

**Record note of the Review Meeting on Performance of OPTCL for the period  
from April 2022 to March 2023(FY2022-23)**

Date of Review : 06.07.2023 at 11:00 A.M.  
 Period of Review : FY 2022-23 (April 2022 to March 2023)  
 Representative of OPTCL Present : As per list enclosed as Annexure-1.

The Performance of OPTCL for FY 2022-23 was reviewed by the Commission on 06.07.2023. The presentation was made by OPTCL on various performance parameters. During the review, financial status, status of completed/ongoing/upcoming projects, major O&M activities, status of telecom projects and steps taken by IT &HRD wing of OPTCL were discussed/deliberated in detail.

- The performance of OPTCL with reference to the existing transmission system and various ongoing transmission projects have been discussed in following paragraphs.  
 The present status of the transmission assets available with OPTCL is as follows:

	<b>Voltage Level</b>	<b>As on 31.03.2022</b>	<b>Addition during FY 2022-23</b>	<b>As on 31.03.2023</b>
No. of Grid/ Sub-stations	132 kV	131	7	138
	220 kV	41	4	45
	400 kV	5		5
<b>Total (Nos.)</b>		<b>177</b>	<b>11</b>	<b>188</b>
EHT Line (CKT KM)	132 kV	8011.428	145.309	8156.737
	220 kV	6499.154	176.618	6675.772
	400 kV	1196.872	-	1196.872
<b>Total (CKT KM)</b>		<b>15707.454</b>	<b>321.927</b>	<b>16029.381</b>
Transformation Capacity (MVA)	132 kV	9448.5	407.5	9856
	220 kV	11120	546	11666
	400 kV	3835	-	3835
<b>Total(MVA)</b>		<b>24403.5</b>	<b>953.5</b>	<b>25357</b>

- OPTCL has submitted that 12 nos. of transmission projects (08 nos. of substations, 1 nos. of transmission line, 03 nos. of 132 kV switching stations) have been completed during the FY 2022-23 with a total investment of about Rs.551.43 Cr. OPTCL further submitted the present status of 34 nos. of ongoing projects, which includes one 400 kV S/S, 8 nos. of 220 kV S/S, 11 nos. of 132 kV S/S and 14 nos. of other transmission projects (mainly transmission lines). The 400 KV s/s at Paradeep is expected to be commissioned by December, 2024 and other ongoing 6 nos. of 220 kV sub-stations & 9 nos. of 132 kV sub-stations and 13 nos. of other projects are expected to be commissioned by the end of FY 2023-24. The total cost of the ongoing projects is Rs.2437.97Cr., but the actual expenditure till 31.03.2023 is Rs.1119.83 Cr.

3. As regards to O&M activity, OPTCL has stated that many existing substations at different voltage levels have been augmented with transformation capacity during the period under review due to increase in load/overloading of transformers. During the period from April 2022 to March 2023, OPTCL has augmented 6 nos. of S/s with addition of 147.5 MVA transformation capacity at an investment of Rs.20.02Cr. The increase in transformation capacity of 6 nos. of S/s have been carried out in the area of operation of TPWODL i.e. (Lapanga S/s - 970 MVA to 990 MVA), TPNODL (Dhenkikote S/s - 20 MVA to 40 MVA & Old Duburi S/s- 360 MVA to 420 MVA) and TPSODL (Ganjam S/s - 25 MVA to 32.5 MVA, Podagada S/s -12.5 MVA to 32.5 MVA & Aska New S/s -360 MVA to 380 MVA).
4. In addition to the above, OPTCL is in the process of execution of conversion of New Bolangir-Sonepur 132 kV S/C line to D/C and LILO of Akhusing – Parakhemundi 132 kV line at Gunupur at an investment of Rs.9.17 Cr. As a part of major R&M activity under O&M, OPTCL has replaced conductors/hardware fittings/insulators etc. in its existing transmission system for improvement in reliability. OPTCL is also having the conductor replacement plan for 132 kV Kendrapara-Paradeep Ckt I & II (35 KM), Berhampur-Digapahandi 132 kV (34 KM), replacement of ACSR (Zebra/Panther conductor HTLS conductor of Bisra-Tarkera 220 kV D/C line (15 km) and Joda-Barbil 132 kV line (12 km). OPTCL has also completed the installation of Automatic Demand Management System (ADMS) in 88 nos. of grid s/s. Further, as a part of major technical works under O&M wing, OPTCL has procured 18 nos. of ERS for 400 kV towers and installed 125 MVAR Bus Reactor with associated bay at Mendhasal & New Duburi 400 kV grid s/s.
5. OPTCL has submitted that Substation Automation Scheme (SAS) has been completed in 21 nos. of existing sub-stations (Brajrajnagar, Karanjia, Basta, Anandpur, Argul, Shamuka, Kuchinda, Rayagada, Laxmipur, Bhawanipatna, Jajpur, Kendrapara, Aska, Banki, Chainpal, Dhenkanal, Phulnakhara, Kharagprasad, Khahurikata, Bhubaneswar & Puri). SAS work is under progress in 12 nos. of substations at Rairangpur, Sunabeda, Nayagarh, Khurda, Ransinghpur, Balasore, Bidanasi, Budhipadar, Katapali, Narendrapur, New-Bolangir & Paradeep. Further, it has placed order for procurement of Nitrogen Injection Fire Prevention and Extinguishing System (NIFPES) for 53 nos. of ICT & Auto Transformers for 28 nos. of GSS. OPTCL has also issued work orders on M/s. PRDC, Bangalore for Automated Fault Analysis System (AFAS) and Remote Accessibility System (RAS) and the works are expected to be completed by August, 2023.
6. OPTCL has submitted proposal of 1745 KM of OPGW for its transmission lines. As submitted, OPTCL has successfully completed the Bharat-Net Phase-II of Government of India by extending digital highway to 3065 nos. of Gram Panchayats/Block

