPEX proposal for load growth should be allowed with prudence check by the Commission on the anticipated load growth projected by the Applicant.
  - k) The amount of Rs. 144.53 Crore proposed under the category of Technology and Civil Infrastructure should be allowed only after prudence check.
13. Respondents M/s. Grinity Power Tech. Pvt. Ltd. and M/s Utkal Chamber of Commerce & Industry Ltd. have submitted that:
- a) There should not be any likely Tariff hike because of CAPEX and considering the likely AT&C Loss reduction, the Tariff should reduce in future.
  - b) AT&C Loss Reduction Trajectory for FY 2021-22 has to be submitted as there is an increase in CAPEX as compared to earlier approved figure of Vesting Orders.
  - c) The petitioner needed to submit the details of CAPEX planning for each Industrial Park, MSME Cluster, new upcoming Industrial Estate along with definite time line, which is not included as part of the proposed CAPEX plan.
  - d) The petitioner should submit an undertaking for mandatory procurement of Goods and services from the local MSMEs.
  - e) The petitioner should submit the financial saving, payback period and probable outcome, and likely benefits foreseen due to the proposed CAPEX Investment.
  - f) CAPEX plan for Demand Side Management (DSM) program has not been submitted.
  - g) Item-wise specification, star rating, quotation, likely supplier for the major transformers, SCADA system has not been submitted and the detailed plan for utilization of the old and replaced transformers has to be provided.
14. Respondent, Shri R.P. Mahapatra has submitted that:
- a) The reason for the increase of Rs. 181.47 Crore has not been provided by the petitioner. Further, the re-phased capital investment for the subsequent years up to FY 2025-26 has not provided.
  - b) The petitioner has not submitted the methodology for finalizing the span lengths before OERC as there was change in span length provided in the DPR at different instances.

- c) The petitioner should recheck the defective meter numbers of 1422 in 11 kV HT CT category.
  - d) The estimate price of single-phase smart meter of TPSODL DPR is Rs. 5,398/- whereas the present market price of single-phase smart meter is Rs. 3,500/. Further, as per the Commission's Tariff Order, the Licensee can recover only Rs. 3600/- as rent towards the single-phase smart meter for the allowable period of 60 months.
15. Respondent Shri Ramesh Satpathy submitted that an enquiry on the expenditure incurred in different schemes through a third-party expert committee or State Crime Branch has to be conducted to verify utilization of cost allocated for the schemes or otherwise the Commission must direct the Government to investigate the entire expenditure utilized by the then SOUTHCO officials for interest of the consumers before hearing of the CAPEX plan.
16. Respondent Shri Prabhakar Dora has submitted that the capital expenditure plan has not been accompanied by cost benefit analysis and savings on account of loss reduction initiatives.
17. The Respondents Shri Pramod Kumar Sahu, Shri Manoj Panda and others have submitted that:
- a) The details of works along with corresponding expenditure and cost estimates has not been displayed on the website.
  - b) The petitioner should submit Efficiency audit report for each project by an independent auditor and the report on the same has to be made accessible to the consumers.
  - c) The incremental cost i.e., (i) interest and repayment due to the proposed capital expenditure and (ii) operational expenditure has to be serviced from the efficiency improvements, i.e., revenue increase so that there is no additional impact on the consumers.
  - d) Inclusion of numerous small items in the capital expenditure has not been justified.
  - e) All the CAPEX plans are to be scrutinized by consumer's counsel, which will scrutinize each expenditure.
  - f) Owing to high cost in nature, the capital expenditure towards Smart Meters and SCADA may be implemented after network implementation and loss reduction.
18. In its rejoinder, the petitioner has submitted as follows:
- a) As regards the estimated rates for PPE, Safety and Testing equipment, the petitioner has taken the rates from the recent purchase orders of Tata Power Group Companies, i.e., TPC, TPDDL, TPCODL and TPADL. The estimates have been prepared based on

the rates available at the time submission, which are matching the Rate Contract rates for most of the items. Further, the actual billing will be as per measurement taken at site and rate from the RC issued.

- b) As regards CDB rate, the petitioner has provided the rate for the year 2018-19 separately.
- c) A study of the network of all the Discoms was undertaken by M/s GRIDCO. Their recommendations, after detailed analysis of the network, were submitted through “Distribution Planning Report”. The report recommends augmentation/ refurbishment of lines with 232 Sq. mm conductor for some of the lines. The petitioner also has plans to augment the trunk section of some of the overloaded 33 kV feeders emanating from GSS with 232 sq.mm conductors. The proposals for network augmentation /refurbishment shall be analysed in detail before execution.
- d) Total meters found defective were in excess of 10 lakh (almost 40%) and therefore OPTCL under DDUGJY placed order on Linkwell for replacing all these meters in SOUTHCO. However, subsequent to submission of DPR, the mass meter replacement scheme (by Linkwell) has been granted 6 months extension. Linkwell had balance of around 3 lakh meters under its order (end date of 31.03.2021) which was expected to be completed by TPSODL in the DPR. Now that the order has been extended, the quantity of new meters required would reduce to around 30,000 meters annually and hence the Capex will therefore be modified.
- e) As regards defective meters, the petitioner submitted that 0.8 lakh meters would need replacement. This is based on the assumption of failure rate of around 3.5% per annum, which is normally observed in single-phase meters.
- f) As regards technical and commercial loss analysis, the petitioner has planned the CAPEX proposal considering the AT&C loss trajectory as mentioned in the Vesting Order issued by the Commission. TPSODL team has developed the CAPEX plan based on Tata Power’s distribution experience of more than 60 years and some well-established norms and prudent ways of compiling engineering estimates.
- g) The petitioner has considered the shortcoming of the distribution network, viz., low voltage areas, poor reliability issues due to network constraints, unsafe locations, overloaded PTRs, DTs, 33 kV and 11 kV feeders after site visits, data collection and detailed discussion with the divisional teams. Further, the petitioner also considered the recommendations of the Distribution Planning Report prepared by M/s GRIDCO.

