

Petition for approval of Generation Tariff for IB TPS Units 1 & 2 for FY 2022-23



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Agenda for Presentation

- 1. Background**
- 2. Approach for Filing Petition**
- 3. Tariff Filings for FY 2022-23**
- 4. Prayers**

Background



Date	Case No. / Appeal No.	Description
March 28, 2019	Case No. 33/2018	Hon'ble Commission issued the Order on Tariff Redetermination for FY 2016-17, FY 2017-18 and FY 2018-19
March 29, 2019 April 22, 2020 March 26, 2021	Case No. 70/2018 Case No. 69/2019 Case No. 71/2020	Hon'ble Commission issued the Tariff Order for FY 2019-20, FY 2020-21 and FY 2021-22 respectively.
November 30, 2021	Case No. 104/2021	OPGC filed the Petition for approval of Tariff for FY 2022-23
December 16, 2021	-do-	Hon'ble Commission sought additional information on the Tariff Petition
January 10, 2022	-do-	OPGC submitted the additional information sought by the Hon'ble Commission (Filing-2)
January 27, 2022	-do-	OPGC submitted the replies to the stakeholders' objections/suggestions (Filing-3)
February 08, 2022	-do-	OPGC submitted the replies to GRIDCO's objections/suggestions (Filing-4)

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Approach for Filing of Petition...1/4

- Hon'ble Odisha Electricity Regulatory Commission (OERC) vide its Order dated April 27, 2015 (Case No. 13/2002) had approved the following agreements entered into between OPGC Ltd. and GRIDCO Ltd.:
 - Bulk Power Supply Agreement between OPGC and GRIDCO, dated August 13, 1996 and an agreement as Supplemental to Bulk Power Supply Agreement dated December 19, 2012.
 - Tripartite Agreement between OPGC, GRIDCO and Government of Odisha dated October 18, 1998 and an agreement as Supplemental to Tripartite Agreement dated September 6, 2012.
 - Govt. of Odisha (GoO) Notification No. 7216/E dated June 21, 2008.
 - Escrow and Securitization Arrangement dated November 30, 1998 entered between OPGC, GRIDCO and Union Bank of India.

Approach for Filing of Petition...2/4

- Pursuant to Supreme Court's Judgment in Civil Appeal No. 9485 of 2017, Hon'ble OERC issued Order in Case No. 33 of 2018 on March 28, 2019, re-determining the tariff for FY 2016-17, FY 2017-18 & FY 2018-19.
- Subsequently, the Hon'ble Commission had issued the Tariff Orders for FY 2019-20 (Case No. 70/2018), FY 2020-21 (Case No. 69/2019) and FY 2021-22 (Case No. 71/2020) on March 29, 2019, April 22, 2020 and March 26, 2021, respectively.
- Hon'ble Commission vide its Order dated October 28, 2020 in Case No. 43 of 2017 has decided the methodology of considering GCV for computation of Energy Charge Rate. OPGC has filed Appeal No. 189 of 2020 before the Hon'ble APTEL against this Hon'ble Commission's Order dated October 28, 2020.

Approach for Filing of Petition...3/4

- Hon'ble Commission vide order dated May 21, 2021, in Petition No. 54 of 2018 disallowed additional capitalisation for FY 2015-16, FY 2016-17, FY 2017-18 and FY 2018-19. OPGC has filed an Appeal before Hon'ble APTEL on November 15, 2021, as DFR No. 407/2021 against this Hon'ble Commission's Order. The Appeal is yet to be admitted.
- In this Petition, OPGC has not claimed tariff towards actual additional capitalisation from FY 2015-16 to FY 2022-23. Based on the outcome of the Appeal filed 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 2022-23 and tariff towards the same through a separate petition.
- **Regulation 7(6)** of OERC Generation Tariff Regulations, 2020 stipulates as follows:
*“(6) **Notwithstanding anything contained above the existing generation plants of OHPC and OPGC (UNIT-I & II) may make an application as per the Format prescribed by the Commission for determination of tariff as per annual schedule, by November 30th of every year** for determination of tariff in respect of the units of the generating station.*

Approach for Filing of Petition...4/4

- The Tariff Petition for FY 2022-23 has been filed in line with the Supreme Court judgement, and approach adopted in the Case No. 71 of 2020.

Tariff components	Considering original project cost as per the approved Amended PPA
Annual Fixed Cost	
O&M expenses	✓
Depreciation	×
Interest on loans	×
Interest on working capital	✓
Return on Equity	✓
Variable Charges	✓
Other Charges	✓

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Annual Fixed Cost (AFC)

- **Regulation 19(2)** of OERC Generation Tariff Regulations, 2020 stipulates as follows:

“The Annual Fixed Cost for OHPC and OPGC (Unit-I & II) will be determined by the Commission by taking into account the notification(s) issued by the Government of Odisha from time to time and their PPAs.”

