

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Docket No. 54/GT/2012**

**Coram: Dr. Pramod Deo, Chairperson  
Shri S.Jayaraman, Member  
Shri V.S.Verma, Member  
Shri M.Deena Dayalan, Member**

**Date of Order: 4.10.2012**

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**IN THE MATTER OF**

Fixation of tariff for Circulating Fluidized Bed Combustion Technology based Barsingsar Thermal Power Station, Unit-II (125 MW) of NLC for the period from 29.12.2011 to 19.1.2012 and for the Station (Units-I & II) (2 x 125 MW) for the period from 20.1.2012 to 31.3.2014.

**AND**

**IN THE MATTER OF**

Grant of provisional tariff for Circulating Fluidized Bed Combustion Technology based Barsingsar Thermal Power Station, Unit-II (125 MW) of NLC for the period from 29.12.2011 to 19.1.2012 and for the Station (Units-I & II) (2 x 125 MW) for the period from 20.1.2012 to 31.3.2014.

**AND**

**IN THE MATTER OF**

NLC Ltd, Chennai

...Petitioner

Vs

1. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
2. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
3. Ajmer Vidyut Vitaran Nigam Ltd, Ajmer

...Respondents

## ORDER

In Petition No. 171/2009 filed by the petitioner, NLC for fixation of tariff for Circulating Fluidized Bed Combustion (CFBC) Technology based Barsingsar Thermal Power Plant (2 x 125 MW) ('the generating station') for the period from 2009-14, the Commission by its order dated 20.6.2011 disposed of the same as under:

*"Accordingly, this petition is disposed of with a direction that the petitioner is at liberty to approach the Commission with a fresh petition for approval of tariff for the generating station in accordance with the provisions of the 2009 regulations, taking into account the revised capital expenditure on account rescheduling of the units of the generating station, which would be considered in accordance with law. We also direct that the petition shall be posted in the web-site of the petitioner and copy be served on the respondents/objectors, who are at liberty to file their reply/objections thereafter."*

2. Units I and II of the generating station were commissioned on 20.1.2012 and 29.12.2011 respectively. Hence, in terms of the liberty granted by Commission's order dated 20.6.2011, the petitioner has filed this petition for fixation of tariff for Unit-II of the generating station for the period from 29.12.2011 to 19.1.2012 and Units I & II for the period from 20.1.2012 to 31.3.2014, in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations").

3. The petitioner vide its letter dated 26.6.2012 has prayed for the grant of provisional tariff for the generating station till the final tariff is determined.

4. Clauses (1) and (2) of Regulation 5 of the 2009 regulations provides as under:

*"5. Application for determination of tariff. (1) The generating company or the transmission licensee, as the case may be, may make an application for determination of tariff in accordance with Central Electricity Regulatory Commission (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulations, 2004,*

*as amended from time to time or any statutory re-enactment thereof, in respect of the units of the generating station or the transmission lines or sub-stations of the transmission system, completed or projected to be completed within six months from the date of application.*

*(2) The generating company or the transmission licensee, as the case may be, shall make an application as per **Appendix I** to these regulations, for determination of tariff based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected to be incurred during the tariff period of the generating station or the transmission system:*

*Provided that in case of an existing project, the application shall be based on admitted capital cost including any additional capitalization already admitted up to 31.3.2009 and estimated additional capital expenditure for the respective years of the tariff period 2009-14:*

*Provided further that application shall contain details of underlying assumptions for projected capital cost and additional capital expenditure, where applicable.*

5. The petitioner has filed this petition in compliance with Clauses (1) and (2) of Regulation 5 of the 2009 Tariff Regulations. The petitioner has also published the notice in the newspapers as regards the filing of tariff petition and has served copies of the petition on the beneficiaries, in line 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 ('the Procedure Regulations'). Reply to the petition has been filed by the respondents. In addition to this, separate comments on the petition have been filed by Shri Shanti Prasad and Shri G.L.Sharma, Consumers from Jaipur. The petitioner has filed its rejoinder to the replies filed by the respondents and its response to the comments filed by the above said consumers.