- h) The error in requirement of 33 kV I/D and O/D Termination kit instead of 11 kV I/D and O/D Termination kit took place inadvertently. Further, cable accessories, viz., indoor and outdoor type Heat shrinkable jointing kit suitable for 3Cx400 mm<sup>2</sup> 11 kV XLPE Cable shall be used during execution of the proposal.
- i) As regards load forecasting, the petitioner has submitted that the load forecasting has been derived from the ARR reports submitted by erstwhile SOUTHCO utility. With improvement in the availability and quality of power supply, new connection timelines and grievance redressal, the petitioner will be able to meet the trend of the load growth of 8% in TPSODL. Further, the new consumer addition is only to the extent of 29,000 and not 2.9 lakh as indicated by GRIDCO.
- j) The petitioner has submitted that due consideration has been given to prioritize IT and SCADA implementation on the basis of various factors like consumer load and geography. The basis is as below:
- (i) IPDS landscape: As MBC and ERP are foundational systems, TPSODL has considered extension of rollout to entire TPSODL area. However, this will not require much of effort (except additional data migration) as business process will remain same throughout TPSODL area, which are implemented through IT software placed at Data Centre.
  - (ii) SCADA: As TPSODL has 99 PSS covered under ODSSP (out of which 70 are already commissioned), which are SCADA compatible but are not connected to SCADA control center due to non-availability of SCADA software and control center. TPSODL has prioritized SCADA control center setup with integration of 70 SCADA ready ODSSP PSS. Additionally, 15 non-ODSSP PSS in urban areas would be revamped for SCADA implementation.
  - (iii) GIS: GIS S/W implementation in FY 2021-22 is limited to Berhampur City followed by detailed survey of rest of TPSODL area in FY 2022-23 and FY 2023-24. Priority of areas (in descending order) of GIS survey is as below - City Circle, Berhampur Circle, Aska Circle, Bhanjanagar Circle, Jaypore Circle, Rayagada Circle.
- k) As regards cost estimate of smart meter, TPSODL submitted that Mumbai tender was as recent as in FY 2020-21. It was similar in size, scale and hence, it was taken as basis. Since the Mumbai tender was invited by a private company, the rates are not available in public domain. The escalation of 8% per annum is as per the guidelines of GRIDCO.

- l) The approved actual capital expenditure by the Commission would form the basis for recovery of such expenditure in the Tariff. The Tariff in turn would be computed on the basis of the OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2014 for Debt-to-Equity Ratio, Depreciation, Rate of Interest, Return on Equity, etc. The proposals submitted under CAPEX have been distributed across all circles and divisions. Further, the petitioner also submitted the division plan for major equipment, viz., Primary Substations, Distribution Substations and Lines.
- m) With regard to installation of ABT compliant meters at all exchange points, TPSODL has established Power Supply Control Centre (PSCC) from where the entire DISCOM operations are being managed. Presently, the input to the PSCC is shared by OPTCL over leased lines. However, there are following constraints in the present scheme of sharing data by OPTCL:
- (i) OPTCL has put the meter on LT side and not on individual 33 kV feeders.
  - (ii) Meters, which are installed are mostly non-communicating and hence, real-time data is not available.
  - (iii) DSM is not possible with the existing system.
  - (iv) IEMS will help TPSODL in determining correct Distribution Loss levels and accordingly planning shall be done for minimizing it to the lowest.
- n) As regards cost proposed for replacement of burnt, faulty and electromechanical meters and meter installation at no meter scenario, TPSODL submitted that they intend to withdraw this item from CAPEX proposal.
- o) As regards planning for construction of new 33 kV lines for connecting it to new EHT grids, TPSODL submitted that out of 27 nos. of 33 kV bays in TPSODL area (details provided in Annexure-1), work of 33 kV lines for 13 nos. of bays are in progress under monitoring from OPTCL. These are at various stages of construction and expected to be completed in FY 2021-22. The remaining 14 bays will be taken up in subsequent CAPEX.
- p) On requirement of installation of relays, TPSODL submitted that they have proposed 33 kV and 11 kV Control and Relay panels (C&R panels) for Transformer and Outgoing feeders along with VCBs under Annexure-8 of the DPR. These C&R panels are equipped with the required protection relays.
- q) With regard to new 33/11 kV substations developed under ODSSP, DDUGJY and IPDS schemes, TPSODL has submitted that ODSSP substations are being constructed

under supervision of OPTCL where important works are still pending. TPSODL is following up with the contractors for completion of the pending works and is keen to take over the PSS after the completion of the works. Same is applicable for the projects in other schemes like DDUGJY and IPDS.

- r) The Capital expenditure of Rs. 12.71 Crore under the category Load Growth through new connection, comprises service cables and seals amounting to Rs. 7.92 Crore. The balance amount Rs. 4.79 Crore is cost of meter and its installation charges, on which the Commission may take appropriate decision as it deems fit.
- s) TPSODL submitted that Tata Power has successful experience of IT implementation at Delhi and Mumbai power distribution. The scope for Technology and Civil Infrastructure has been prepared under experienced IT and civil engineers considering optimum utilization of the assets.
- t) With regard to requirement of transformers, TPSODL submitted that they have started many maintenance related activities like attending to Power Transformer and Distribution Transformer oil leakages, topping up of oil in transformers, checking of BDVs in Power Transformers. About 90 Nos. of Circuit Breakers have been made operational by cannibalizing the good parts from the defective circuit breakers. Further, Annual Maintenance Contract is being awarded, where-in all the maintenance activities of the major equipment will be taken up. Tree trimming activities of 33 kV and 11 kV lines is also a regular activity and maintenance of these lines are planned on regular basis.
- u) On the requirement of prudence check, TPSODL submitted that they shall follow the transparent tendering process to select the Vendor for implementation of SCADA in its network infrastructure.
- v) As regards impact on tariff, TPSODL submitted that the CAPEX plan has been proposed to bring down the AT&C losses, however, the results may not be visible immediately and will take some time to reflect. However, the Commission may compute the tariff on the loss trajectory as provided in the Vesting Order of TPSODL.
- w) On AT&C Loss Reduction Trajectory for FY 2021-22, TPSODL has submitted that the proposed CAPEX plan has been prepared to achieve the AT&C loss reduction trajectory as specified in the Vesting Order. TPSODL remains confident that if the proposed CAPEX is approved by the Commission, the actual loss reduction will be better than the projections approved in the Vesting Order.

