

**ARR AND TARIFF ANALYSIS OF ODISHA POWER
GENERATION CORPORATION LIMITED
(OPGC UNIT 1 & 2)
FOR FY: 2023-24**

World Institute of Sustainable Energy, Pune (Consumer Counsel)

BACKGROUND



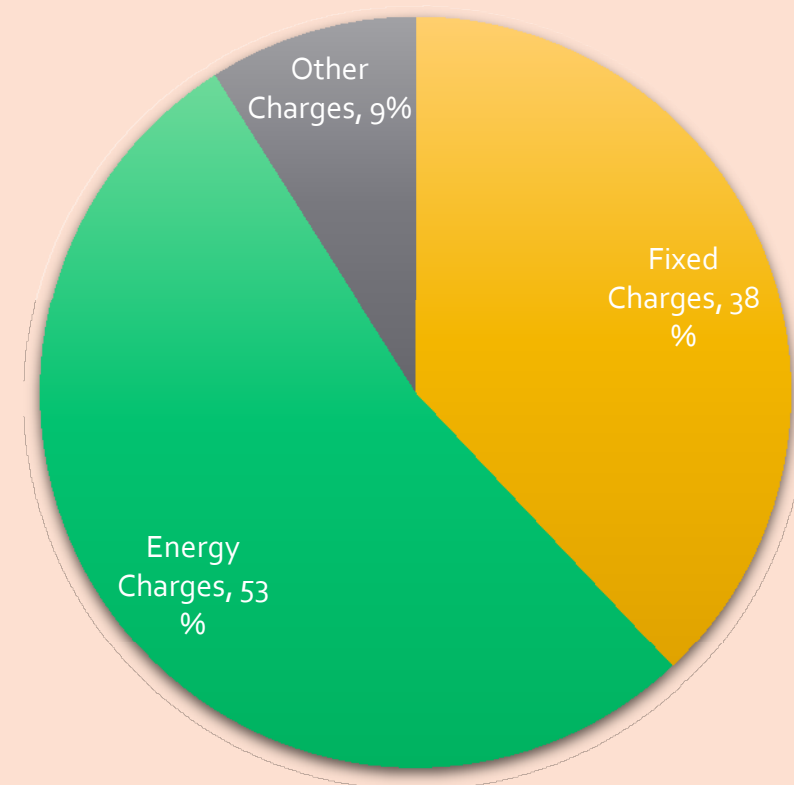
- Hon'ble OERC, vide its Order dated March 21, 2016 approved the Generation Tariff for **FY 2016-17** (Case No. 53/2015). OPGC filed Appeal No. 126 of 2016 before the **Hon'ble Appellate Tribunal for Electricity (APTEL)** and also filed Civil Appeal No. 9485 of 2017 before the **Hon'ble Supreme Court**. The Hon'ble Supreme Court (dated April 19, 2018) set aside the Tariff Order for FY 2016-17 and remanded the matter.
- The Commission in Case No **33 of 2018**, on March 28, 2019, issued order for re-determination of Tariff for FY 2016-17, FY 2017-18 and FY 2018-19 considering the original project cost as per the approved Amended PPA. Subsequently, tariff orders were issued by the Commission for **FY 2019-20, FY 2020-21, FY 2021-22, and FY 2022-23**.
- Hon'ble OERC in **Case No 43 of 2017** (dated 28 Oct 2020) issued order on basis of calculation of GCV to be considered in the tariff. OPGC filed Appeal No 189 of 2020 before APTEL against the same order, the matter is ongoing at present before APTEL.
- In Case No. **54 of 2018**, OPGC filed petition for approval of additional capitalisation for FY 2015-16, FY 2016-17, FY 2017-18 and FY 2018-19. The Commission vide order dated May 21, 2021 (54 of 2018) disallowed actual additional capitalization for FY 2015-16 to FY 2017-18 and proposed additional capital expenditure for FY 2018-19. OPGC has filed an Appeal APTEL on November 15, 2021, registered as Appeal No 335/2021, against OERC Order in Case No 54 of 2018.
- In **Case No 66 of 2021**, the Commission has approved R&M works and installation of FGD and FGC.
- Further, in **Case No 96 of 2021**, the Commission has approved the construction of a new ash pond.
- OPGC submitted that OPGC shall initiate the work after receiving concurrence from the Board of Directors.

