

ODISHA ELECTRICITY REGULATORY COMMISSION  
PLOT NO. 4, CHUNOKOLI, SAILASHREE VIHAR  
BHUBANESWAR - 751 021

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No.DIR (T)-368/09/19/1049  
Dated-25.07.2023

From

Antaryami Sahoo,  
Secretary

To

The Chief Executive Officer,  
TPCODL, 2nd Floor, IDCO Tower  
Janpath, Bhubaneswar

Sub: Record note of Review of Annual Performance of TPCODL for FY 2022-23 on 12<sup>th</sup> July 2023

Sir,

I am directed to send herewith the aforesaid Record note of Review for your information and necessary action.

Yours faithfully,

Encl: As above.

  
25/7/23  
SECRETARY

Copy to:

- i) The Additional Chief Secretary, Department of Energy, Govt. of Odisha along with copy of the enclosure for favour of information.
- ii) The MD, OPTCL, Janpath, Bhubaneswar along with copy of the enclosure for favour of information.

Encl: As above.

  
25/7/23  
SECRETARY

**Record Note of Annual Performance Review of TPCODL held on 12.07.2023 at 11:00AM at OERC in the presence of the Commission**

**Date of Review** : 12th July, 2023

**Period of Review** : April 2022-March 2023

The performance of TPCODL for the period April 2022 to March 2023 of FY 2022-23 was reviewed by the Commission on 12<sup>th</sup> July, 2023 at 11:00 at OERC office premises. The Chief Regulatory, TPCODL presented the performance of TPCODL and senior officials of TPCODL were present during the review.

TPCODL was vested with operation of Central part of distribution system of Odisha on 01.06.2020. TPCODL spreads across 29,354 sq.km. of area having 369 nos. of 33/11 kV sub-station, 4,082 km. of 33 kV lines, 39,350 km. of 11 kV lines and 50,435 km. of LT lines, which cater to consumer base of about 30.75 lakh as on 31.03.2023 covering 8 Districts (5 Circles, 20 Divisions & 65 Sub-Divisions) of Central part of Odisha including the State Capital (Bhubaneswar). The energy requirement and peak demand of TPCODL during the FY 2022-23 was 9902.97 MU and 1764 MW.

The Commission reviewed the compliance of the directions given in the last performance review meeting held on 29.12.2022. The Chief Regulatory, TPCODL appraised the Commission about the following compliances made by TPCODL.

- **Protection System for 33 kV & 11 kV Lines & Cables, Transformers (PTRs & DTRs) in HV & LV Side:-** TPCODL has submitted that works are in progress to provide 100% protection for Overhead lines (33 kV & 11 kV), UG Cables, Power Transformers, Distribution Transformers (HV Side) and LT Side of DT.
- **Implementation of SCADA:** - As on date 204 Nos. of Primary Substations (PSSs) are integrated with SCADA and 82 number of PSSs are unmanned. Through gradual automation and unmanning of 33/11 KV PSSs, TPCODL will ensure availability of seven operators at all manned substations by March, 2028.
- **Inventory Management of Spares under O & M:** - To ensure 24X7 smooth functioning of network as per OERC Performance Standard, TPCODL has formulated norms for keeping inventory based on asset population, age, technological obsolesce, value and availability of Original Equipment Manufacturer (OEM) support, asset test results, performance and physical condition, consumption trend and capex proposal. Based on past consumption and field requirement it has formulated norms for keeping consumable spares inventory for one financial year.
- **Material Bank for Natural Disaster:** -Under the norms for maintaining material bank for natural disaster, TPCODL would built up material stock before cyclone season

every year out of O & M budget. TPCODL collates the material available with all four DISCOMs on monthly basis and keep a record for such materials to be used during exigency. TPCODL has considered first 30 KMs from coast line which are critical and most vulnerable to cyclones.