- x) As regards increase in the CAPEX amount in the petition, TPSODL submitted that the capital investment plan is prepared in line with the five-year approval in the Vesting Order issued by the Commission at the time of transferring the SOUTHCO utility to TPSODL. Further, the investment plan for subsequent years shall be submitted in future CAPEX plans after thorough review of the requirements.
- y) As regards the details of CAPEX planning for each Industrial Park, MSME Cluster, and new upcoming Industrial Estates, the petitioner submitted that the developer of the industrial Parks and MSME clusters, whenever planned, approaches the DISCOM for developing the power distribution network in line with the guidelines of the Supply Code. Further, these schemes have not been proposed in CAPEX as they are primarily funded by the developers.
- z) On mandatory procurement of goods and services from the local MSMEs, the petitioner has submitted that the guidelines of the Government for local MSME industries shall be implemented, as applicable to TPSODL.
- aa) As regards financial saving, payback period, probable outcome, and likely benefits foreseen due to the proposed CAPEX Investment, the petitioner has submitted that the framework used for CAPEX plan uses integrated approach towards achieving the goal of reliability, safety, operational flexibility, adoption of technologies, customer satisfaction and efficient deployment of funds. The schemes are proposed after detailed analysis and cost optimization. Further, the ARR takes care of benefits accrued out of CAPEX investment during tariff determination and likely benefits on account of increase in revenue will be adjusted at the time of true up.
- bb) As regards individual quotation and supporting documents of safety equipment, the petitioner has submitted that all the estimated rates for PPE, Safety and Testing equipment are taken from the purchase orders of Tata Power Group Companies, i.e. TPC, TPDDL, TPCODL and TPADL for estimation purpose. However, transparent tendering process shall be followed to select the vendor/Supplier and actual cost shall be incurred during execution of the project under respective head.
- cc) On the requirement of division wise meter testing lab, the petitioner has submitted that this observation is for consideration of the Commission.
- dd) As regards DSM, the petitioner has already submitted investment proposal of Rs. 5 Crore for DSM under Loss reduction category, details of which are mentioned in Annexure 6.



- ee) On revision of prices of the materials, the petitioner has submitted that the rates of items considered in CAPEX DPR are from CDB of FY 2018-19. Wherever the rates are not available in the CDB, same have been taken from the recent orders of Tata Group companies for estimation. However, transparent tendering process shall be followed to select the vendor/Supplier and actual cost shall be incurred during execution of the project under respective head.
- ff) As regards updating of details on website, the petitioner has submitted that all CAPEX details are submitted to the Commission as per the truing up of ARR for prudence check.
- gg) As regards requirement of Efficiency Audit, the petitioner has submitted that the Commission may take appropriate view of the observation made.
- hh) Further, TPSODL has its in-house process to monitor the progress of the projects and the projects will be completed as per the CAPEX approved by the Commission.
- ii) As regards treatment of Revenue and Efficiency Gains, the Petitioner has submitted that ARR report providing details of CAPEX, and OPEX is submitted every year for approval of the Commission and that takes care of benefits accrued out of CAPEX investment during tariff determination. The proposed CAPEX plan has been prepared to achieve the AT&C loss reduction trajectory as specified in the Vesting Order. Further, the CAPEX investment plan is prepared after study of the existing status of the utility and priorities are proposed based on the vast experience of TPSODL in the distribution business.
- jj) All the equipment considered in the proposals qualify to be included under CAPEX and are put up for approval of the commission.
- kk) With regard to scrutinising of information by Consumer Counsel, the petitioner has submitted that the Commission may take appropriate view on the observation made.
- ll) On implementation of Smart meters and SCADA, TPSODL is of the view that the CAPEX investment plan has been prepared after study of the existing status of the utility. Further, the Linkwell project has been granted extension up to 30.09.2021. In view of this, TPSODL intends to withdraw this CAPEX towards procurement of the meters.
- mm) As regards the span lengths provided in the DPR, the petitioner has submitted that the mid-span pole wherever existing span length is 40 metres, is proposed for conversion of bare LT conductor to LT AB Cable. Further, the recommendation of mid span pole

wherever existing span length is more than 50 metres, is for bare conductor for LT or 11 kV.

- nn) The petitioner has submitted that they have relied on internal database and assessment.
- oo) As regards the cost of Smart meters and related queries, the petitioner submitted that the Commission may take appropriate view on the observation made.
- pp) As regards enquiry on the expenditure utilized in different schemes through a third-party expert committee and submission of 10 years scheme-wise data, the petitioner submitted that the Commission may take appropriate view on the same.
- qq) As regards the capital expenditure plan, the petitioner submitted that the cost benefit analysis is not reflected in the CAPEX proposal as the petitioner has inherited the legacy distribution network in very poor state with respect to the operation, safety and statutory compliances. Further, the proposed CAPEX investment plan has considered the refurbishment of the existing network, compliances to the statutory requirements to mitigate the most unsafe locations to avoid the accidents of men and animals and IT enablement to improve customers' grievances. The ARR takes care of benefits accrued out of CAPEX investment during tariff determination.