- In accordance with **Clause 3 of Schedule II of the PPA**, AFC comprises of the following:

1. Depreciation
2. Return on Equity
3. Interest on loan capital
4. O&M expenses
5. Interest on working capital

Methodology of Computing AFC



Particulars	Provisions of the PPA	Corresponding to <u>Original Project Cost</u>
Depreciation	7.5% of the Capital Cost	Fully depreciated asset and hence, no depreciation claimed
Return on Equity (RoE)	RoE allowable @ 16% on the equity capital of Rs. 450 Crore	RoE computed in accordance with the PPA
Interest on Loan	As per actuals	Loan is fully repaid hence no interest on loan claimed
O&M expenses	O&M expenses @ 2.50% of Rs. 1030 Crore for FY 1996-97 escalable @ 8% p.a. (Rs. 190.46 Crore)	O&M expenses computed in accordance with the PPA
Interest on working capital (IoWC)	<p>Normative working capital requirements (@68.49% PLF) include:</p> <ul style="list-style-type: none"> •1.5 months coal cost; •2 months oil cost; •O&M expenses for 1 month •Receivables for 2 months. <p>Rate of IoWC @ rate of interest applicable to OPGC for its working capital facility</p>	<p>Normative working capital requirements computed in accordance with the PPA;</p> <p>Actual interest rate for Working Capital (7.20%) as on November 2021 has been considered.</p>

O & M Expenses Corresponding to Original Project Cost



Particulars	Units	Corresponding to original project cost (Rs Crore)
Capital Cost of Project considered for O&M Expenses as per Amended PPA	A	1030.00
O&M Expenses for first year @ 2.5% of Capital Cost	$B=A*2.5\%$	25.75
Escalation rate	C	8.00%
O&M Expenses	$D=B*((1+C)^{26})$	190.46

Interest on Working Capital Corresponding to Original Project Cost



Particulars	Units	Corresponding to original project cost
Cost of Coal for one and half months	Rs. Crore	45.21
Cost of Secondary Fuel Oil for two months	Rs. Crore	7.33
O&M Expenses for one month	Rs. Crore	15.87
Receivables equivalent to two months	Rs. Crore	113.54
Total Working Capital Requirement	Rs. Crore	181.95
Interest Rate %	%	7.20%
Interest on Working Capital	Rs. Crore	13.10

Annual Fixed Cost (AFC) Corresponding to Original Project Cost

Particulars	Units	Corresponding to original project cost	PPA Ref.
Depreciation	Rs. Crore	-	-
Return on Equity	Rs. Crore	72.00	Clause 3(b) of Schedule II
Interest on loan	Rs. Crore	-	-
O&M expenses	Rs. Crore	190.46	Clause 3(d) & 3(e) of Schedule II
Interest on working capital	Rs. Crore	13.10	Clause 3(f) of Schedule II
Total Annual Fixed Cost	Rs. Crore	275.56	

Norms of Operation



Particulars	Provisions of the PPA	Methodology adopted
Normative Availability	68.49%	Considered as per the PPA
Auxiliary consumption	9.50%	Considered as per the PPA
Station Heat Rate	2500 kcal/kWh	Considered as per the PPA
Specific oil consumption	3.5 ml/kWh	Considered as per the PPA

- The rate of **variable charges (base value)** for FY 2022-23 has been computed considering the **norms of operation as per the PPA.**
- The **actual fuel prices and GCV for the period April 2021 to September 2021** has been considered for projecting the base variable charge for FY 2022-23 **in line with to Cl.9, Sch.II of the PPA**

- Hon'ble Commission vide its Order dated October 28, 2020 in Case No. 43 of 2017 in the matter of consideration of Gross Calorific Value of coal for determination of tariff has ruled as under:

“13. We carefully heard the arguments and rival arguments of all the parties including opinions of experts. The bone of contention in this case is related to the calculation of Energy Charge Rate (ECR) of the power procured by GRIDCO from OPGC. After longstanding dispute in this matter, the Commission had finally redetermined the tariff for Unit-I and II of the petitioner vide case No.33 of 2018 dt.28.03.2019 for FY 2016-17, FY 2017-18 and FY 2018-19 pursuant to the judgment of the Hon'ble Supreme court of India dated 19.04.2018 in Civil Appeal No. 9485 of 2017. Directives of the Commission in the said order is as follows:

*“41. The operational norms like Auxiliary Consumption, Gross Station Heat Rate, and Consumption of Oil as indicated in Clause 8 of Schedule-II of the PPA and **Price and GCV of Oil and Coal actually delivered to the power station as per Clause 7 of Schedule-II of the PPA shall be considered.** Accordingly claims of monthly Energy Charges shall be made by OPGC and GRIDCO Ltd. shall make payment after prudence check of all parameters of energy charges like GCV and price of Coal & Oil etc.”*

GCV of Coal...2/5



The capacity charge and energy charge are to be computed as per the above order of the Commission.