6. Regulation 5 (4) of the 2009 Tariff Regulations, amended on 2.5.2011, provides as under:

*"Where application for determination of tariff of an existing or a new project has been filed before the Commission in accordance with clauses (1) and (2) of this regulation, the Commission may consider in its discretion to grant provisional tariff upto 95% of the annual fixed cost of the project claimed in the application subject to adjustment as per proviso to clause (3) of this regulation after the final tariff order has been issued:*

*Provided that recovery of capacity charge and energy charge or transmission charge, as the case may be, in respect of the existing or new project for which provisional tariff has been granted shall be made in accordance with the relevant provisions of these regulations."*

7. Since the petitioner has complied with the provisions of Clauses (1) and (2) of Regulation 5 of 2009 Tariff Regulations, we propose to grant provisional tariff for Unit-II for the period from 29.12.2011 to 19.1.2012 and for Units I & II of the generating station for the period from 20.1.2012 to 31.3.2014.

#### **Time and Cost overrun**

8. As per Investment approval of the Government of India, the scheduled date of commercial operation of Unit-I is 15.12.2008 and Unit-II is 15.6.2009. Against this, the actual date of commercial operation of Unit-I/generating station is 20.1.2012 and Unit-II is 29.12.2011. Thus, there is a time overrun of about 37 months in respect of both the units. The petitioner has submitted that Mine was commissioned on 23.11.2009 with a time overrun of 5 months.

9. The petitioner has submitted the reasons for the delay in the commercial operation of the generating station and has submitted that the causes for delay in commercial operation are beyond the control of the petitioner. The respondents in their replies have mainly submitted that the delay in the commissioning of the project is a clear indication of the inefficiency of the generating company. They have also submitted that the issue of delay on

the part of the contractor should be dealt with by the petitioner and cost escalation should not be passed on to the respondents/beneficiaries. They have further submitted that till the cost of the project is finalized and other details are provided, provisional tariff based on original approved cost of the generating station may be allowed.

10. Shri Shanti Prasad, Consumer, in his comments dated 30.3.2012 has suggested that as part of prudence check, comparative study of time and cost overrun may be carried out through expert bodies like CEA before approving the project cost. He has also submitted that the capital cost to be considered for the purpose of tariff may be reduced by the recovery of 129.88 crore as liquidated damages by the petitioner from M/s BHEL and the amount received from the sale of infirm power from the generating station. Shri G.L. Sharma, Consumer in his comments has mainly submitted that the principles laid down by the Appellate Tribunal in its judgment dated 27.4.2011 in Appeal No.72/2010 may be considered while dealing with the issue of time and cost overrun. He has also submitted that the Commission may decide the capital cost of the project for determination of tariff in the best interests of the consumers.

11. The matter has been examined. We are of the view that the question of delay in the commissioning of the project and whether the same is attributable to the petitioner or not are required to be looked into in detail, after hearing all the parties on merits, at the time of determination of final tariff. However, keeping in view the time and cost overrun involved in the project and since the capital cost of ₹174860 lakh appear to be higher for a 250 MW

generating station, we propose to consider only 90% of the actual/audited capital cost incurred as on date of commercial operation of Unit II (29.12.2011) and Unit I/generating station (20.1.2012), for the purpose of provisional tariff. Accordingly, provisional tariff of the generating station is determined as stated in the subsequent paragraphs.