19. In response to the reply received from TPSODL, GRIDCO made the following submissions for the consideration of the Commission:

- a) Input Energy Monitoring System (IEMS): This activity is not a priority one. Moreover, OPTCL has already developed remote monitoring system and is taking data from the interface points for their billing purposes. TPSODL may have a common platform with OPTCL for such monitoring system rather than having a parallel system. They can even capture data from SLDC as per their requirement. Hence, the proposed investment of Rs. 10.97 Crore may be reconsidered.
- b) Demand Side Management (DSM): Super energy efficient fans, Super-efficient Air conditioners and super-efficient electric motors are not proven technology. Investment of Rs. 5 Crore against such items is not feasible at this stage. Hence, this plan may be postponed to FY 2023-24.
- c) MCCB/ACB: Investment of Rs. 10.08 Crore against MCCB/ACB in outdoor substations for LV protections is not recommended, instead fuse system is more reliable and easily maintainable and also cost effective. The investment against fuse protection may be considered for around Rs. 3.00 Crore in place of Rs.10.08 Crore as proposed for FY 2021-22.

- d) Installation of Auto Reclosure / Sectionalizers, RMUs, & FPIs: RMUs are recommended only in UG cabling system. Investment of Rs. 8.72 Crore in these items may be postponed until feeder refurbishment work is over.
- e) Package Distribution Sub-station: It is recommended to install in UG system and only in urban areas.
- f) Load Growth: TPSODL has considered 8% load growth considering rise in consumption between FY 2019-20 and FY 2020-21. This load growth might be due to new consumers recently connected under Saubhagya Scheme. This may not be a standard growth rate in TPSODL. Hence, the investment of Rs.12.71 Crore against installation of meters of new consumers may be re-assessed. It is suggested to invest 50% of the projected value, i.e., Rs. 6.35 Crore during FY 2021-22 under OPEX programme.
- g) Smart Meters: TPSODL has proposed to scrap all AMIs installed in all HT and EHT consumers and install smart meters, which may be injustice to the earlier investment. Hence investment of Rs. 28.28 Crore against smart meters need to be re-examined.
- h) It is understood that under IPDS all 3-phase (EHT/HT/LT) meters are to be connected through AMR, all non-DMLS meters are to be replaced by DLMS meters and bring it to monitoring system. This scheme needs to be reviewed before investing such a huge amount in Capex again.
- i) There is provision in Soubhagya Scheme to install meters for all unmetered consumers. Hence, procurement of meters against unmetered consumers in this CAPEX plan should be dropped.
- j) Communication Network Infra: instead of laying separate OFC, TPSODL may hire existing optical fibers laid under “Bharat Net” by Government of India or may hire OFC laid by private utilities. Investment of Rs. 5.38 Crore may be reconsidered. This will save capital expenditure and O&M cost also.

Following activities with the associated costs need to be re-examined or may be postponed because of the reasons explained above:

3	Demand Side Management	Cost	00
4	Installation of LV protection	Activities	Deduction
5	Installation of Auto reclosure/ Sectionalizers, RMUs & FPIs	(Rs. Crore)	18.72
6	New Energy Monitoring System (ART/AMR)- IEMS		10.93
7	Replacement of Smart Meters and Electronic mechanical meters and meter installation at no meter cases		28.28
2			34.20

8	Communication Network Infra	5.38
<b>Total</b>		<b>105.99</b>

20. The Commission conducted hearings through Video Conferencing in the Virtual Court on 08.06.2021. The public notice was issued on 09.06.2021 inviting suggestions/objections to the CAPEX Plan for FY 2021-22 of the DISCOMs which were to be filed on or before 25.06.2021. The public hearing in the matter was held on 29.06.2021. The Commission during hearing heard the Applicants who had filed their written views and participated in the hearing and the stakeholders present during hearing.
21. Heard the parties at length. Before going to the merit of the proposal of the Licensee, we will discuss the background and provisions based on which, the CAPEX plan shall be approved. 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, economical 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. OERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2014 specifies the provisions related to Capital Investment Plan based on which the CAPEX proposal should be submitted by the DISCOMs. The relevant extracts of the regulations are as follows:
- “Capital Investment:*
- 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.....*
- 7.36 The Capital investment plan shall be divisionwise/schemewise and with respect to each division/scheme, shall include---*
- a) Purpose of investment (i.e. replacement of existing assets, meeting load growth, technical loss reduction, non-technical loss reduction, meeting reactive energy requirements, customer service improvement, improvement in quality and reliability of supply etc.);*
  - b) Capital Structure;*
  - c) Capitalization Schedule;*

- d) *Financing plan;*
- e) *Cost-benefit analysis;*
- f) *Performance improvement envisaged in the Control Period.*

7.37 *While presenting the justification for new projects, the licensee shall detail the specific nature of the works and outcome sought to be achieved. The detail must be shown in the form of physical parameters, e.g., new capacity added, to be added, meters replaced, customer service centers set up etc., so that it is amenable to physical verification. This is necessary to ensure that the approved investment plans are implemented and the licensee does not derive improper financial benefit by delaying or neglecting to make the proposed investment.”*

23. As per the above provisions in the OERC Tariff Regulations, the Commission had asked the petitioner to submit the details of cost benefit analysis, capital structure, capitalisation schedule, financing plan and specific details of work. TPSODL in its reply has submitted the capitalisation schedule and financing plan. Benefits of the proposal along with few location wise details of the works has also been submitted by TPSODL. TPSODL representatives have also submitted that the DPR has been prepared within 45 days and no technical study or cost benefit analysis has been carried out and the DPR has been prepared based on the inputs received from the work field. The Commission at this stage has considered and analysed the Capex plan for FY 2021-22 based on the submissions made by TPSODL due to paucity of time. However, the Commission directs the TPSODL to submit the Capex Plan from FY 2022-23 onwards strictly complying with the provisions of OERC Tariff Regulations.
24. In the present case as per para 43(b) of the Vesting Order, the petitioner had committed capital expenditure of Rs.1166 Crore for the period FY 2021-22 to FY 2025-26 as follows :

