

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 129/GT/2015**

**Coram:**

**Shri Gireesh B. Pradhan, Chairperson**

**Shri A.K.Singhal, Member**

**Shri A.S. Bakshi, Member**

**Date of Hearing: 12.5.2015**

**Date of Order: 17.6.2015**

**IN THE MATTER OF**

Grant of interim tariff for Block-II of Palatana Combined Cycle Gas Turbine Power Project (2 x 363.3 MW) of ONGC Tripura Power Company Ltd from 1.4.2014 till 31.3.2016

**AND**

**IN THE MATTER OF**

Determination of tariff of Palatana Combined Cycle Gas Based Power Project 726.6 MW (2 x 363.3 MW) for the period 1.4.2014 to 31.3.2019

**AND**

**IN THE MATTER OF**

ONGC Tripura Power Company Ltd, Tripura  
6<sup>th</sup> Floor, A-Wing, IFCI Towers  
Nehru Place  
New Delhi-110019

**...Petitioner**

Vs

1. Assam Power Distribution Company Ltd, Guwahati
2. Department of Power, Government of Arunachal Pradesh, Itanagar
3. Department of Power, Government of Nagaland, Kohima
4. Electricity Department, Government of Manipur, Imphal
5. Power and Electricity Department, Govt. of Mizoram, Aizwal
6. Meghalaya Energy Corporation Ltd, Shillong
7. Tripura State Electricity Corporation Ltd, Agartala

**....Respondents**

**Parties present:**

Shri A.C. Sarmah, OTPC  
Shri Satyajit Ganguly, OTPC  
Shri Arvinder Gupta, OTPC

**ORDER**

The petitioner, ONGC-Tripura Power Company Ltd (OTPCL) has filed this petition for approval of tariff of Palatana Combined Cycle Gas Turbine Power Project (2 x 363.3 MW) (‘the

generating station”) for the period from 1.4.2014 to 31.3.2014, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 ('the 2014 Tariff Regulations').

2. The petitioner is a joint venture of ONGC, IL&FS (through its affiliate IEDCL) and the Govt. of Tripura with the major share holding by ONGC (50%), IEDCL (26%) Govt. of Tripura (0.5%) and Residual Equity (23.5%) for setting up the project. The beneficiaries of the North Eastern States have been allocated a capacity of 628 MW from the generating station and the balance capacity of 98 MW is towards merchant sale. Accordingly, Power Purchase Agreements have also been entered into by the petitioner with the respondent beneficiaries during the year 2009.

3. The petitioner had filed Petition No.199/GT/2013 for determination of tariff of the generating station for the period from the anticipated COD of Unit-I (31.7.2012) and from COD of Unit-II (31.10.2012) to 31.3.2014. Thereafter, the petitioner filed Interlocutory Application (I.A) No.15/2013 and submitted that Unit-I/Block-I of the generating station was expected to be declared under commercial operation on 20.6.2013 and Unit-II on 31.10.2013 and further prayed for grant of provisional tariff for Unit-I/Block-I of the generating station. Accordingly, the Commission by order dated 20.12.2013 granted interim tariff considering the capital cost of ₹145710.00 lakh as on the anticipated COD of Block-I of the generating station subject to adjustment as per proviso to Clause (3) of Regulation 5 of the 2009 Tariff Regulations. Block-I has been declared under commercial operation on 4.1.2014 and Petition No.199/GT/2013 which was heard on 9.12.2014 is pending for determination of final tariff from COD till 31.3.2014 in terms of the 2009 Tariff Regulations.

4. Meanwhile, Block-II of the generating station has been declared under commercial operation on 24.3.2015 and accordingly the petitioner has filed this petition and has prayed for determination of tariff of the generating station for the period from 1.4.2014 to 24.3.2015 for Block-I and from 24.3.2015 (COD of Block-II) to 31.3.2019 (COD of Block-II). The petitioner has submitted that since the final determination of tariff of Block-II may take some time, the Commission may issue interim order to facilitate interim arrangement for billing of energy supplied to various beneficiaries

from Block-II based on the capital cost/annual fixed charges claimed in the petition till final tariff is determined in terms of the 2014 Tariff Regulations. The petitioner has further submitted that the matter of provisional tariff for Block-II was taken up with the beneficiaries at the 22<sup>nd</sup> Commercial Committee meeting of the North Eastern Regional Power Committee and the members agreed to pay the energy bill for Block-II based on the annual fixed charges determined by the Commission for Block-I till issuance of final tariff order for both the blocks of the generating station.