14. Heat energy contents of the coal and oil are converted to electrical energy in the power station. Heat energy content of the coal per kilogram varies at different points starting from the time of its mining till its firing in the furnace due to addition and release of moisture and other impurities during its handling. PPA between the parties at clause-7 of Schedule-II specifies that Gross Calorific Value of the coal and oil shall be determined “as delivered to the power station”. It is understood from the submission of the experts and parties that the GCV of coal is measured at mines end by a third party agency named CIMFR on “equilibrated method”. This is done to arrive at a standardized pricing of coal of a particular grade. But the heat energy available in the power station from the coal depends upon moisture content and other impurities. Therefore, GCV of coal measured at equilibrated method requires moisture correction for determination of heat content available for energy conversion. Therefore, if we apply a moisture correction formula on “as billed” GCV which is determined on equilibrated method, we can arrive at GCV on total moisture basis. CERC in petition No.279/GT/2014 dated 30.07.2016 has also adopted this method. This is because the measurement of GCV on total moisture basis at power station end is the practice generally followed by the industry and it determines the volume of coal the power station requires to generate a particular quantity of energy.

$$\text{GCV of coal as delivered to the power station (total moisture basis)} = \text{GCV} \times \frac{(1-IM)}{(1-TM)}$$

Where:

GCV= Gross Calorific value of coal as billed by coal supplier

TM= Total moisture as per CIMFR report

IM= Inherent moisture as per CIMFR report

The above formula should form the basis of calculation of GCV of coal on “as delivered basis” for computation of energy charge. The above formula shall take care of total moisture in calculation of GCV which is the prevalent industry practice.

15. The old bill of OPGC should be modified accordingly from April, 2017 onwards for the entire tariff period. The value of IM and TM should be adopted from the third party CIMFR report.”

- OPGC has filed **Appeal No. 189 of 2020 before the Hon’ble APTEL** against this Hon’ble Commission’s Order dated October 28, 2020 in Case No. 43 of 2017 on the GCV to be considered for tariff computation.
- Both OPGC and GRIDCO have completed pleadings in OPGC’s I.A. No. 1632 of 2020 (for Interim Relief) as well as Main Appeal No 189 of 2020. In the hearing dated 26.11.2020 before the Hon’ble APTEL, GRIDCO undertook not to precipitate the matter pursuant to this Hon’ble Commission’s Order dated 28.10.2020 in Case No. 43 of 2017.
- Subsequently, the Hon’ble APTEL vide its various daily orders in the above matter has directed to continue the interim relief. As of date, the matter is listed for hearing in March 2022.

- Further, the Hon'ble Commission in Order dated March 26, 2021 in Case No. 71 of 2020 had ruled as follows:

*“92. The Commission vide its Order dated 28.10.2020 in Case No. 43/2017 has provided the basis for calculation of GCV of coal as delivered to the power station (total moisture basis). This has been challenged by OPGC in APTEL which is pending there. As per Clause 7 of Schedule-II of the PPA, Gross Calorific Value (GCV) of Secondary Oil and Coal is to be considered “as delivered” basis to the power station. During the present proceeding, we have earlier sought details from OPGC on GCV of Coal “as delivered” (at the delivery point) in line with the PPA and the Order of Hon’ble Supreme Court. OPGC has not submitted the details of the coal at the delivery point (basing on as billed GCV with moisture correction) and has rather submitted GCV of coal on “as fired” basis in total moisture method which does not appear even in their PPA. 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. However, OPGC has taken a plea at para 3.35 of their tariff application that they have gone on appeal in Appeal No. 189/2020 to Hon’ble APTEL challenging order of the Commission in this regard in Case No. 43/2017 dated 28.10.2020. **Therefore, in the absence of above details, the Commission has decided to consider the base GCV of Grade-14 (G-14), i.e. 3101 kcal/kg similar to last year order.** On the query of the Commission OPGC has submitted that the price of G-14 coal has also been revised to Rs.1573.00/ MT including all charges w.e.f. 01.12.2020.”*