- **Agricultural Feeder Segregation:** - TPCODL has already separated 13 Nos. of agricultural feeder out of total 23 Nos. of agricultural feeders under DDUGY scheme and balance 10 no. of agricultural feeder will be segregated in FY 2023-24.
- **Action Plan for Dedicated Industrial Feeder:** - Out of 30 Nos. of 33 KV industrial feeders present in TPCODL, 18 nos. of feeders are dedicated industrial feeder and rest 12 Nos. of mixed feeders will be converted to dedicated feeders in a span of 3 years FY 2025 onwards. Similarly, out of 27 Nos. of 11 KV industrial feeders of TPCODL, 19 are dedicated industrial feeder and rest 8 Nos. of industrial mixed load feeders will be converted to dedicated feeders in a span of three years 3 years FY 2025 onwards.
- **Load Flow Study:** - TPCODL is conducting Load Flow Study using CYME software. Load flow study is used for analysis of the network to find out over loaded feeder. During August to October, they used to do the Load Flow Study and then accordingly plan for the CAPEX. In Load Flow Study summer 2022, 37 Nos. out of 231 Nos. of 33 KV feeders were found over loaded. These 37 no. feeder's overloading issues are mitigated through different capex funding (5 nos. in capex 2021-22, 14 nos. in capex 2022-23, 10 nos. in capex 2023-24, 3 nos. in OPEX and 5 nos. under Govt. funded schemes). After considering two years load growth in summer 2024, 14 nos. of feeders found overloaded which will be mitigated (13 under capex 2024 and one under CMPDP).
- **Action Plan for Reduction of 33 KV and 11 KV Feeders Circuit Length:** - Out of 54 Nos. of 33 KV feeders with length more than 30 Kms., 30 Nos. feeders' length reduction has been proposed under different schemes. Similarly, out of 191 Nos. 11 KV feeders with length more than 50 KMs., length of 51 Nos. of feeders has been reduced and reduction in length of 18 Nos. feeders has been proposed under different schemes.
- **Low Voltage Pockets and Future Action Plans:** - Total 148 Nos. of PSSs and 462 Low Voltage Pockets are identified having low voltage issues. Under different schemes, 134 low voltage pocket issues are resolved.
- **TPCODL** has brought down the employee per thousand consumer ratio from 1.76 to 1.65 by reducing 79 Nos. of employees i.e. 5149 of employees in FY 2021-22 has come down to 5070 in FY 2022-23.

**Commission's Observations:**

1. The Commission took cognizance of the presentation made by the TPCODL and analysed various performance parameters. The summarized crucial performance parameters for FY 2022-23 presented by the TPCODL along with similar parameters of previous years are given in the table below:-

<b><u>ANNUAL PERFORMANCE OF TPCODL-As on March-2023</u></b>				
<b>BULK SUPPLY</b>	<b>2020-2021</b>	<b>2021-22</b>	<b>2022-23</b>	<b>Commisson's approval 2022-23</b>
AVG. DEMAND (MVA)	1429.23	1318.45	1620.00	1540.00
Energy input (MU)	8370.43	8814.32	9902.97	9790.00
<b>SALE TO CONSUMERS (MU)</b>				
EHT	948.15	1148.79	1556.41	1280
HT	1137.58	1295.36	1590.31	1470
LT	4116.59	4288.45	4511.072	4795.2
<b>TOTAL</b>	<b>6,202.32</b>	<b>6,732.60</b>	<b>7,657.79</b>	<b>7,545.20</b>
<b>% of LT Sale</b>	<b>66.37%</b>	<b>63.70%</b>	<b>58.91%</b>	<b>63.55%</b>
<b>DISTRIBUTION LOSS (%)</b>				
LT	27.66%	25.51%	25.91%	24.59%
HT & LT	29.21%	27.16%	26.90%	26.38%
<b>OVERALL</b>	<b>25.90%</b>	<b>23.62%</b>	<b>22.67%</b>	<b>22.93%</b>
<b>BILLING EFFECIENCY (%)</b>				
HT	92.00%	92.00%	92.00%	92.00%
LT	72.34%	74.49%	74.09%	75.41%
HT & LT	70.79%	72.84%	73.10%	73.62%
<b>OVERALL</b>	<b>74.10%</b>	<b>76.38%</b>	<b>77.33%</b>	<b>77.07%</b>
<b>BILLING TO CONSUMERS (CR.)</b>				
EHT	640.28	796.31	1117.44	845.43
HT	742.45	919.74	1104.64	977.81
LT	2020.78	2223.01	2444.42	2449.76
<b>TOTAL</b>	<b>3,403.51</b>	<b>3,939.07</b>	<b>4,666.50</b>	<b>4,273.00</b>
<b>COLLECTION RECEIVED (CR.)</b>				
EHT	666.09	797.21	1092.78	836.98
HT	770.00	943.66	1107.53	968.03
LT	1800.44	2121.93	2601.79	2425.26
<b>TOTAL</b>	<b>3,236.53</b>	<b>3,862.80</b>	<b>4,802.10</b>	<b>4,230.27</b>
<b>COLLECTION EFFICIENCY (%)</b>				
EHT	104.03%	100.11%	97.79%	99.00%
HT	103.71%	102.60%	100.26%	99.00%
LT	89.10%	95.45%	106.44%	99.00%
HT & LT	93.02%	97.54%	104.52%	99.00%
<b>OVERALL</b>	<b>95.09%</b>	<b>98.06%</b>	<b>102.91%</b>	<b>99.00%</b>
<b>AT &amp; C LOSS (%)</b>				
LT	35.55%	28.90%	21.14%	25.35%
HT & LT	34.15%	28.95%	23.60%	27.11%
<b>OVERALL</b>	<b>29.54%</b>	<b>25.10%</b>	<b>20.42%</b>	<b>23.70%</b>