ANNUAL REVENUE REQUIREMENT FOR FY 2023-24

(RS CRORE)



Particulars	Original project cost
O & M Expenses	205.69
Depreciation	0.00
Interest on Term Loans	0.00
Interest on Working Capital	14.88
Return on Equity	72.00
Fixed charges	292.58
Energy Charge	407.89 * <u>(178.86 P/U)</u>
Other Charges	70.97



■ Fixed Charges ■ Energy Charges ■ Other Charges

*Considering normative generation

Analysis of Generation tariff for FY 2023-24

ADDITIONAL CAPITALIZATION



- In the present Petition, OPGC has not claimed actual additional capitalisation for past period and projected additional capitalisation for and FY 2022-23 and FY 2023-24.
- Based on the outcome of the Appeal filed in APTEL against the Hon'ble Commission's order in Case No. 54 of 2018, OPGC will approach the Hon'ble Commission for approval of actual additional capitalisation for FY 2015-16 to FY 2020-22 and projected additional capitalisation for FY 2022-23 and FY 2023-24 through a separate petition.
- No impact of additional capitalisation is claimed in the present petition of FY 23-24 and hence, the tariff should be based on original project cost only.

DEBT-EQUITY RATIO, ROE AND INTEREST



- Original capital cost of the Project is Rs. 1060 Crore as per the Amended PPA signed between OPGC and GRIDCO. While approving the Amended PPA vide Order dated April 27, 2015, Hon'ble OERC has approved the loan of Rs. 610 Crore and equity of Rs. 450 Crore, i.e. approved ratio was 57.5 : 42.5. In FY 2022-23 order also, the Commission has considered the same amount.
- Return on equity is calculated as given below:

Particulars	Units	Original capital cost (Rs Crore)
Equity corresponding to original project cost	Rs. Crore	450.00
Rate of Return on Equity	%	16.00%
Return on Equity	Rs.Crore	72.00

- OPGC submitted that Clause 8.0 (7) and (11) of Schedule II of the Amended PPA provides the loan amount of Rs. 610 Crore and interest on loan as per actual. Since the loan amount of Rs. 610 Crore has been fully repaid by financial year ending March 31, 2012, OPGC has not claimed any interest on loan capital for FY 2023-24.

INTEREST ON WORKING CAPITAL (RS CRORE)



Sl. No.	Particulars	Norms considered	FY 2023-24
			Corresponding to original project cost
1	Coal Cost	1.5 months	43.96
2	Oil Cost	2 months	9.37
3	O & M expenses	1 month	17.14
4	Recievables	2 months	116.74
5	Working capital Loan Requirement		187.21
6	Rate of Interest		7.95%
7	Interest on Working Capital		14.88

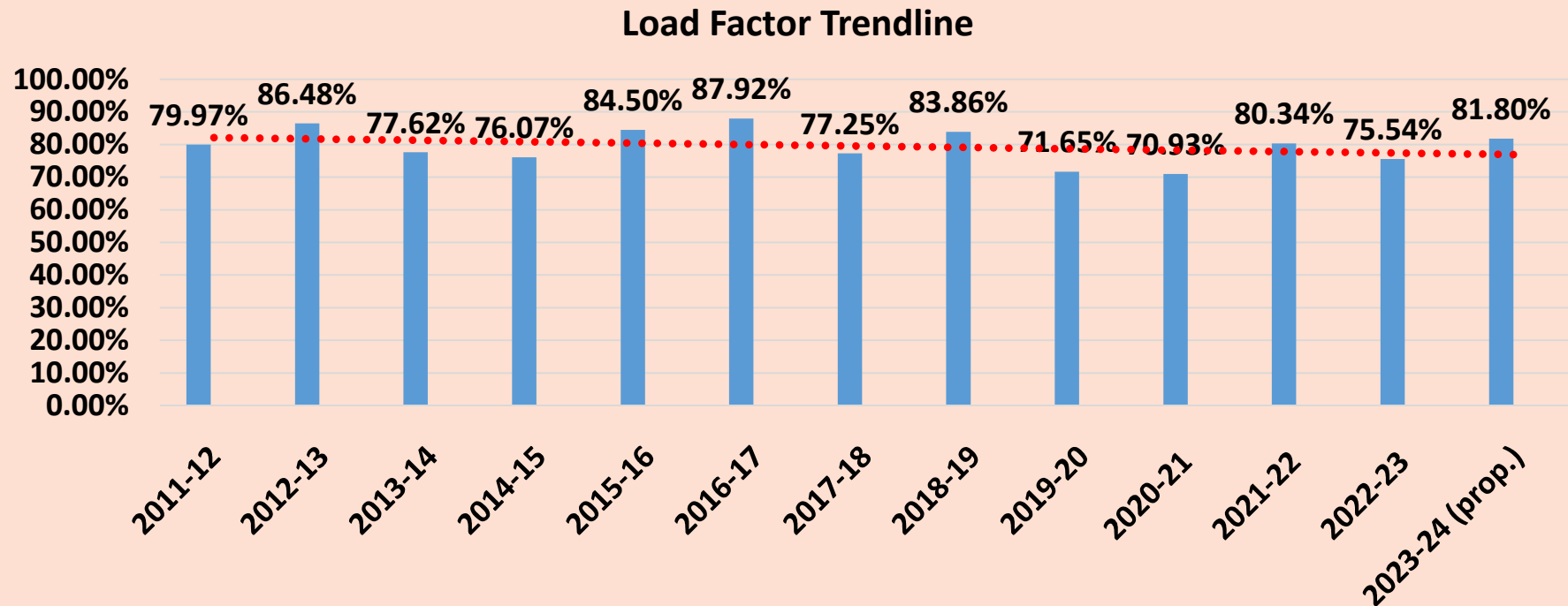
- As OPGC has started availing working capital from external sources, the actual interest rate for the Working Capital facility availed by OPGC in FY 22-23 is 7.95%. For FY 2023-24, the interest on Working Capital is considered as Rs 14.88 crore (@ 7.95% rate of interest as per FY 2022-23). Interest rate on working capital in FY 22-23 is increased in comparison to FY 21-22. The same may be reviewed.
- Working capital components on approved values should be considered.