5. The petitioner has filed this application in terms of Regulation 7(1) of the 2014 Tariff Regulations and has made publication of notice of application for determination of tariff in compliance with Regulation 3(6) of the Central Electricity Regulatory Commission (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulations, 2004. Though copies of the petition have been served copies on the beneficiary respondents, none of them have filed reply in the matter. Accordingly, the matter was heard on 12.5.2015 after issuance of notice to all the parties. None appeared on behalf of the respondents.

6. During the hearing, the petitioner submitted that Block-II has been declared under commercial operation on 24.3.2015 and prayed for grant of provisional tariff of Block-II of the generating station in order to bill the beneficiaries, subject to adjustment after determination of final tariff of the generating station. The Commission however directed the petitioner to submit additional information as under:

- (i) Auxiliary Power Consumption from December, 2014 till date on actual basis;*
- (ii) Break-up of capitalization of ₹1713 crore as on 24.3.2015 amongst Block-I and II.*

7. The petitioner vide affidavit dated 15.5.2015 has submitted the additional information and has served copies of the same on the respondents.

8. The present petition is required to be revised based on the audited financial details as on COD of both the blocks of the generating station. While the petitioner has incurred

expenditure for the generating station, the respondent beneficiaries are reaping the benefits of such expenditure by way of supply of power. In this background and in order to enable the petitioner to meet its ongoing financial obligations through reasonable recovery of cost of supply of electricity by the petitioner, we consider the grant of interim tariff for the generating station for the period from 1.4.2014 till 31.3.2016, as stated in the subsequent paragraphs.

### **Time and Cost overrun**

9. The Board of directors of the petitioner company in its 21<sup>st</sup> meeting on 23.6.2008 had noted the evaluation report of M/s FITCHNER Consulting Engineers (India) Private Ltd (Technical Consultants) on the price bid submitted on 12.6.2008 by M/s BHEL and accordingly, Notice of Award (NOA) was issued to M/s BHEL on 23.6.2008 to ensure the completion of the project within 42 to 45 months from the date of NOA (zero date). Thus, the scheduled date of commissioning from the zero date and the actual COD of the two blocks of the generating station are as under:

Description	Scheduled COD	Actual COD	Time overrun
Block-I	22.12.2011	4.1.2014	744 days
Block-II	22.3.2012	24.3.2015	1097 days

10. It is apparent that there is significant time overrun involved in the commercial operation of the project. However, the cost overrun consequent to the time overrun involved in the project, including IDC, shall be examined in detail after hearing all the parties on merit, at the time of determination of final tariff of the generating station.

11. The time line for completion of Combined Cycle Power Plant with Gas Turbine size above 100 MW (ISO rating) from the date of investment approval as specified under Appendix –I of the 2014 Tariff Regulations (Regulation 24) for additional Return on Equity of 0.5% is as under:

- (a) 30 months for green field projects. Subsequent units at an interval of 4 months each.
- (b) 28 months for extension projects. Subsequent units at an interval of 4 months each.

12. The date of original investment approval is 18.12.2008. The actual COD of Block-I (4.1.2014) is 60 months from the date of investment approval and the actual COD of Block-II (24.3.2015) is 74.5 months from the date of Investment approval. As Block-I and Block-II has been declared under commercial operation beyond the time line specified by the Commission, the generating station of the petitioner is not entitled for any additional Return on Equity of 0.5% in terms of the provisions of the 2014 Tariff Regulations.

### Approved Capital Cost

13. The Board of the petitioner company vide resolution dated 18.12.2008 had approved the project cost of ₹3429 crore. This has been revised to ₹3804 crore vide resolution of the Board of Directors dated 23.5.2013. The petitioner has also submitted that due to uncontrollable factors there is time overrun in the project and consequently the project cost has increased to ₹4047 crore from the estimated cost of ₹3429 crore. The approval of the Board of Directors of the petitioner company for this amount has been obtained on 11.2.2014.