2. The Sale of energy, distribution loss, Billing & Collection efficiency and AT&C loss relating to business operation of TPCODL for FY 2021-22 and FY 2022-23 are as follows: -

	As on 31.03.2022	As on 31.03.2023	Increase / Decrease	(↑↓)
EHT Sale (MU)	1148.79	1556.41	407.6	↑
HT Sale (MU)	1259.36	1590.31	295.0	↑
LT Sale (MU)	4282.42	4511.07	227.6	↑
Distribution Loss (%)	23.62	22.67	0.95	↓
Billing Efficiency (%)	76.38	77.33	0.95	↑
Collection Efficiency (%)	98.06	102.91	4.85	↑
AT & C Loss (%)	25.10	20.42	4.68	↓

From the above table it is observed that there is increase in sale by 407.6 MU (+35.48%), 295.0 MU (+23.42%) and 227.6 MU (+5.31%) for EHT, HT and LT category of consumers respectively compared to previous year. There is increase in collection & billing efficiency, reduction in distribution loss and overall reduction in AT&C loss.

3. TPCODL has submitted that 1,47,974 number of consumers have been added during FY 2022-23 with 550 MW addition of CD. The total number of consumers as on 31.03.2023 is 30,75,430.
4. In FY 2022-23 TPCODL has added 10 Nos. of 33/11 KV PSS with addition of 131 MVA power transformers and 398 MVA distribution transformers.
5. For increasing the reliability of the system, TPCODL has adopted 54 model Gram Panchayats (GPs) in the FY 2022-23 and established 317 nos. Bidyut Seva Kendras (BSKs). Mitigation of overloading issues associated with 640 Nos. of DTRs and 8 Nos. of PTRs have been augmented in FY 2022-23. Under DT Surakhya drive, 1020 Nos. of DTRs have been attended.
6. The consumers with electricity consumption less than 50 units (<50 units) are 10 lakhs, which is 36% of the total consumers and only 1.8% of the revenue amounting to 7 crores is contributed by such consumers.
7. Under Smart Meter Installation progress, till now TPCODL has installed 40989 nos. of smart meters including 13779 nos. for Government connections, 24722 nos. for three phase customers, 1619 nos. of DT and 849 nos. of feeders. TPCODL has planned to provide all three phase and single-phase new connection with load more than 2 KW with smart meters. All three phase and single-phase defective meter, mechanical meter replacement (consumption more than 50 units) will be replaced with smart meters by March, 2025. All tampered meters irrespective of load will be replaced with smart meters. Single phase consumers with existing static meter and average monthly consumption more than 200 units and the age of meter more than five years are to be replaced with smart meter. All three phase static meters with life of five years will be replaced with smart meter.