Headquarters in 30 districts of Odisha by laying Optical fibre from BSNL exchanges to respective GPs/BHQs. OPTCL is in the process of completing laying of optical fiber-based communication link of 2289 KM by the end of September, 2023. OPTCL has already laid around 5940 Ckt km. of OPGW (24 fibre) out of which OPTCL has leased 15465 fibre km. OPTCL has earned a revenue of about Rs.6.68Cr. during FY 2022-23 by way of leasing dark fibers to Powergrid, BSNL, Airtel, Railtel, Lightstorm, Vodafone, Tata Communication etc. OPTCL expects substantial increase in earning on this account in the coming years. On the advice of MoP, GoI in order to separate the technical network from administrative network, OPTCL has taken up a new project for separation of IT network from OT network of OPTCL, covering 199 grid s/s, amounting to Rs.49.56 Crs. and approached PSDF for funding the same.

7. OPTCL has completed GIS survey of 28 nos. of grid s/s consisting of 3590 nos. of EHT towers & 863 route KMs during FY 2022-23. Power Atlas has been prepared for total of 155 nos. of grid s/s consisting of 33046 nos. of EHT towers & 9290.44 route kms. Further, in Phase-III of implementation of GIS, OPTCL has taken up 38 nos. of grid s/s consisting of 4598 nos. of EHT towers. OPTCL has also taken up Drone based Transmission Corridor monitoring for its critical trunk lines.
8. The status of project including their cost as submitted by OPTCL during the review are mentioned below:

Sl. No.	Items	Details of Projects	Cost (Rs.in Cr.)
1	Projects completed	Sub-station - 08 Nos.	412.37
		Lines (01 Nos.)	27.95
		03 nos. of switching s/s	111.11
		<b>Total</b>	<b>551.43</b>
2	Ongoing Projects	400 kV S/S – 01 No	2437.97
		220 kV S/S –8Nos.	(Expenditure till 31.03.2023 –Rs.1119.83 Cr.)
		132 kV S/S - 11 Nos.	
		Others - 14 Nos.	
3	Augmentation of S/S capacity (6 Nos. of s/s with 147.5 MVA capacity addition)	Three S/S in TPSODL’s area of operation – 47.5 MVA	
One S/S in TPWODL’s area of operation – 20 MVA		0.30	
Two S/S in TPNODL’s area of operation –80 MVA		9.43	
		<b>Total</b>	<b>20.02</b>
4	Conversion of S/C line to D/C line	132 kV New Bolangir –Sonepur	6.27
		132 kV Akhusingh –Paralakhemundi LILO at Gunupur	2.90
		<b>Total</b>	<b>9.17</b>
5	Major technical works under O&M wing	AFAS & RAS (Automated Fault Analysis System)& (Remote Accessibility System)	9.58
6		NIFPES (Nitrogen Injection type fire prevention & extinguishing system)	14.18
7		18 nos of 400 kV ERS towers	17.38
		<b>Total</b>	<b>41.14</b>
8	Separation of IT network from OT network	Proposal covering 199 s/s submitted to PSDF for funding	49.56