(Value in Rs. Crore)

<b>FY 22</b>	<b>FY 23</b>	<b>FY 24</b>	<b>FY 25</b>	<b>FY 26</b>	<b>Total</b>
227	316	241	233	150	1,166

As per para 43(c) of the Vesting Order:

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

*Table 2: TPCL Cumulative Capital Expenditure for 5 years*

<b>Cumulative Capex Expenditure (INR Cr)</b>				
<b>Upto 31-Mar- 2022</b>	<b>Upto 31-Mar- 2023</b>	<b>Upto 31-Mar- 2024</b>	<b>Upto 31-Mar-2025</b>	<b>Upto 31-Mar-2026</b>
227	543	783	1,016	1,166

25. TPSODL has proposed the Capex Expenditure for FY 2021-22 substantially higher than the

Capex Expenditure as per Vesting Order.

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

*“11. INVESTMENTS*

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

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

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

*(a) there is a need for such investments in the Distribution System;*

*(b) the Licensee has made techno-economic analysis and environmental aspects of all viable alternatives to the proposal for investing in or acquiring new Distribution System assets to meet such need;*

*(c) the investment plan is in conformance to the conditions for capital investment specified in the Vesting Order.*

*.....”*

*“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 (Indian Rupee Five 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.*

*.....”*

27. The main objective of the investment plan is to develop and maintain an efficient, coordinated and economical distribution system. TPSODL shall effect supply of electricity to consumers in accordance with the provisions of the Act, Rules, Regulations, Orders framed thereunder and the directions of the Commission. The Commission has further considered the following major aspects while finalizing the investment plan proposed by TPSODL:

- (i) Whether TPSODL has obtained approval of their Board of Directors on the proposed Capital Investment Plan?
- (ii) Whether the scheme is required to meet the statutory standards stipulated in the Act,

or specified under Regulations, standards, etc.

- (iii) Whether it will be helpful to meet the consumer's expectations of quality and reliable power?
- (iv) Whether the investment is cost efficient?
- (v) Whether the proposal shall have any tariff impact on the consumers?

28. 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 TPSODL. 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.

29. The Commission has examined the investments proposed by the petitioner. 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. The Commission also took the report of the Consultants into consideration.

30. The Commission has observed that there is variation in the CAPEX value stipulated in the Vesting Order, submitted in the DPR and those approved by the Board , as shown below:

**(Value in Rs. Crore)**

<b>Capex as per Vesting Order</b>	<b>Capex as per DPR Submitted</b>	<b>Board Approved Capex Value</b>
227*	408.47	266**

*\*Capex Commitment by TPCL*

*\*\* Equity Contribution – Rs. 41 Crore by Tata Power and Rs. 39 Crore by GRIDCO; Long Term loan – Rs. 190 Crore.*

31. In TPSODL, TPCL is having 51% (fifty one percent) equity shares and Government of Odisha (“GoO”) through GRIDCO is having 49% (forty nine percent) equity shares. The Commission notes that since the Board is the governing body of TPSODL, any Capital Investment Plan should have received approval of the Board before it is considered by the Commission. Accordingly, the Commission decided to limit the Capital Expenditure for various works proposed in the DPR to the extent approved by the Board.

32. The Commission has analysed each activity in the submission of TPSODL's CAPEX DPR and evaluated the same based on the following methodology:

- (a) The present condition of the Distribution Network.
- (b) Verification of the Schemes claimed in line with the provision of various OERC Regulations.
- (c) Analysing the requirement of the activity/work proposed for FY 2021-22.
- (d) Verification of the quantity requirements as claimed in the proposal.
- (e) For Cost Analysis, comparison of the cost submitted in the DPR has been done with the cost of materials provided in the Cost Data Book, 2019 issued by Government of Odisha. For the materials, which are not mentioned in Cost Data Book, 2019, the reference rates of other States like Maharashtra and Telangana or prevailing market rates have been considered.

33. The Commission has noted that there is huge variation in the Cost submitted in DPR and the Board Approved Cost. Considering the importance of the Capex plan and its further impact on the tariff, the Commission decided to limit the Commission analysed cost for each activity submitted in the proposal to the Board Approved Cost and.

34. The Scheme wise analysis is discussed in the following paragraphs in line with the above methodology for evaluation of the Capital Expenditure claimed by TPSODL.

**A. Statutory Compliance/Safety:**

35. The Commission notes the importance of all the parameters considered under the Statutory Compliance/Safety head viz. PPEs, safety & testing equipments, Cradle guard at major road crossings, Fencing of Distribution substations (DSS), Boundary wall for Primary substations (PSS) and establishment of meter testing lab. While comparing the Unit Rates of various items proposed in the DPR with the Cost Data Book, the Commission observed some deviations in the rates considered for PPEs, safety & testing equipments and establishment of meter testing lab. such cases, the Commission has considered Unit Rate as per Cost Data Book while arriving at the total cost. The Commission also observed that as against total Capex of Rs 61.38 proposed by TPSODL, the Board has approved the total capex of Rs 31.43 Crore. The Commission finds that the Board has approved Capex of Rs. 31.43 Crore under Statutory Compliance/Safety.

36. The Commission during scrutiny of the documents also observed that based on the Accident Reports submitted by TPSODL, on an average for the last 10 years, fatal accidents amount to almost 64% (Humans + Animals) of which 56% relate to humans. The Commission is of the view that the proposals submitted by TPSODL under Statutory & Safety considerations are essentially required to effectively curtail the rate of accidents in the upcoming years.