### Actual Capital Cost as on COD

14. The petitioner has furnished the audited capital cost up to COD of Block-I and Block-II as on 31.3.2014 as under:

	(₹ in crore)	
	Audited Capital cost as on COD of Block-I (4.1.2014)	Capital cost as on COD of Block-II / station (24.3.2015)
Capital cost including IDC & FC	2071.00	3784.00
IDC , FC, FERV & Hedging cost	363.00	734.00
Capital Liabilities	220.00	330.00
<b>Capital cost excluding IDC &amp; FC, liabilities</b>	<b>1488.00</b>	<b>2720.00</b>

15. The petitioner vide affidavit dated 15.5.2015 has submitted that the additional capital expenditure of ₹1713.00 crore from the COD of Block-I to COD of Block-II pertains to Block-II only.

16. The capital cost of ₹3784.00 crore as on COD of Block-II is within the approved capital cost of ₹4047 crore. Considering the fact that there has been time overrun in the commercial operation of the generating station, we are inclined to allow only 90% of the net capital cost after adjustment

of liabilities as on COD of Block-I and 90% of net capital cost after adjustment of liabilities as on COD of Block-II for the purpose of grant of interim tariff. We direct accordingly.

17. Based on the above, the capital cost considered for the two blocks of the generating station after adjustment of liabilities, is as under:

	(₹ in lakh)	
	<b>Audited Capital cost as on COD of Block-I (4.1.2014)</b>	<b>Audited Capital cost as on COD of Block-II (24.3.2015)</b>
Capital Cost including IDC and FC	207100.00	378400.00
Less: Capital Liabilities	22000.00	33000.00
Net Capital cost including IDC & FC on cash basis	185100.00	345400.00
<b>Capital cost allowed @ 90% of the above</b>	<b>166590.00</b>	<b>310860.00</b>

18. The debt-equity Ratio of 78:22 has been worked out as per Regulation 19 of the 2014 Tariff Regulations. Return on Equity @19.610% (pre-tax) and rate of Interest on Working Capital @ 13.50% (as on 1.4.2014) have been considered as per the 2014 Tariff Regulations. The rate of depreciation @ 4.790% and rate of interest on loan @ 10.35% for 2014-15 and 2015-16 has been considered. Other components of tariff have been considered as per the provisions of the 2014 Tariff Regulations.

### **O&M Expenses**

19. The normative O&M expenses of ₹26.55 lakh/MW for 2014-15 and ₹28.36 lakh/MW for 2015-16 as specified under the 2014 Tariff Regulations for Advance F class Gas Turbines has been considered.

20. The annualised O&M expenses for 1 month and Maintenance spares considered in the Working capital for 2014-15 and 2015-16 as per 2014 Tariff Regulations is as under:

	(₹ in lakh)	
	<b>2014-15</b>	
	1.4.2014 to 23.3.2015	24.3.2015 to 31.3.2016
Maintenance spares	2893.68	5787.37
O&M Expenses (1 month)	803.80	1607.60

21. Based on the above discussions, the Fixed Charges (*pro rata*) granted for the years 2014-15 and 2015-16 in respect of the generating station are as under:

	2014-15		2015-16
	1.4.2014 to 23.3.2015	24.3.2015 to 31.3.2015	
Return on Equity	7029.50	293.94	13411.12
Interest on Loan	11951.64	510.05	22481.46
Depreciation	7804.76	326.36	14930.99
Interest on Working Capital	2378.37	107.07	4967.77
O & M Expenses	9434.20	422.82	20606.38
<b>Total</b>	<b>38598.48</b>	<b>1660.25</b>	<b>76397.71</b>

22. The interim fixed charges determined as above shall remain in force till 31.3.2016 or until further orders of the Commission.

