

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

No.DIR (T)-368/09/19/1092
Dated- 31.07.2023

From

Antaryami Sahoo,
Secretary

To

The Chief Executive Officer,
TPNODL, Januganj,
Balasore – 756019.

Sub: **Record note of Review of Annual Performance of TPNODL for FY 2022-23 on 13th 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.


SECRETARY 31/07/23

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.


SECRETARY 31/07/23

OLC

Record Note of Annual Performance Review of TPNODL held on 13.07.2023 at 11:00AM at OERC in the presence of the Commission

Date of Review : 13th July, 2023

Period of Review : April 2022-March 2023

The performance of TPNODL for the period April 2022 to March 2023 of FY 2022-23 was reviewed by the Commission on 13th July, 2023 at 11:00 AM at OERC office premises. The Chief Executive Officer, TPNODL presented the performance of TPNODL and senior officials of TPNODL were present during the review.

TPNODL was vested with operation of Northern part of distribution system of Odisha on 01.04.2021. TPNODL, spread across 28,000 sq.km. of area, have 244 Nos. of 33/11 kV sub-station, 3024 kms. of 33 kV lines, 40188 kms. of 11 kV lines and 67486 kms. of LT lines and caters to consumer base of about 2041588 Nos. as on 31.03.2022 covering 5 Districts (5 Circles, 16 Divisions & 50 Sub-Divisions) of Northern part of Odisha.

The Commission reviewed the compliance of the directions given in the last performance review meeting held on 04.01.2023. The CEO, TPNODL appraised the Commission about the following compliances made by TPNODL.

- **Low Voltage Pockets and Future Action Plans:-** TPNODL has identified total 181 low voltage pockets including 35 at Balasore, 41 at Mayurbhanj, 46 at Bhadrak, 34 at Jajpur and 25 at Keonjhar district having low voltage issues. It has resolved low voltage issues at 78 pockets and work is in progress for rest 103 pockets.
- **Action Plan for Reduction of 33 kV and 11 kV Feeders Circuit Length:** - TPNODL has prepared mitigation plan for all 33 kV feeders having line length more than 50 Kms. and 11 kV feeders having length more than 100 KMs. 33 kV feeders having length between 30 KM to 50 KM and 11 kV feeders having length between 50 KM to 100 KM have been identified. The study to reduce the length of 33 kV feeders less than 30 KMs and 11 kV feeders less than 50 KM to be done and the mitigation plan is being prepared.
- **Material Bank for Natural Disaster:** - Under the norms of maintaining material bank for natural disaster, TPNODL would build up material stock before cyclone season every year out of O & M budget. TPNODL has created 12 Nos. of material bank at strategic location in PSS (under Divisions) alongside National Highways for storage and issue of material. TPNODL collates the material available with all four DISCOMs on monthly basis and keep a record for such materials to be used during exigency. TPNODL has considered first 20 KMs from coast line which are critical and most vulnerable to cyclones.

- **Agricultural Feeder Segregation:** - TPNODL has identified 9 Nos. of dedicated 11 kV Agricultural Feeder and the study to find out abnormalities and preparing the mitigation plan is in progress.
- **Action Plan for Dedicated Industrial Feeder:** - TPNODL has identified 17 Nos. of 11 kV dedicated industrial feeders to ensure availability of required protection for providing reliable power supply to industry. The study to find abnormalities and preparing the mitigation plan is in progress.
- **Load Flow Study:** - TPNODL has conducted Load Flow Study using CYME software and the study covers 33 kV feeders, 11 kV feeders, 33/11 kV PTRs and Load Flow Study report (5 year time frame) for all five Circles have been submitted to the Commission. The study is focusing on mitigating overloads and undervoltage issues at minimal cost. TPNODL has explored the possibility of providing (N-1) contingency for incomer at existing & new substations for additional sources and shifting/reallocation of load to different PSS using interconnector and capacitor placement.
- **GIS based Asset Mapping and Consumer Indexing:-** TPNODL has completed GIS based asset mapping and consumer indexing of seven divisions (BED, CED, JTED, JED, KUED, SED, JRED) and work is in progress for other divisions. 85% of work will be completed by 2023-24 and remaining (15%) work will be completed by 2024-25
- **SCADA & Automation:** - In FY 2022-23, TPNODL has planned for 5 Nos. of PSS for RTU installation at IPDS, 19 Nos. of PSS for Relay Retrofit and RTU installation at old PSS and 81 Nos. of PSS for RTU commissioning at ODSSP.