9. OPTCL has submitted that considering both executive & non-executive posts, there are about 3331 nos. of vacancies existing against the sanctioned strength of 5902 nos. OPTCL has implemented e-office in OPTCL, GRIDCO & SLDC. The Commission has suggested for a proper HR structure and phase wise recruitment for efficient functioning of the organization.
10. OPTCL has submitted that it has an equity base of Rs.2071.47 Cr. and total loan of Rs.1827.62 Cr. as on 31.03.2023. OPTCL has a capital expenditure of Rs.600.52 Cr. during FY 2022-23.
11. As submitted, OPTCL has handled 34008.80 Mus of energy against OERC's approval of 29,710 MUs during FY 2022-23. During this period, OPTCL has earned revenue of Rs.1305.23Cr. against OERC's approval of Rs.1135.03 Cr. OPTCL pointed out that, there was an additional revenue of Rs.170.20 Cr. due to transmission of 4298.80 MU of more energy as against OERC approval including miscellaneous receipt during the period under review. Further, OPTCL has earned a surplus of Rs.136.23 Cr. during the FY 2022-23. The detailed comparative statement is presented in table below:

**Approved vis-à-vis Actual for FY 2022-23**

Source	ESTIMATE BY OERC FOR 2022-23			ACTUAL FOR 2022-23			
	Energy handled (MU)	Rate P/U	Amount Billed (Rs.Cr.)	Energy (MU)	Rate P/U	Amount Billed (Rs. Cr.)	Payment Received after rebate & TDS (Rs.Cr.)
TPCODL	9782.00	28.00	273.90	9890.36	28.00	276.93	266.16
TPNODL	6019.00	28.00	168.52	6474.54	28.00	181.29	174.04
TPWODL	9058.00	28.00	253.62	12737.85	28.00	356.66	342.39
TPSODL	4342.00	28.00	121.56	4189.42	28.00	117.30	113.78
<b>TOTAL DISCOMS</b>	<b>29200.00</b>	<b>28.00</b>	<b>817.60</b>	<b>33292.17</b>	28.00	<b>932.18</b>	<b>896.37</b>
CGPs Wheeling	510.00	28.00	14.28	716.64	28.00	20.07	
Sale to CPP							
Misc. Receipts			303.15			352.98	
<b>SUB TOTAL</b>	<b>510</b>		<b>317.43</b>			<b>373.05</b>	
<b>GRAND TOTAL</b>	<b>29710.00</b>		<b>1135.03</b>	<b>34008.80</b>	28.00	<b>1305.23</b>	
<b>Total Expenditure</b>			<b>1135.10</b>			<b>1169.00</b>	
<b>GAP</b>			<b>-0.07</b>			<b>136.23</b>	

12. OPTCL has reported that during the FY 2022-23 total cash inflow is Rs.2090.39Cr. and total cash outflow is Rs.1931.83Cr. The above cash inflow includes both revenue and capital receipts during financial year. The breakup of the above are given below:-

Particulars	Revenue	Capital	Total
Receipts (Cr.)	1348.06	742.33	2090.39
Expenditure (Cr.)	1148.75	783.08	1931.83

13. OPTCL has submitted that many transmission projects remain unutilized or underutilized due to absence of connectivity with downstream network of DISCOMs.
14. The Commission expressed its concern about such stranded assets and directed to share

- the zone-wise list of such assets with the DISCOMs and to submit their views during the Performance Review Meeting of respective DISCOMs. CMD, OPTCL was requested to depute their concerned officer(s) to remain present during the Performance Review of DISCOMs to discuss on this issue.
15. While answering the queries of the Commission about the trend in the energy transaction, OPTCL has submitted that during the year FY 2023-24, the energy transaction through its network is almost in line with the projection of DISCOMs.
  16. The Commission has following observations/ directions for necessary action:
    - (i) The Commission is of the view that performance review of a transmission licensee should include performance indicators like availability of transmission system, failure rate of towers of line & major substation equipment including transformers & reactors at different voltage level, innovative steps/actions taken to reduce forced outage, improvement of various performance indices. OPTCL is therefore directed to highlight above aspects during the subsequent performance review.
    - (ii) The Commission noted that many of the transmission as well as distribution assets are under-utilised. Therefore, OPTCL and DISCOMs need to work together to plan new Grid Sub-stations (GSS) & Primary Sub-stations (PSS). Further, there is need for execution of intra-state transmission project & associated downstream network in matching time frame. The proper location of new GSS and connectivity with PSS would play a vital role not only for meeting load growth but also for addressing low voltage issue in distribution network. OPTCL is directed to take up such matters in their Grid Coordination Committee meetings to resolve the operational issues.
    - (iii) The concerned officer(s) of OPTCL to share the details of unutilized 33 kV feeders at different Grid Sub-stations (220/33 kV or 132/33 kV or 220/132/33 kV) with DISCOMs and discuss with them for immediate utilization of these feeders.
    - (iv) OPTCL is directed to plan its transmission system on long term basis considering the load projection of DISCOMs, the upcoming industrial and urban growth (such as Plastic Park, Green Hydrogen, Industrial Cluster requirement etc.) and expected generation addition during that time frame. After finalization of system study being carried out by the Consultant (M/s PRDC), OPTCL is requested to make a presentation on the long-term Intrastate Transmission System Plan before the Commission. DISCOMs and other important stake holders including GRIDCO may also be requested to attend the said presentation for a fruitful discussion.