### Operational Norms

#### **Normative Annual Plant Availability**

23. The Normative Annual Plant Availability (NAPAF) of 85% has been considered.

#### **Auxiliary Power Consumption**

24. The petitioner vide affidavit dated 27.4.2015 has considered higher auxiliary power consumption as it is using Electric Motor Driven Gas Booster Compressors (GBC) that have a power consumption of approximately 7 MW (each GBC with a consumption of 3.8 MW) approximately. The petitioner during the hearing on 12.5.2015 was directed to furnish the actual auxiliary power consumption. In response, the petitioner vide affidavit dated 15.5.2015 has furnished the actual month-wise Auxiliary Energy Consumption as follows:

Details of Auxiliary Power Consumption (APC)						
Month	Total Generation (MUs)	Total Export (MUs)	PAF (%)	PLF (%)	Aux. Consumption (%)	Remarks
December, 2014	209.99	202.20	77.90	78.07	3.71	APC is high as Block-1 was running at partial load for trial operation of Block-II
January, 2015	240.34	231.68	89.33	88.72	3.60	
February, 2015	212.56	204.09	88.53	86.07	3.99	
March, 2015 (till 23.3.2015)	109.52	103.16	51.03	52.49	5.81	

March, 2015 (24.3.2015 to 31.3.2015)	62.84	59.86	44.57	4.73	-	APC is high as both Blocks were running at partial load.
April, 2015 (1.4.2015)	238.72	227.56	47.33	45.07	4.68	
May'2015 (till 12.5.2015)	68.04	64.34	32.26	32.05	5.43	

25. On scrutiny of the actual APC during December, 2014 to May'2015 (12.5.2015), it is observed that there is variation in the Auxiliary Energy Consumption in the range of 3.60% to 5.81%. The reason for variation in Auxiliary Energy Consumption from December, 2014 to May' 2015 is due to different PLF, on account of the Units/blocks running on partial load. However, it is evidently clear that Auxiliary Energy Consumption could be more than 3% (which is specified norm) even at 85% or higher PLF. This is because of the operation of electric driven Gas Booster Compressors (GBCs) which consumes significant energy and is a special feature in the project of the petitioner. The EPC contractor, M/s BHEL has also given guaranteed APC of 3.41% at 100% base load which is closer to 3.50% as claimed by the petitioner. However, for the purpose of interim tariff, the APC of 3% has only been considered in this order. The prayer for higher APC @ 3.5% will be considered on merits at the time of final determination of tariff.

#### **Gross Station Heat Rate (GSHR)**

26. The petitioner has considered the Gross Station Heat Rate as 1823.862 kcal/kWh, instead of the normative heat rate of 1823.682 kcal/kWh based on the design heat rate of 1736.84 kcal/kWh. Hence, the Gross Station Heat Rate of 1823.682 kcal/kWh has been considered.

#### **Energy Charge Rate (ECR)**

27. Based on the above norms of operation, GCV & price of Natural Gas for the preceding three months from COD of Block-I and for the preceding three months from the COD of Block-2, the Energy Charge Rate (ECR) in ₹/kWh on ex-power plant computed as follows may be considered for the purpose of tariff:



Description	Unit	1.4.2014 to 23.3.2015 (Block-I)	24.3.2015 (COD of Block-II) to 31.3.2015
Capacity	MW	363.3	726.6
Normative PLF (85% PLF)	hours/kw/ year	7446.00	7446.00
Gross Station Heat Rate	kCal/kWh	1823.682	1823.682
Auxiliary Energy Consumption	%	3.00	3.00
GCV of Gas (average)	Kcal/SCM	9216	9221.14
Price of Gas (average)	Rs/ 1000 SCM	5781.92	6043.46
<b>Rate of Energy Charge P/kWh (ex-bus)</b>	<b>Paise/kWh</b>	<b>117.953</b>	<b>123.219</b>

28. Energy charge on month to month basis will be billed by the petitioner as per Regulation 30 (6) (b) of the 2014 Tariff Regulations.

29. The petitioner shall revise the petition considering the admitted capital cost as on COD of Block-I of the generating station in Petition No. 199/GT/2013. The interim fixed charges granted above are subject to adjustment after determination of final tariff of the generating station.

-Sd/-  
**(A.S.Bakshi)**  
Member

-Sd/-  
**(A.K.Singhal)**  
Member

-Sd/-  
**(Gireesh B. Pradhan)**  
Chairperson