37. As discussed above, the Commission decides to limit the CAPEX amount under Statutory Compliance/Safety to the Board Approval value of Rs. 31.43 Crore. The Commission expects that with the investments considered under Statutory Compliance/Safety, there should be substantial reduction in accident rates.
38. The summary of Capex proposed in the DPR, Capex approved by the Board and the Capex approved by the Commission are summarized as follows:

<b>Description</b>	<b>Capex as per DPR (Rs. Crore)</b>	<b>Board Approved Capex (Rs. Crore)</b>	<b>OERC Approved Capex (Rs. Crore)</b>
PPEs, Safety & Testing Equipment	19.98	9.99	9.99
Cradle guard at major road crossings	8.53	4.57	4.57
Fencing of Distribution substations (DSS)	15.00	9	9
Boundary wall for Primary substations (PSS)	15.40	5.4	5.4
Establishment of Meter Testing Lab	2.47	2.47	2.47
<b>Total</b>	<b>61.38</b>	<b>31.43</b>	<b>31.43</b>

**B. Loss Reduction:**

39. The Commission has noted the submissions of the petitioner under the Loss Reduction Scheme. While comparing the Unit Rates of various items proposed in the DPR with the Cost Data Book, the Commission observed some deviations in the rates considered for several schemes. Under such cases, the Commission has considered Unit Rate as per Cost Data Book while arriving at the total cost.
40. Activity wise analysis of the schemes are as follows:

- (a) **Input Energy Monitoring System (ABT/AMR) –IEMS** - The Commission is of the view that the existing metering system of OPTCL may be continued to be used at this stage for the Input Energy monitoring purposes as Input Energy meters have already been installed by OPTCL and there is no need to duplicate the investment. It has also observed that the Board has not approved any CAPEX for this activity. Hence, the Commission directs OPTCL to provide the requisite information/data to TPSODL for the monitoring of the input energy as and when sought by TPSODL.

Further, the Commission directs TPSODL and OPTCL to conduct joint study for establishing the need of the proposed works and submit the report along with the Capex approval for next year i.e. FY 2022-23.

- (b) **Replacement of burnt, Faulty and Electromechanical meters and meter installation at no Meter cases** – TPSODL in its DPR submission has provided that 3,00,000 meters have already been procured under DDUGJY (Linkwell project) for

replacement of defective meters, but the project was supposed to be closed by 31.03.2021. During the process, it was observed that the project has been extended till September, 2021 and TPSODL has submitted the documents for extension of the project. The Commission decides to allow the cost claimed for the replacement of old Service Cables only and the related accessories in the CAPEX approval for FY 2021-22.

Further, as per the provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 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.”*

Hence, from the above provisions it is clarified that the cost of meter is to be recovered through meter rent and the Commission is not inclined to allow the cost of replacement of the defective/burnt/lost meters and, procurement of meter, meter box, metering accessories etc. under CAPEX. Further, TPSODL in one of its response to the stakeholder’s comment has agreed to withdraw the Capex proposed for meters.

- (c) **Demand Side Management** – The Commission appreciates TPSODL’s efforts on the Demand Side Management plan which mainly focuses on energy optimisation, peak power reduction, improved reliability and reduction in emissions. TPSODL in the DPR has proposed installation of super-efficient fans, super-efficient air conditioners and premium efficiency electric motors. Considering the current

condition of the distribution network, the Commission is of the view that importance should be given to the strengthening of the network. Hence, the Commission decides to defer the proposed DSM works for the upcoming years and directs TPSODL to submit the complete details of these works in the Capex Plan for subsequent years with complete Cost Benefit Analysis.

41. The summary of analysis are as follows:

<b>Description</b>	<b>Capex as per DPR (Rs. Crore)</b>	<b>Board Approved Capex (Rs. Crore)</b>	<b>OERC Approved Capex (Rs. Crore)</b>
Input Energy Monitoring System (ABT/AMR) –IEMS	10.97	0	0
Replacement of burnt, Faulty and Electromechanical meters and meter installation at no Meter cases	62.98	32.98	8.68
LT Bare to ABC conversion	11.98	7.01	7.01
Demand Side Management	5.00	0	0
<b>Total</b>	<b>90.93</b>	<b>39.99</b>	<b>15.69</b>

The Commission decides to allow Rs. 8.68 Crore as submitted by TPSODL in its DPR to meet the requirements of replacement of old Service Cables and related accessories. Further, in line with the Board Approval, the Commission decides to approve cost of Rs. 7.01 Crore for LT Bare to ABC conversion.

Based on the above analysis, the Commission finds that cost of Rs. 15.69 Crore appears to be reasonable against the proposed CAPEX amount of Rs. 90.93 Crore claimed under Loss Reduction.

Based on the above analysis and considering the importance of Loss Reduction in the Capital Investment Plan, the Commission decides to allow Rs. 15.69 Crore against the proposed CAPEX amount of Rs. 90.93 Crore claimed under Loss Reduction.