12. The annual fixed charges claimed by the petitioner for the period from 2011-12 to 2013-14 is as under:

	2011-12		2012-13	2013-14
	29-12-2011 to 19-1-2012 (Unit II)	20-1-2012 to 31-3-2012 (Unit I & II)		
Annual Fixed Charges claimed (annualized)	24231.00	48435.00	48094.00	43733.00

### Capital Cost

13. The cost of the project as approved by the Government of India on 15.12.2004 was ₹1114.18 crore. Subsequently, the Government of India revised the estimated cost of the project to ₹1626.09 crore (RCE-I) during July, 2007. Thereafter, the project cost was revised by the Board of Directors of the Petitioner Company, after abatement of capital cost (RCE-II) on account of income from sale of infirm power, fly ash and miscellaneous receipts etc., prior to the date of commercial operation of the generating station, as detailed under:

(₹ in lakh)	
Project cost excluding Interest During Construction	166473.00
Interest During Construction (IDC)	30488.00
Project cost including IDC	196961.00
<b>Less: Abatement</b>	
• Infirm power sales & Fly ash	8823.00
• Interest on advance	785.00
• Misc. receipts	482.00
<b>Project cost including IDC after capital cost abatement</b>	<b>186871.00</b>

14. The capital cost claimed by the petitioner as on the date of commercial operation of Unit-II and Unit-I /generating station is as under:

	(₹ in lakh)	
	Unit-II ( as on 29.12.2011)	Unit-I /generating station (as on 20.1.2012)
Capital cost as per RCE-II	93404.00	186871.00 **
<b>Less:</b> IDC included in the above	15117.00	30488.00
<b>Add:</b> actual IDC incurred	15117.00	30488.00
<b>Less:</b> liabilities included	6270.00	12011.00
Opening Capital cost claimed	87134.00	174860.00
<b>Add:</b> Additional Capital Expenditure	0.00	101.00
<b>Closing Capital Cost claimed</b>	<b>87134.00</b>	<b>174961</b>

\*\* Inclusive of capital cost abatement

15. The actual / projected additional capital expenditure claimed by the petitioner under Regulation 9(1) (i) of the 2009 Tariff Regulations is as under:

(₹ in lakh)		
2011-12	2012-13	2013-14
101.00	12011.00	0.00

16. The claim for additional capital expenditure of ₹101.00 lakh during 2011-12 is towards certain infrastructural facilities such as residential accommodation, vehicles etc., provided to CISF, which has been mandated to provide security to the generating station and the mines. The petitioner has also submitted that the expenditure incurred for providing such facilities have not been included in the capital cost of the project. Shri G.L.Sharma, Consumer, has submitted that the expenditure in respect of these works are part and parcel of the normal O&M works and thus not admissible. The petitioner has also claimed expenditure of ₹12011.00 lakh for 2012-13 towards un-discharged liabilities. Since, the expenditure claimed as above is in respect of balance payments for works within the original

scope of works which have been completed/to be completed within the cut-off-date of 31.3.2015, we allow the same for the purpose of provisional tariff.

17. Accordingly, the capital cost considered for determination of provisional tariff is as under:

	(₹ in lakh)			
	Capital Cost as on COD of Unit-II (29.12.2011)	Capital Cost as on COD of Unit-I / generating station (20.1.2012)	2012-13	2013-14
Opening capital cost	87134.00	174860.00	174961.00	186973.00
Additional capital expenditure allowed	0.00	101.00	12011.00	0.00
Closing capital cost	87134.00	174961.00	186972.00	186972.00
<b>Capital cost @ 90%</b>	<b>78420.60</b>	<b>157464.90</b>	<b>168274.80</b>	<b>168274.80</b>

18. The capital cost and the additional capital expenditure allowed for the years 2011-12 and 2012-13 as above shall be subject to truing-up at the time of determination of final tariff of the generating station. Similarly, the adjustment of any revenue earned from sale of infirm power, after accounting for the fuel expenses, based on the final certification by RDPPC would be carried out at the time of truing up of capital cost.