8. TPCODL has developed an Energy Audit Application Utility Data Scheme (UDS) which can be integrated with GIS, Billing system, Meter Reading Application, Meter Data Management System for generation of automated energy audit report at different voltage and administrative level. TPCODL has targeted to complete the tagging in UDS by July, 2023 and accordingly, losses on 11 KV feeders shall be calculated from July, 2023.
9. Only 7% of DTRs are metered and till now DTR audit is less than 1%, which needs improvement.
10. The AT & C loss has decreased from 25.10% in the FY 2021-22 to 20.42% in FY 2022-23. The billing efficiency (77.33%), collection efficiency (102.91%) is 1% & 5% more than previous FY 2021-22. These are good indicator of performance improvement.
11. The status of outstanding arrear (as per vesting order) under different category of consumers as on 31.03.2023 is as follows:

**Connection Status Wise Arrears Summary as on 31.03.2023 (In Crs.)**

Connection Status	Till Mar-20		Apr-Mar-20		June-20 Onwards		Total Arrears	
	Consumer	Arrears	Consumer	Arrears	Consumer	Arrears	Consumer	Arrears
Active	567826	503.64	457547	23.77	1029626	378.52	1045458	905.64
Inactive	378941	1105.53	37923	3.61	39660	36.47	394856	1145.59
TD	237072	512.87	221420	25.58	278961	244.68	282670	781.44
<b>Grand Total</b>	<b>1183839</b>	<b>2122.04</b>	<b>716890</b>	<b>52.96</b>	<b>1348247</b>	<b>659.67</b>	<b>1722984</b>	<b>2832.67</b>

12. The SAIFI and SAIDI of divisions under TPCODL are 341 and 137 Hrs. respectively, which are less compared to FY 2021-22.
13. The Commission reviewed the progress in consumer metering. C.E.O., TPCODL informed that presently consumer metering is 99.11%. Regarding Energy Audit & metering, TPCODL submitted that out of 233 nos. of 33 kV feeders, 176 nos. have OK meter and 109 nos. of 33 kV feeders have been audited. Out of 1411 nos. of 11 kV feeders, 1151 nos. of feeders have ok meter and 359 feeders have been audited. Out of 77,549 nos. of DTRs, 5240 DTRs are metered and 134 numbers of DTRs have been audited.
14. The failure of Power Transformers (PTRs), burning of Distribution Transformers (DTs), no. of interruptions in 33 kV feeders & 11 kV feeders are 7 nos., 2779 nos., 9365 nos. and 133151 nos. respectively. In FY 2022-23, 2948 nos. of Grievances have been received.
15. C.E.O., TPCODL stated that they have planned to purchase 2 nos. of Drones, which will help in feeder audit.
16. TPCODL has submitted the norms for outsourcing of employees of Business Associates for O&M activities, billing & collection etc.
17. Effort has to be made for utilization of capex proposed for the FY 2023-24 and complete the WIP of past years.
18. TPCODL has submitted the proposal for utilization of 33 kV outlets from 132/33 kV or 220/33 kV Grid Sub-stations of OPTCL.

### Directives of the Commission:

The Commission directs to take following action and to provide the time frame for implementation:

1. The number of PSS are quite large compared to peak demand and even for expected peak demand in next five years. The Transformation capacity of PTRs & DTRs w.r.t Peak demand is also quite high indicating non-uniform loading of PTRs & DTRS. Therefore, efforts shall be made for optimum utilization of existing assets, reduction in associated technical loss and O&M cost.
2. All 33kV & 11kV feeders/lines & transformers have to be provided with CBs, prioritizing 33kV system followed by 11kV system. Tapping of lines/feeders and Group control breaker arrangement at 33kV and 11kV level shall be removed on priority basis to achieve the objective of reliable power supply.
3. Action plan should be to ensure that the protection system is in place complete in all respect at 33 kV & 11 kV level for all feeder/lines/cables, transformers, etc.
4. The line length/ section length of 33 kV & of 11 kV feeder shall be adequately reduced in order to improve voltage profile of the system. The action plan shall start with longest feeder and a timeline shall be fixed for completion of such work.
5. Transformer overloading should be mitigated on priority basis in sequence of importance of connected load.
6. Asset Mapping and consumer indexing shall be completed on priority basis.
7. DISCOM shall be more proactive during disaster (e.g. Kalbaishakhi & cyclone, etc.) with adequate rolling material bank/ inventory out of O & M budget everyyear. Since most of the O&M activity have been outsourced, management of DISCOM shall be more vigilant during any impending disaster. There shall be a close coordination between the permanent employees and outsourced employees in order to effectively mitigate any such disaster.
8. SAIFI / SAIDI/ MAIFI target for an ideal situation along with the timeline to achieve the same may be furnished. The interruption should come down sharply as adequate investment in CAPEX is being made.
9. Consumer Average Interruption Duration Index (CAIDI) shall be estimated starting with Industrial & commercial consumers and extending it to other category of consumer.
10. The transformer rating (e.g. 5 MVA, 8 MVA, 12.5 MVA & 20 MVA) and MVA capacity (like 10 MVA, 20-25 MVA, 40 MVA) need to be standardized at PSS level along with associated foundation and standard specification may be prepared accordingly to facilitate faster procurement, delivery, interchangeability and minimization of inventories.
11. Steps shall be taken to have identical ratings of PTRs in a PSS instead of having different ratings like 5MVA, 8MVA &12.5MVA to avoid different spare inventories.
12. To avoid damage to DTRs due to cyclonic wind / kalbaishakhi, the DTRs of 100KVA and above shall be plinth mounted.

13. The distribution licensees need to plan to phase out 10 KVA, 16 KVA and 25 KVA DTRs and minimum rating of DTR shall be 63KVA to take care of any future load growth.
14. Steps need to be taken to reduce fatal and nonfatal accidents, which is quite high.
15. Govt. establishments with smart meters shall be provided with pre-paid features and automatic disconnection feature may be enabled for Govt. consumers, except for essential services like hospitals, waterworks etc.
16. Steps may be taken to island important cities using RMU and Auto reclosures etc. to improve reliability of power supply.
17. The DISCOM shall make effort to reduce tripping during next summer month.
18. Enforcement activities should start from high end/value consumers.
19. DISCOM shall open Bidyut Seva Kendra (BSK) at all Panchayat level as one stop solution for mitigating any issues faced by the consumer. In the said BSK, there shall be prominent display of the New connection procedure, contact person detail for Bill revision, mechanism for grievance redressal and any other information for the benefit of the consumers. The list of the prominent defaulter shall also be displayed in the BSK in order to deter such habit.
20. The FCC may be extended to block headquarters in rural areas to provide better consumer service & enhances consumer satisfaction level.
21. DISCOM should fill up the Vacancy at different levels as per direction of Commission. Recruitment shall also be made at the Asst. Engineer & Lineman level in order to strengthen base level cadre and shall ensure that the employees being recruited have adequate knowledge, quality and competency to justify their assigned job.
22. The out sourced employees shall also be adequately trained so as to carry out their assigned work effectively. These outsourced employees may also be provided with uniforms DISCOM logo for their visibility and acceptance by the consumers as a part of the DISCOM.
23. The collection efficiency being one of the performance indicators, the DISCOMs shall calculate the same for a financial year without considering the past arrears. However, collection efficiency with past arrears may be calculated for comparison purpose.
24. As regard the payments pertaining to the old liabilities under ASL, the Commission observes that TPCODL has already completed three years of its operation and yet such liabilities have not been settled. The Commission therefore directs that, approval for all such liabilities of pre vesting period may be submitted to the Commission by 30th September 2023 and no such approval will be entertained after such date. The Commission will entertain only those liabilities which are settled by court of law after such date. The DISCOMs may communicate the vendors/parties accordingly.
25. Senior Officers will verify various important parameters related to System strengthening and consumer satisfaction level of DISCOMs.

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