O&M EXPENSES



- As per Clause 3.0 (d) and (e) of Schedule II of the Amended PPA provides that O&M expenses for first year of operation at the rate of 2.5% of the capital cost which shall be escalated by 8% each year from April 1, 1996.
- O&M Expenses of Rs.**205.69** Crore for FY 2023- 24 has been proposed.
- As per clause 3 (d) & (e) of Schedule-II of the amended PPA, O&M expenses can be approved by the Commission after prudence check.

PLANT LOAD FACTOR



FY 2022-23 (till Nov 22): 70.84%

- As per Clause 3.0 (g) of Schedule II of the Amended PPA, the PLF applicable for computation of incentive shall be 80%.
- As per the generation plan submitted to GRIDCO, the ex-bus generation projected for FY 2023-24 is 2731.657 MU which corresponds to PLF of 81.8%
- Average PLF (2011-12 to 2022-23) : 79.775 %. Except FY 2021-22, PLF was lower than average in last four years.

SHR, SECONDARY FUEL OIL AND AUXILIARY CONSUMPTION



	Station Heat Rate (kcal/kWh)	Specific oil consumption (ml/kWh)	Auxiliary consumption
Proposed in ARR	2500	3.5 (LDO – 0.35 and HFO -3.15)	9.50%
General norms in Regulations	2450 (below 500 MW)	1.0	Natural draft – 8.5% Induced draft – 9% (below 500 MW)
Approved in last year order as per PPA	2500	3.50	9.50%

GCV AND PRICE OF COAL



Year	GCV (kCal/kg) Proposed	GCV (kCal/kg) Approved	Price (Rs / MT) Proposed	Price (Rs / MT) Approved
2016-17	2,828.92	2,716.00	1,232.56	1,186.62
2017-18	2629.10	3400.00	1645.04	1,539.00
2018-19	2,685.41	3100.00	1368.91	1491.00
2019-20	2972.00	3100.00	1600.13	1532.00
2020-21	3077.00	3100.00	1603.68	1552.00
2021-22	2740.93	3101	1542.30	1573.00
2022-23	2772.64	3101	1614.52	1614.52
2023-24 (Proposed)	2865.76		1622.39	

- **GCV:** Last year approved was 3101 kCal/kg and proposed 2865.76 kCal/kg for FY 2023-24.
- Para 92 of FY 21-22: *“As per Commission’s Order dated 28.10.2020, sampling report by CIMFR at mine’s end with moisture correction would be considered for determining GCV of ‘as delivered’ Coal on total moisture basis. This is in line with PPA and order of Hon’ble Supreme Court. Therefore, in the absence of above details, the Commission has decided to consider the base GCV of Grade-14 (G-14) coal, i.e. 3101 kcal/kg similar to last year order..”*
- The present MCL declared grade’s GCV (G-14) can be considered. OPGC submitted the indicative landed price of coal considering the applicable base price and other charges as Rs 1608.63 / MT.