Commission's Observations:

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

Annual Performance of TPNODL-As on March-2023

BULK SUPPLY	2020-2021	2021-2022	2022-2023	Commisson's approval 2022-23
AVG. DEMAND (MVA)	774.98	845.42	1022.211	1056.07
Energy input (ML)	4941.19	5327.04	6473.32	6020.00
SALE TO CONSUMERS (MU)				
EHT	1424.98	1676.03	2651.93	1680
HT	388.87	503.27	625.42	500
LT	2107.78	2167.71	2132.70	2735.3
TOTAL	3,921.63	4,347.00	5,410.05	4,915.30
% of LT Sale	53.75%	49.87%	39.42%	55.65%
DISTRIBUTION LOSS (%)				
HT (Assume)	8.00%	8.00%	8.00%	8.00%
LT	25.94%	24.09%	26.21%	21.69%
HT & LT	29.00%	26.84%	27.82%	25.45%
OVERALL	20.63%	18.40%	16.43%	18.35%
BILLING EFFECIENCY (%)				
HT	92.00%	92.00%	92.00%	92.00%
LT	74.06%	75.91%	73.79%	78.31%
HT & LT	71.00%	73.16%	72.18%	74.55%
OVERALL	79.37%	81.60%	83.57%	81.65%
BILLING TO CONSUMERS (CR.)				
EHT	920.84	1112.38	1648.37	1099.48
HT	252.38	352.45	427.95	328.77
LT	952.27	1095.31	1127.59	1272.78
TOTAL	2,125.49	2,560.14	3,203.91	2,701.03
Billing to Govt.Dept & PSU	96.48	96.48	156.40	
COLLECTION RECEIVED (CR.)				
EHT	913.10	1120.48	1721.61	1088.49
HT	266.60	370.35	451.84	325.48
LT	824.29	920.83	1224.47	1260.05
TOTAL	2,003.99	2,411.66	3,397.92	2,674.02
Collection from Govt.Dept & PSU	186.46	186.46	166.95	
COLLECTION EFFICIENCY (%)				
EHT	99.16%	100.73%	104.44%	99.00%
HT	105.63%	105.08%	105.58%	99.00%
LT	86.56%	84.07%	108.59%	99.00%
HT & LT	90.56%	89.18%	107.76%	99.00%
OVERALL	94.28%	94.20%	106.06%	99.00%
AT & C LOSS (%)				
LT	35.89%	36.18%	19.87%	22.47%
HT & LT	35.70%	34.76%	22.22%	26.20%
OVERALL	25.17%	23.13%	11.36%	19.17%

2. The Sale of energy, distribution loss, Billing & Collection efficiency and AT&C loss relating to business operation of TPNODL 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)	1676.03	2651.93	975.9	↑
HT Sale (MU)	503.27	625.42	122.15	↑
LT Sale (MU)	2167.71	2132.7	35.01	↓
Distribution Loss	18.40%	16.43%	1.97%	↓
Billing Efficiency	81.60%	83.57%	1.97%	↑
Collection Efficiency	94.2%	106.06%	11.86%	↑
AT & C Loss	23.13%	11.36%	11.77%	↓

From the above table it is observed that there is increase in sale by about 976 MU (+58%), 122 MU (+24%) at EHT & HT level respectively and decrease in sale 35 MU (-1.6%) for in LT category of consumers compared to previous year. The decrease in LT sale is due to sanitization of Billing through identification of Ghost consumer.

3. TPNODL submitted that 1,13,608 number of consumers have been added during FY 2022-23 with 415 MW addition of CD. The total number of consumers as on 31.03.2023 is 20,41,588 which is less compared to FY 2021-22 and this is due to identification of 1,26,702 Nos. of ghost consumers.

4. TPNODL has taken various initiatives for AT&C loss reduction which includes:-

- Mass Enforcement drive: 175 MW unauthorized load has been booked and Rs.55 crore recovered.
- Re-engineered Metering Billing Collection (MBC) contract: Separating billing and collection agencies with assured minimum wages and target based incentives/penalties on Billing Efficiency.
- Project khoj: Under which 4.4 lakh consumers who have not paid since last 1-3 years was verified and 1.26 lakh fictitious consumers billing reversed and 1.5 lakh bills stopped.
- 100% OCR based billing: For error free automated meter reading at reduced time and without manipulation.
- Refreshment of 3.5 lakhs old faulty meter and resolution of 1.00 lakh unmetered cases.
- Project Nistha: Under which village camps were organized to resolve commercial issues/disputes.
- Mass LT collection drive under Project LT Udan for mass LT collection drive and project LT Vijaypath for rapid revenue collection from LT consumers.
- Revival of 125 MW HT/EHT consumers like NINL, Balasore Alloy, Tata Steel Ferro Alloys & HT consumer mix reached 70%.

5. TPNODL has taken various initiatives for Technical loss reduction which includes:-

- 69.25 KM (11 kV) and 24.6 KM (33 kV) Conductor upgradation.
- 26 new PSS commissioned under ODSSP-III.
- Addition of 26 new PTRs (196 MVA) to ensure all PTR loading less than 80%.
- DTR capacity augmentation and load balancing of 163 Nos. of overloaded DTRs.