GCV of Coal...5/5



- Pending decision on the APTEL appeal, OPGC has considered the following, as also done for previous year tariffs, to adopt GCV value.
 - *In line with the **Judgement of the Hon'ble Supreme Court of India dated 18.04.2018** in Civil Appeal No. 9485 of 2017, variable costs for OPGC are to be determined as per the PPA.*
 - *As per the **provision of PPA**, the GCV of Oil and Coal is to be considered as actually delivered to the power station, which implies **GCV measured at the 'boiler end' on a Total Moisture basis.** **Accordingly, OPGC has considered the GCV of coal and oil for the computation of energy charges.***

Variable Charges (Energy Charge Rate)

Particulars	Unit	FY 2022-23
Auxiliary Consumption	%	9.50%
Gross Station Heat Rate	kCal/kWh	2500
GCV of Coal	kCal/kg	2772.64
GCV of Oil	kCal/kg	10000
Specific Coal Consumption	kg /kWh	0.90
Specific Oil Consumption-HFO/LDO (90:10)	ml/kWh	3.50 (3.15:0.35)
Price of Coal	Rs. / MT	1614.52
Price of Secondary Oil-LDO	Rs. / kL	52744.07
Price of Secondary Oil-HFO	Rs. / kL	49540.30
Variable Charges per kWh(base value)	Paisa/kWh	177.89

Break up of ECR: Coal: 158.61 Paisa/kWh
Oil: 19.28 Paisa/kWh

SUMMARY OF PROPOSED TARIFF FOR FY 2022-23



Particulars	Unit	Approved for FY 2021-22	Proposed Tariff for FY 2022-23
		Corresponding to original project cost	Corresponding to original project cost
Annual Fixed Cost			
O & M Expenses	Rs. Crore	176.35	190.46
Depreciation	Rs. Crore	-	-
Interest on Term Loans	Rs. Crore	-	-
Interest on Working Capital Loans	Rs. Crore	12.41	13.10
Return on Equity	Rs. Crore	72.00	72.00
AFC	Rs. Crore	260.76	275.56
Rate of Energy Charge	Paise/kWh	152.81	177.89
<i>Per Unit cost @ Target PLF (80%)</i>	<i>Paise/kWh</i>	<i>250.70</i>	<i>281.34</i>

Other Charges...1/2



- **Clause 10 of the approved Amended PPA** provides for reimbursement of statutory taxes, levies, duties, cess or any kind of imposition(s) whatsoever imposed/charged by any Government (Central/State) and/or any other local bodies/authorities on generation of electricity including auxiliary consumption or any other type of consumption, transmission, sale or on supply of power/energy and/or in respect of any of its installations associated with the Generating Stations and/or on Transmission System, Environmental Protection, Water etc.

Other Charges...2/2



Particulars	Unit	Approved for FY 2021-22	Proposed Tariff for FY 2022-23
		Corresponding to original project cost	Corresponding to original project cost
Other charges		67.15	72.29
Electricity Duty	Rs. Crore	12.98	17.35
Water Cess and Water Charges	Rs. Crore	7.94	8.58
Energy Compensation Charges	Rs. Crore	0.43	0.71
Tax and Cess on land	Rs. Crore	0.19	0.05
SOC and MOC for SLDC	Rs. Crore	0.34	0.34
ERPC Charges	Rs. Crore	0.16	0.16
Income Tax	Rs. Crore	38.67	38.67
Recovery of ARR & Tariff Petition Fee	Rs. Crore	0.30	0.30
Water Conservation Fund	Rs. Crore	6.13	6.13
<i>Per Unit cost @ Target PLF (80 %)</i>	<i>Paise/kWh</i>	<i>25.21</i>	<i>27.14</i>

The other charges have been proposed based on the actual expenses incurred in FY 2020-21.

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Prayers



- i. Admit the instant Petition.*
- ii. Approve the tariff, including annual fixed cost and variable charges for FY 2022-23 as claimed in the Petition.*
- iii. Approve the other charges for FY 2022-23 as claimed in the Petition and recovery of other charges on actual basis during FY 2022-23.*
- iv. Approve the recovery of FPA in accordance with the approved PPA during FY 2022-23.*
- v. Allow OPGC to file a separate Petition regarding additional capitalisation from FY 2015-16 to FY 2022-23 after the Hon'ble APTEL Judgment is issued on the Appeal filed by OPGC on Hon'ble Commission's Order dated May 21, 2021 in Case No. 54 of 2018.*
- vi. Condone any inadvertent omissions, errors, short comings and permit OPGC to add/change/modify/alter this filing and make further submissions as may be required at a future date; and*
- vii. Pass such other and further Orders as deemed fit and proper in the facts and circumstances of the case.*

Thank You
THANK YOU