### Interest on Loan

19. The weighted average rate of interest on loans for the respective years considered for the purpose of provisional tariff is as under:

	2011-12	2012-13	2013-14
Weighted average rate of interest on loan	10.04%	10.16%	10.40%

### Depreciation

20. The depreciation rate of 8.18% has been considered for the period 2011-14.



### O&M Expenses

21. O&M expenses as specified under Regulations 19 (d) of the 2009 Tariff Regulations has been considered.

### Operational Norms

22. The following norms of operation have been considered by the petitioner for the purpose of tariff:

Normative Annual Plant Availability Factor	75%
Gross Station Heat rate (kcal/kwh)	2620.96
Auxiliary power consumption	11.50%
Specific Fuel Oil Consumption (ml/kwh)	1.25

23. The Consumer, Shri G.L.Sharma has submitted that the Gross Station Heat Rate (GSHR) after applying the correction factor of 1.07 works out to 2568.55 kcal/kWh and the GSHR considered by the petitioner is high. He has also submitted that the actual percentage of moisture contained and the basis thereof may be furnished by the petitioner. The petitioner has clarified that the maximum design heat rate applicable to plants having temperature and pressure ratings similar to this generating station using sub-bituminous coal as 2300 kcal/kWh has been considered. The petitioner has also submitted that the deduction of 40 kcal/kWh is applicable only to units of 500 MW and above and the moisture content of 40% has been considered. Thus, by applying the correction factor of 1.07 for 40% moisture, the petitioner has stated that the GSHR for the generating station has been considered as 2620.96 kcal/kWh. Considering the above submissions, the GSHR of 2620.96 kcal/kWh and the other operational norms as above, considered by the petitioner, has been allowed for provisional tariff.

## Interest on Working Capital

### (a) Fuel Component and Energy Charges

#### Lignite Transfer Price

24. The petitioner has submitted that the year-wise lignite transfer price has been determined based on the Ministry of Coal (MOC), Government of India guidelines dated 11.6.2009 and the same has been certified by the statutory auditors. Accordingly, the lignite transfer price determined by the petitioner is as under:

	2009-10	2010-11	2011-12	2012-13	2013-14	
Production at 100%capacity (LTs)	21.00					
Production at 85%capacity (LTs)	17.85					
<b>Lignite Price (Rs/Ts)</b>	<b>443</b>	<b>631</b>	<b>696*</b>	<b>837**</b>	<b>853</b>	<b>890</b>

\*Lignite price before commissioning

\*\*Lignite price after commissioning.

25. The petitioner has claimed fuel component in working capital based on the price and GCV of lignite & Oil for the preceding three months of the year 2011-12 and the landed price of limestone based on the procurement price of limestone inclusive of royalty, taxes & duties and transportation charges as detailed hereunder:

	2011-12		2012-13	2013-14
	29.12.2011 to 19.1.2012	20.1.2012 to 31.3.2012		
Cost of lignite for 1½ months	644.79	1289.58	1286.06	1286.06
Cost of limestone for 2 months	84.47	168.94	168.48	168.48
Cost of secondary fuel oil for 2 months	101.03	202.07	201.52	201.52

(₹ in lakh)

26. The petitioner has claimed cost of limestone for 2 months. However, as per the 2009 Tariff Regulations, cost of limestone for 1½ months is only applicable. Hence, based on the norms specified by the Commission, the cost for fuel component in working capital based on

price and GCV of lignite, limestone & oil for the preceding three months of the year 2011-12 is worked out and allowed as under:

	2011-12		2012-13	2013-14
	29.12.2011 to 19.1.2012	20.1.2012 to 31.3.2012		
Cost of lignite for 1½ months	644.79	1289.58	1286.06	1286.06
Cost of limestone for 1½ months	63.35	126.70	126.36	126.36
Cost of secondary fuel oil for 2 months	101.03	202.07	201.52	201.52

(b) **Receivables**

27. The receivable component of working capital is allowed as under:

	2011-12		2011-12	2013-14
	29.12.2011 to 19.1.2012	20.1.2012 to 31.3.2012		
Fixed Charges	3668.70	7337.49	7495.04	7574.63
Variable Charges	944.19	1888.38	1883.22	1883.22
<b>Total</b>	<b>4612.89</b>	<b>9225.87</b>	<b>9378.26</b>	<b>9457.85</b>

(c) **O&M expenses for 1 month**

28. O&M expenses for 1 month for working capital is allowed as under:

	2011-12		2011-12	2013-14
	29.12.2011 to 19.1.2012	20.1.2012 to 31.3.2012		
O & M for 1 month	279.38	558.75	590.83	624.58