### **C. Network Reliability:**

42. The Commission has noted the schemes and claims of the petitioner under the Network Reliability Scheme. Considering the present condition of the distribution network of TPSODL, the Commission is of the view that all the schemes covered under the Network Reliability which aim to strengthen the network are allowable. While comparing the Unit Rates of various items proposed in the DPR with the Cost Data Book, the Commission observed some deviations in the rates considered for several schemes. Under such cases, the Commission has considered Unit Rate as per Cost Data Book while arriving at the total cost.
43. The summary of the analysis is as follows:

Description	Capex as per DPR (Rs. Crore)	Board Approved Capex (Rs. Crore)	OERC Approved Capex (Rs. Crore)
33 KV Network refurbishment	10.08	5.04	5.04
Installation of 33 KV AB Switch	2.23	2.23	2.23
PSS Refurbishment	12.17	6.25	6.25
11 KV Network refurbishment	11.16	6.92	6.92
Installation of 11 KV AB Switch	5.00	3.05	3.05
DSS Refurbishment	10.00	4.08	4.08
Installation of LV protection at DSS	10.09	5.08	5.08
Installation of Auto reclosure /Sectionalizers, RMUs, &FPIs	8.72	3.95	3.95
Trolley Mounted Pad Substations	1.31	0.22	0.22
Package Distribution Substations	1.64	0.65	0.65
<b>Total</b>	<b>72.40</b>	<b>37.47</b>	<b>37.47</b>

Hence as discussed above, the Commission decides to limit the CAPEX amount under Network Reliability to the Board Approved amount of Rs. 37.47 Crore.

44. The Commission observes that TPSODL has not submitted any schemes which describes utilization of the 11 kV feeders emanating from 33/11 kV substations. Further, in some 33/11 kV substation, there is only single 11 kV outgoing feeder, which results in improper utilization of the network and affects the reliability of the system. The Commission directs TPSODL to properly utilize the 11 kV feeders space available in the 33/11 kV substation for strengthening of the Distribution Network. The Commission also directs TPSODL to submit the information related to utilisation of 11 kV feeders space available in 33/11 kV substations along with the Capex proposal for next year i.e. FY 2022-23.

**D. Load Growth:**

45. The Commission has noted the schemes and claims of the petitioner under the Load Growth Scheme. After analysing the annual growth rate (in %) from FY 2016-17 to FY 2019-20 for different category of consumers, it was observed that category-wise sales growth is in the range of 3% to 19% with overall CAGR of around 6% in Sales and CAGR of Load Growth is around 11%. Load growth has been showing incremental trend, which justifies the requirement of Network augmentation / addition to meet load growth/11 kV line, PTR, DTR and LT line. While comparing the Unit Rates of various items proposed in the DPR with the Cost Data Book, the Commission observed some deviations in the rates considered for several schemes. Under such cases, the Commission has considered Unit Rate as per Cost Data Book while arriving at the total cost.
46. **Meter Installation for all new connections** – As per the provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 2019, the cost of the meters shall be

only recovered through Meter Rent. The relevant provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 2019 are as follows:

*“22. (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.”*

Hence as per the above provisions, the connection charges for a new consumer are Rs.1500/- (up to 2 KW) and Rs.2500/-(beyond 2 KW up to 5 KW) excluding the cost of meter, processing fee & Security deposit. Further, the cost of meter is to be recovered through the meter rent as per the Regulations and orders in force, if the same has been supplied by the Licensee. Further, TPSODL in one of its response to the stakeholder’s comment has agreed to withdraw the Capex proposed for meters.

Hence, the Commission is not inclined to allow the proposal for procurement of meter, meter box, metering accessories etc. under CAPEX.

47. Based on the analysis, the details of the allowable cost under the Load Growth are as follows:

<b>Description</b>	<b>Capex as per DPR (Rs. Crore)</b>	<b>Board Approved Capex (Rs. Crore)</b>	<b>OERC Approved Capex (Rs. Crore)</b>
Network augmentation / addition to meet load growth/11 KV line, PTR,DTR,LT line	26.52	8.74	8.74
Meter Installation for all new connections	12.71	8.71	0
<b>Total</b>	<b>39.23</b>	<b>17.45</b>	<b>8.74</b>

The Commission finds that Board approved value of Rs. 8.74 Crore appears to be reasonable against the proposed CAPEX amount of Rs. 26.52 Crore claimed under Network Augmentation.

Hence, the Commission decides to limit the CAPEX amount under Load Growth to Rs. 8.74 Crore.

#### **E. Technology and Civil Infrastructure:**

48. The Commission has noted the schemes and claims of the petitioner under the Technology and Civil Infrastructure Scheme. The Commission is of the view that the requirement of the CAPEX proposed under the Technology and Civil Infrastructure has to be considered in view of the long-term benefits, as there are lot of schemes in IT infrastructure development, which are one-time investments.
49. Activity wise analysis of some of the schemes which are not to be allowed in totality is as follows:
- (a) **Installation of Smart Meters along with back end IT Infrastructure** - As per the provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 2019, the cost of the meters shall be only recovered through Meter Rent. The relevant provisions of the OERC Distribution (Conditions of Supply) Code Regulations, 2019 are as follows:
- “(v) In case the licensee/supplier replaces the meter due to technological up-gradation, the cost of the old correct meter already recovered through meter rent shall be deducted from the cost of new meter and the balanced amount may be recovered through meter rent on pro-rata basis.”*
- Hence, the Commission decides to only allow the cost for developing the back end IT Infrastructure for smart meters as proposed in the Annexure-14 of the DPR submitted by TPSODL as it will be required irrespective of number of Smart Meters to be installed.
- (b) **GIS Implementation** – The Commission understands importance of Geographical Information System to have better asset management and to strengthen various other business processes viz. energy audit process, technical feasibility, dues verification, network planning and developing Outage Management System. Considering the small amount approved by the Board of Directors for implementation of GIS in a limited area, the Commission allows the amount of Rs. 5.46 Cr for the purpose.
50. Based on the analysis, the details of the allowable Capex under Technology and Civil Infrastructure are as follows:

Description	Capex as per DPR (Rs. Crore)	Board Approved Capex (Rs. Crore)	OERC Approved Capex (Rs. Crore)
Installation of Smart Meters along with back end IT Infrastructure	28.28	23.28	14.07
Augmentation of IPDS Software licenses pan TPSODL	18.24	12.24	12.24
IT Infrastructure (H/W & Field office infra for augmentation of IPDS application licenses)	29.26	19.26	19.26

Description	Capex as per DPR (Rs. Crore)	Board Approved Capex (Rs. Crore)	OERC Approved Capex (Rs. Crore)
Communication Network Infra	5.38	5.38	5.38
SCADA Implementation	16.71	14.71	14.71
GIS Implementation	10.46	5.46	5.46
Civil Infrastructure	20	10	10
Civil Work for Meter Test Bench	2	2	2
Civil work for Call centre & PSCC	4	2	2
Upgradation of DT workshop	1	1	1
Security system in Central Store	4.25	2.25	2.25
Assets for Offices	4.95	2.95	2.95
<b>Total</b>	<b>144.53</b>	<b>100.53</b>	<b>91.32</b>

The Commission decides to limit the CAPEX amount under Technology and Civil Infrastructure to Rs. 91.32 Cr.