- (v) The Commission reiterate that there is need for standardization of MVA capacity of Grid sub-stations at different voltage levels and corresponding equipment including transformer rating, which would help in optimum utilization of assets and investment plan.
- (vi) OPTCL should practice Condition Based Maintenance (CBM)/ Reliability Centered Maintenance (RCM) to assess the condition of sub-station equipment/material and transmission line material to prevent premature failure and keep the assets in healthy condition resulting in reduced downtime & increased availability of transmission system which is essential to achieve the objective of (24x7) quality power supply to all.
- (vii) The patrolling of transmission towers/lines should be carried out on regular basis, particularly in theft prone areas and before monsoon and cyclone/storm season. Trimming of trees should be carried out on regular basis to prevent transient faults. If required drone technology may be used for such patrolling.
- (viii) The earthing system in substation plays a vital role in safety and healthy operation of protection system. Many of the sub-stations have served more than 20 years of operation and hence condition assessment of existing earthing system is very much required to provide a safe environment for operating personnel & equipment.
- (ix) Since, the operation & maintenance of many grid substations are being manned with less nos. of employees, OPTCL may explore the possibility of maintenance of its substations and lines by the outsource agencies. However, strengthening of O&M team and regular training on use of modern diagnostic tools & analysis of test results are essential. Simultaneously, OPTCL should take action for recruitment against the vacant posts in a phased manner so that there will be a seamless flow of knowledge, institutional memory, information, experience etc. from the seniors to the employees at junior level. Further, OPTCL may discuss and tie up with Skill Development Department of the Government and reputed technical institutes for capacity building of its employees through regular training programs and for getting trained skilled manpower for transmission sector.
- (x) OPTCL have number of substations & lines, which have completed more than 40 years of their service life. Therefore, RLA study being conducted by the CPRI is very important for future planning of the transmission system because of load growth and large scale integration of Renewable Power. Copies of the RLA study reports of CPRI may be shared with the Commission.
- (xi) OPTCL should have asset mapping of its existing transmission assets & new projects for efficient monitoring and healthy operation of its system. The asset

mapping of new transmission projects can be taken up at execution stage. OPTCL should complete the implementation of GIS mapping of existing transmission assets by December, 2023.

- (xii) The delayed execution of transmission projects leading to cost & time overrun has become a matter of concern. It is observed that execution of some of the transmission projects including critical projects are delayed due to various reasons like RoW issue, requirement of statutory clearance, forest clearance, administrative and contractual issues etc. OPTCL should take due care for faster execution of the projects already approved by the Commission adhering to the time schedule to avoid cost and time overrun & ultimate tariff burden to consumers. OPTCL is directed to take up forest clearance and RoW matters with the concerned Departments and District Administration and also to take the help of Energy Department, Government of Odisha for early resolution of these issues. If required forest clearance should be obtained before award of contract.
  - (xiii) At present 132 kV level is considered to be back bone of OPTCL's transmission system. Considering the load growth in future and to reduce the technical loss, OPTCL should plan to consider next higher voltage (220 kV) as the back bone of their transmission network and accordingly plan their transmission network (new sub-stations & associated transmission lines).
  - (xiv) OPTCL should finalize the annual accounts of FY 2022-23 and submit the same immediately to the Commission. Adoption of accounts should be completed by 30<sup>th</sup> September, 2023 for the previous financial year, i.e., FY 2022-23.
  - (xv) OPTCL need to submit the details of action taken/to develop a cyclone resilient transmission infrastructure within 20 km. and beyond 20 km. & upto 60 km. of coast line for existing transmission system as well as for new transmission system.
17. The Chairperson, OERC in his concluding remarks while appreciating the good works done by OPTCL, stressed for early completion of ongoing projects and GIS mapping of assets. OPTCL should have a regular protocol in place to check the health of transformers and other elements/equipment available in the transmission system in order to extend reliable & quality of power to the consumers of the State. Further, OPTCL is required to build effective disaster resilient transmission system and take appropriate measures to reduce the transmission loss in future years.

\*\*\*\*\*

**Representatives of OPTCL**

1. Sri S.K. Mishra, Chairman Cum Managing Director
2. Sri B.B. Meheta, CLD(SLDC)
3. Sri R.N. Pratihari, Director (HRD)
4. Sri U.K.Gupta, CFO
5. Sri S.K.Roy, Sr.G.M.(Telecom)
6. Sri Srimanta Sahoo, Sr.G.M., (RT & C)