(d) **Maintenance Spares in working capital**

29. The cost of maintenance spares for working capital is allowed as under:

	2011-12		2011-12	2013-14
	29.12.2011 to 19.1.2012	20.1.2012 to 31.3.2012		
Cost of maintenance spares	670.50	1341.00	1418.00	1499.00

30. The interest on working capital allowed for the purpose of provisional tariff is as under:

	2011-12		2011-12	2013-14
	29.12.2011 to 19.1.2012	20.1.2012 to 31.3.2012		
O&M expenses	279.38	558.75	590.83	624.58
<b>Receivables</b>	4612.89	9225.87	9378.26	9457.85
Maintenance Spares	670.50	1341.00	1418.00	1499.00
Secondary fuel oil cost	101.03	202.07	201.52	201.52
Fuel Stock-Lignite	644.79	1289.58	1286.06	1286.06
Fuel Stock-Limestone	63.35	126.70	126.36	126.36
<b>Total Working Capital</b>	<b>6371.94</b>	<b>12743.98</b>	<b>13001.03</b>	<b>13195.37</b>
Rate of Interest	11.75%	11.75%	11.75%	11.75%
<b>Interest on Working Capital</b>	<b>748.70</b>	<b>1497.42</b>	<b>1527.62</b>	<b>1550.46</b>

31. The cost of secondary fuel oil as worked out under is allowed for the purpose of provisional tariff.

	2011-12		2012-13	2013-14
	29.12.2011 to 19.1.2012	20.1.2012 to 31.3.2012		
Cost of Secondary Fuel Oil	606.21	1212.42	1209.11	1209.11

32. Based on the above discussions, the provisional tariff of Unit-II (from 29.11.2011) and for Units I & II (from 20.1.2012) till 31.3.2014 in respect of the generating station allowed in terms of Regulation 5(4) of the 2009 Tariff Regulations, is as under:

	2011-12		2012-13	2013-14
	29.12.2011 to 19.1.2012 (Unit II)	20.1.2012 to 31.3.2012 (Units I & II)		
Annual Fixed Charges allowed	22012.17	44024.93	44970.23	41546.35

33. The provisional annual fixed charges determined on annualized basis as above, is applicable *pro rata* to the number of days the said Units have run from the date of

commercial operation till 31.3.2014 or till the final disposal of the petition, whichever is earlier.

### Energy Charge Rate

34. The petitioner has claimed an Energy Charge Rate (ECR) of **77.7 paise/kWh** based on the weighted average price, GCV of Lignite & Oil procured and burnt for the preceding three months i.e. October, November and December'2011 and the landed price of limestone as per 2009 Tariff Regulations. The ECR worked out by based on operational norms as stated below has been allowed for the purpose of provisional tariff:

	<b>Unit</b>	<b>2011-14</b>
Capacity	MW	2X125
Gross Station Heat Rate	Kcal/kWh	2620.96
Aux. Energy Consumption	%	11.50
Weighted average GCV of oil	Kcal/lit	10000
Weighted average GCV of Lignite	Kcal/kg	2898.33
Weighted average price of oil	Rs/KL	58891
Landed price of Lime stone	Rs/MT	1099
Weighted average price of Lignite	Rs/MT	696
<b>Rate of energy charge ex-bus</b>	<b>paise/kWh</b>	<b>77.733</b>

35. Energy Charge Rate on month to month basis shall be calculated in terms of Clauses 6 (a) of Regulation 21 of the 2009 Tariff Regulations.

36. The provisional annual fixed charges allowed above is subject to adjustment as per proviso to Clause (3) of Regulation 5 of the 2009 Tariff Regulations.

*Sd/-*  
[M.DEENA DAYALAN]  
MEMBER

*Sd/-*  
[V.S.VERMA]  
MEMBER

*Sd/-*  
[S.JAYARAMAN]  
MEMBER

*Sd/-*  
[DR.PRAMOD DEO]  
CHAIRPERSON