51. In view of the necessity of the proposed capital investment plan, the Commission hereby grants in principle approval to be following proposals except those stated above. The summary of the approved cost for the CAPEX plan – FY 2021-22 are as follows:

#### Approved CAPEX Plan FY 2021-22

Sl. No	Major Category	Activity	DPR Cost (Rs. Crore)	Board Approved Cost (Rs. Crore)	OERC Approved Cost (Rs. Crore) (Considering Board approved Cost data, disallowance of schemes & not considering the CAPEX for Metering)
1	Statutory & Safety	PPEs, Safety & Testing Equipment	19.98	9.99	9.99
		Cradle guard at major road crossings	8.53	4.57	4.57
		Fencing of Distribution substations (DSS)	15.00	9	9
		Boundary wall for Primary substations (PSS)	15.40	5.4	5.4
		Establishment of Meter Testing Lab	2.47	2.47	2.47
		<b>Total</b>	<b>61.38</b>	<b>31.43</b>	<b>31.43</b>
2	Loss Reduction	Input Energy Monitoring System (ABT/AMR) – IEMS	10.97	0	0
		Replacement of burnt, Faulty and Electromechanical meters and meter installation at no Meter cases	62.98	32.98	8.68
		LT Bare to ABC conversion	11.98	7.01	7.01

Sl. No	Major Category	Activity	DPR Cost (Rs. Crore)	Board Approved Cost (Rs. Crore)	OERC Approved Cost (Rs. Crore) (Considering Board approved Cost data, disallowance of schemes & not considering the CAPEX for Metering)
		Demand Side Management	5	0	0
		<b>Total</b>	<b>90.93</b>	<b>39.99</b>	<b>15.69</b>
3	Reliability	33 KV Network refurbishment	10.08	5.04	5.04
		Installation of 33 KV AB Switch	2.23	2.23	2.23
		PSS Refurbishment	12.17	6.25	6.25
		11 KV Network refurbishment	11.16	6.92	6.92
		Installation of 11 KV AB Switch	5.00	3.05	3.05
		DSS Refurbishment	10.00	4.08	4.08
		Installation of LV protection at DSS	10.09	5.08	5.08
		Installation of Auto reclosure /Sectionalizers ,RMUs, &FPIs	8.72	3.95	3.95
		Trolley Mounted Pad Substations	1.31	0.22	0.22
		Package Distribution Substations	1.64	0.65	0.65
		<b>Total</b>	<b>72.40</b>	<b>37.47</b>	<b>37.47</b>
4	Load Growth	Network augmentation / addition to meet load growth/11 KV line, PTR,DTR,LT line	26.52	8.74	8.74
		Meter Installation for all new connections	12.71	8.71	0
		<b>Total</b>	<b>39.23</b>	<b>17.45</b>	<b>8.74</b>
5	Technology & Civil Infrastructure	Installation of Smart Meters along with back end IT Infrastructure	28.28	23.28	14.07
		Augmentation of IPDS Software licenses pan TPSODL	18.24	12.24	12.24
		IT Infrastructure (H/W & Field office infra for augmentation of IPDS application licenses)	29.26	19.26	19.26
		Communication Network Infra	5.38	5.38	5.38
		SCADA Implementation	16.71	14.71	14.71
		GIS Implementation	10.46	5.46	5.46
		Civil Infrastructure	20	10	10
		Civil Work for Meter Test Bench	2	2	2



Sl. No	Major Category	Activity	DPR Cost (Rs. Crore)	Board Approved Cost (Rs. Crore)	OERC Approved Cost (Rs. Crore) (Considering Board approved Cost data, disallowance of schemes & not considering the CAPEX for Metering)
		Civil work for Call centre & PSCC	4	2	2
		Upgradation of DT workshop	1	1	1
		Security system in Central Store	4.25	2.25	2.25
		Assets for Offices	4.95	2.95	2.95
		<b>Total</b>	<b>144.53</b>	<b>100.53</b>	<b>91.32</b>
		<b>Grand Total</b>	<b>408.47</b>	<b>226.87</b>	<b>184.65</b>

52. 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.
53. The Commission feels it appropriate to make an observation on the role of GRIDCO in the matter of TPSODL's CAPEX proposal. GRIDCO holds 49% equity in TPSODL and it has 4 out of 9 Directors in its Board. TPSODL 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 TPSODL.
54. The petitioner is directed to :
- submit CAPEX Proposal along with the copy of Board Approval from FY 2022-23 onwards.
  - 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.
  - submit quarterly progress report of the works along with the details of materials utilized vis-à-vis various activities shown in the DPR.
  - take stock of the inventory available in the stores and make its effective utilization.
  - procure the material/award the Contracts only after transparent open competitive bidding process.

55. Accordingly the case is disposed of.

Sd/-  
**(G. Mohapatra)**  
**Member**

Sd/-  
**(S. K. Parhi)**  
**Member**

Sd/-  
**(U. N. Behera)**  
**Chairperson**