- Thermo scanning and ultrasound scanning of 91 Nos. of feeders to detect electrical leakage.
 - 40 ck.mtrs. of LT conversion from 1 phase to 3 phase
 - Line length reduction [4 nos. of 33 kV feeders reduced to <50 km., 2 nos. of 11 kV feeders reduced to <100 km. (from >300 kms.) and 4 nos. of 11 kV feeders reduced to <60 km. (from >100 km.)]
 - 249 circuit KMs of LT bare overhead conductors converted to LT ABC.
6. The consumer with electricity consumption less than 50 (<50) units are 9.51 lakh, which is 46.6% of the total consumer and contributes only 3.4% of the billing revenue amounting to 109.12 crores.
 7. Under Smart Meter Installation action plan, till now TPNODL has installed 14060 nos. of smart meters including 8110 nos. of single phase, 4224 nos. of three phase, 638 nos. of DT and 1088 nos. of LTCT. TPNODL has planned to install smart meter for 822 nos. of DTs of capacity more than 250 kVA by December, 2023, 7634 nos. of DTs of capacity 100-250 kVA by March, 2023-24 and remaining 7653 nos. of DTs of capacity 63-100 kVA by September, 2024.
 8. TPNODL has completed Energy Audit of 825 no. of 11 kV feeders by 30th June, 2023.
 9. Only 4% of DTRs are metered and till now DTR audit is less than 1% which needs improvement.
 10. The AT & C loss has decreased from 23.13% in the FY 2021-22 to 11.36% in FY 2022-23. The billing efficiency (81.57%), collection efficiency (106.061%) is 2% & 11.86% more than previous FY 2021-22. These are good indicator of performance improvement but, mainly contributed by increase in EHT and HT load during the year.
 11. The frequency of payment of electricity bill has improved.
 12. Out of 23 spare bays, at OPTCL's GSS (132/33 kV or 220/33 kV), 10 nos. of bays have already utilized and 11 nos. of spare bays will be utilized by TPNODL and remaining 3 will be left out.
 13. The status of outstanding arrear under different category of consumers as on 31.03.2023 is as follows:

STATUS OF ARREAR TPNODL							
(Rs. in Crs.)							
Category	Arrears as on 31.03.2022	Billing for the period (Apr-22 to Mar-23)	Collection against current dues (Apr-22 to Mar-23) against '3'	Collection against arrear during (Apr-22 to Mar-23) against '2'	Total collection	Arrear for the period (Apr-22 to Mar-23)	Arrear as on 31-03-2023
1	2	3	4	5	6=4+5	7=3-4	8=2-5+7
EHT	390.26	1648.37	1594.05	127.56	1721.61	54.32	317.02
HT	72.07	380.55	377.10	24.27	401.36	3.45	51.26
LT	1993.81	1018.59	953.05	154.95	1108.00	65.54	1904.41
Govt & PSU HT	0.67	47.41	44.40	6.08	50.48	3.01	-2.40
Govt & PSU LT	15.12	108.99	108.64	7.83	116.47	0.35	7.64
Total of above	2471.93	3203.91	3077.23	320.69	3397.92	126.67	2277.92

14. TPNODL has planned for micro SCADA & main SCADA in 167 nos. of PSS and master SCADA in 66 nos. of PSS.
15. The SAIFI and SAIDI of divisions under TPNODL are 621 and 378 respectively, which are less compared to FY 2021-22 and are good indicators of performance improvement.
16. The Commission reviewed the progress in consumer metering. C.E.O., TPNODL informed that presently consumer metering is 85%. Regarding Energy Audit & metering, TPNODL submitted that out of 108 nos. of 33 kV feeders, 108 nos. have OK meter and 93 nos. of 33 kV feeders have been audited. All 825 nos. of 11 kV feeders have ok meter and 344 feeders have been audited. Out of 74,726 nos. of DTRs, 2883 DTRs are metered and 471 numbers of DTRs have been audited.
17. The failure of Power Transformers (PTs) and burning of Distribution Transformers (DTs) are 8 nos. & 2877 nos. respectively. No. of interruptions of 33 kV feeders & 11 kV feeders are 11571 and 288140 respectively. Grievances received are 415 in FY 2022-23.

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 prioritizing 33 kV & 11 kV level (all feeder/lines/cables, transformers, etc.) and DTRs in stages.
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 every year. 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 may 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 season.
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(s) shall also be displayed in the BSK in order to deter such habit. Thrust has to be given for consumer awareness programme and for better consumer service.
20. The FCC/BSK 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. The strength of permanent employee & out sourced employees should be optimized over the years after introduction of automation.
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 past liabilities have not been settled so far. The Commission therefore directs that approval for all such liabilities of pre vesting period may be submitted to the Commission by 31st October 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 of DISCOM will verify various important parameters related to System strengthening and consumer satisfaction level of DISCOMs.
26. More stress should be given on increasing performance parameters of LT consumers like Billing & Collection efficiency and reduction in AT&C loss.