

CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI

Docket No.042/GT/2011

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

Date of Order: 10.10.2012

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**IN THE MATTER OF**

Approval of tariff for Chandrapura Thermal Power Station, (2 x 250 MW) for the period from 2.11.2011 to 31.3.2014 for Unit-7 and from 15.7.2011 to 31.3.2014 for Unit-8.

**AND**

**IN THE MATTER OF**

Grant of Provisional tariff of Chandrapura Thermal Power Station (2 x 250 MW) for the period from 2.11.2011 to 31.3.2014 for Unit-7 and from 15.7.2011 to 31.3.2014 for Unit-8.

**AND**

**IN THE MATTER OF**

Damodar Valley Corporation, Kolkata

...Petitioner

Vs

1. Delhi Transco Ltd, New Delhi

2. Madhya Pradesh Power Trading Company Ltd, Jabalpur

...Respondents

**ORDER**

This petition has been filed by the petitioner, Damodar Valley Corporation Ltd (DVC) for approval of tariff of Chandrapura Thermal Power Station, (2 x 250 MW) (hereinafter

referred to as "the generating station") for the period from 2.11.2011 to 31.3.2014 for Unit-7 and for Unit-8 from 15.7.2011 to 31.3.2014, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations").

2. The petitioner had earlier filed Petition No.339/2010 before the Commission for determination of tariff for the generating station from the respective date of their commercial operation till 31.3.2014 and the Commission after hearing the matter on 23.6.2011, disposed of the same by order dated 6.7.2011 as under:

*" Admittedly, in the present case, the petitioner could not achieve the commercial operation of Unit-7 of the generating station during June 2011. Moreover, it is also not clear from the submissions of the petitioner as to when the generating station is expected to be under commercial operation. In view of this, no useful purpose would be served to keep the petition pending more so when the generating station as a whole or its units is not expected to be declared under commercial operation soon. Keeping in view the totality of the circumstances we are inclined to dispose of this petition.*

*Accordingly, the petition is disposed of with the direction that the petitioner is at liberty to approach the Commission with a fresh petition for approval of tariff of the generating station in accordance with the provisions of the 2009 regulations, after taking into account the revised capital expenditure on account of rescheduling of the commercial operation of the units of the generating station, which would be considered in accordance with the law. "*

3. Unit-8 of the generating station has achieved commercial operation on 15.7.2011 and Unit-7 was expected to be declared under commercial operation on 31.10.2011. Accordingly, in terms of the liberty granted as above, the petitioner has filed this petition for determination of tariff of Units-7 and 8 of the generating station from the date of their

commercial operation (COD). The petitioner has also prayed for grant of provisional tariff in terms of Regulation 5 of the 2009 Tariff Regulations, pending determination of final tariff.

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 had posted the tariff petition in its website, published notice in the newspapers as regards its filing of the tariff petition and has also 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.

6. The power from the generating station is supplied in accordance with the agreement entered into by the petitioner with Respondent No.1 on 24.8.2006 and with Respondent No.2 on 14.5.2007. Reply to the petition has not been filed by the respondents.

7. Regulation 5 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (First Amendment) Regulations, 2011 provides as under:

*“(4) 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.”*

8. 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-8 for the period from 15.7.2011 to 1.11.2011 and for Units 7 & 8 (combined) for the period from 2.11.2011 to 31.3.2014.

9. The petitioner has submitted that Units 7 and 8 of the generating station are within the area of existing Chandrapura Project, but are not the extension of the existing units and are different, both in respect of capacity and specification. The submission of the petitioner as above would be examined at the time of determination of final tariff.