PRICE OF SECONDARY OIL

Month	Secondary Fuel Oil procured and consumed	Quantum of oil procured (kL)	Weighted average price oil procured (Rs./kL)	Quantum of oil consumed (kL)	Weighted average price oil for the month (Rs./kL)
Apr-22	LDO	0.00	-	44.08	64781.27
May-22	LDO	0.00	-	66.28	64781.27
Jun-22	LDO	149.98	101711.75	34.44	72859.63
Jul-22	LDO	149.86	105077.02	89.31	78886.88
Aug-22	LDO	149.66	93548.43	121.05	81434.21
Sept-22	LDO	249.94	96215.21	445.51	85164.74
Oct-22	LDO	0	0	4.62	85164.74
Nov-22	LDO	149.77	98846.62	90.83	88134.73

- From April 2019 onwards, they have used LDO only but proposing to use LDO and HFO.

YEAR END CHARGES FOR FY 2023-24



- Rs.0.55/kWh towards electricity duty for FY 2022-23 was approved by Commission in accordance with PPA norms, i.e. 9% of auxiliary Consumption on estimated PLF 79.17%. OPGC proposed duty to be paid as per generation plan and auxiliary consumption of 9%.
- Along with water cess and water charges, energy compensation to OHPC is proposed. This should be reviewed. OPGC should produce proper justification of payment of such charges along with relevant documents while claiming reimbursement from GRIDCO.
- Income tax : The Commission has not considered any income tax for FY 2022-23. However, directed that Income tax shall be reimbursed by GRIDCO on actual basis as per the applicable provisions in PPA.
- Water conservation fund should be reviewed vis-a-vis the Govt. order and verification by GRIDCO.
- SOC and MOC for SLDC can be allowed as per Commission's approved order.

Sr. No.	Particulars	FY 2023-24 (Proposed)	FY 2022-23 (Approved)
1	Electricity Duty	14.94	14.42
2	Water Cess and Water Charges	9.22	8.58
3	Energy Compensation Charges	0.78	0.71
4	Tax and Cess on land	0.25	0.05
5	SOC and MOC for SLDC	0.36	0.36
6	ERPC Charges	0.16	0.16
7	Annual inspection fees	0.16	
8	Income Tax	38.67	0
9	Recovery of ARR & Tariff Petition Fee	0.30	0.3
10	Contribution towards Water Conservation Fund	6.13	6.13
	Total	70.97	30.71

YEAR END CHARGES APPROVED AND PAID



S. No.	Particulars	FY 2021-22			FY 2022-23		
		Approved in the Tariff Order	Actual incurred	Reimbursed by GRIDCO	Approved in the Tariff Order	Actual incurred	Reimbursed by GRIDCO
1	Electricity Duty	12.98	19.08	14.30	14.42	10.45	8.45
2	Water Cess and Water Charges	8.37	9.22	9.20	8.58	6.58	6.53
3	Tax and Cess on land	0.19	0.25	0.25	0.05		
4	Energy Compensation Charges				0.71		
5	SOC and MOC for SLDC	0.34	0.36	0.36	0.36	0.24	0.24
6	ERPC Charges	0.16	0.16	0.16	0.16	0.16	0.16
7	Income Tax	38.67	0.00	0.00			
8	Recovery of ARR & Tariff Petition Fee & Publication Fee	0.30	0.22	0.22	0.30	0.21	0.21
9	Annual Inspection Charges					0.17	0.17
10	Water Conservation Fund	6.13	0.00	0.00	6.13		
	Total	67.15	29.29	24.49	30.71	17.81	15.76

GENERATION TARIFF PROPOSED FOR FY 2023-24



Sl. No	Particulars	Original capital cost (Rs Cr)	Tariff (Rs/kWh)*
1.	Return on Equity	72.00	0.315
2.	Depreciation		
3.	Interest on Loan Capital		
4.	Interest on Working Capital	14.88	0.065
5.	O&M Expenses	205.69	0.901
A	Total Annual Fixed Cost	292.58	1.283
B	Energy Charges	407.89	1.789
A+B	Tariff for Sale of Power	700.47	3.072
C	Year End Charges	70.97	0.311
A+B+C	Total Tariff for Sale of Power	771.44	3.383

*Based on normative generation @68.49%

GENERATION TARIFF FOR FY 2023-24 (RS / KWH)



Excluding year-end charges

GENERATION TARIFF PROPOSED FOR FY 2023-24



Sl. No	Particulars	Proposed for FY 23-24	Approved for FY 22-23
1.	Return on Equity	72.00	72.00
2.	Depreciation	-	-
3.	Interest on Loan Capital	-	-
4.	Interest on Working Capital	14.88	12.29
5.	O&M Expenses	205.69	190.446
A	Total Annual Fixed Cost (Rs crore)	292.58	274.74
B	Energy Charges (Rs / kWh)	1.7886	1.6109
C	Year End Charges (Rs crore)	70.97	30.71

Thank You