## Delay in the commissioning of the project

10. The date of original investment approval is 8.9.2005. As specified by the Commission, the time line for completion of projects (Coal/lignite) with an unit size of 250 MW from the date of investment approval is 33 months for green field projects, with subsequent units at an interval of 4 months each and 31 months for extension projects with subsequent units at an interval of 4 months each. The details of actual COD as against scheduled COD as per Letter of Award (LOA) is as under:

Units	Date of LOA	Expected COD as per LOA	Actual Synchronization on Coal	Actual COD	Delay (in months)
7	30.6.2004	31.1.2007	15.9.2009	2.11.2011	57
8		31.3.2007	31.3.2010	15.7.2011	51.5

11. The details of actual COD as against scheduled COD as per time line specified by the Commission from the date of investment approval is as under:

Units	Date of investment approval	Scheduled COD as per time line specified by Commission	Actual COD	Delay (in months)
7	8.9.2005	8.2.2008	2.11.2011	46
8		8.6.2008	15.7.2011	37

12. It is observed from the above that there has been a time overrun of about 46 months in respect of Unit-7 and 37 months in respect of Unit-8. Hence, the Units of the generating station are not entitled to additional Return on Equity of 0.5% for timely completion in terms of the 2009 Tariff Regulations.

13. The petitioner has submitted the reasons for the delay in the commissioning of the project, like the delay in handing over site, withdrawal of activity of sub-contractor/vendor due to unprecedented price rise in steel and cement, adverse working conditions and disturbance by local people, non-shipment of existing materials due to non-completion of storage space hindering erection activity, and delay due to coal synchronization of Unit-7 etc. 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, we propose to consider only 90% of the capital cost incurred as on the date of commercial operation of Unit-7 (2.11.2011) and Unit-8 (15.7.2011), for the purpose of provisional tariff. Accordingly, provisional tariff of the generating station is determined as stated in the subsequent paragraphs

14. 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
	15.7.2011 to 30.10.2011 (Unit-8)	1.11.2011 to 31.3.2012 (Units-7 & 8)		
Annual Fixed Charges claimed (annualized)	13254.07	32506.42	77297.70	75830.54

## Capital Cost

15. The Board of the petitioner corporation in its 589<sup>th</sup> meeting held on 20.8.2009 approved the revised project cost of ₹2611.34 crore, including IDC & FC of ₹429.13 crore and the transfer cost of Bulldozer from MTPS to CTPS of ₹3.50 crore.

16. The petitioner in its affidavit dated 15.12.2011 has submitted that the actual COD of Unit-7/generating station is 2.11.2011. Since, the audited capital cost as on the expected COD of Unit-7 (31.10.2011) is available, the same has been considered for provisional tariff purpose. The capital cost, as on COD of Unit-8 (15.7.2011) and expected COD of Unit-7 (31.10.2011) duly audited and certified by auditor, and claimed by the petitioner is as under:

<i>(₹ in lakh)</i>		
	Total estimated expenditure as on COD of Unit-8 (15.7.2011) (including notional IDC )	Estimated capital expenditure considered for Unit-7 as on actual COD (2.11.2011) (including notional IDC )
Capital cost	167066	280334

17. It is observed that the capital cost as on 15.7.2011 and 31.10.2011 as above includes the capitalization of expenditure for ₹88 lakh and ₹175 lakh respectively, towards the cost of Bull dozer, which has been transferred from another generating station of the petitioner, namely, Mejia TPS 5 & 6, to this generating station. The Commission in its various orders pertaining to determination of tariff of NTPC generating stations for the period 2004-09 had taken a consistent view not to allow the capitalization of expenditure in respect of inters –unit transfer of assets at the receiving station and to permit the same to remain in the capital base of the sending station. This has also been upheld by the

Appellate Tribunal. In line with this decision, the capitalization of the cost for bulldozer for this generating station (receiving station) has not been considered. Thus, the capital cost after excluding the cost of bulldozer, works out as under:

**(₹ in lakh)**

	Total estimated expenditure as on COD of Unit-8 (15.7.2011) (including notional IDC )	Estimated capital expenditure considered as on actual COD (2.11.2011) of Unit-7 (including notional IDC )
Capital cost	166978	280159

18. The capital cost allowed for the purpose of provisional tariff is worked out as under:

**(₹ in lakh)**

	Total estimated expenditure as on COD of Unit-8 (15.7.2011)	Estimated capital expenditure considered as on actual COD (2.11.2011) of Unit-7
Capital cost (90%)	150280.21	252143.00
Less: Notional IDC included in the above	61769.30	64810.90
Add: Actual IDC	43764.00	45827.00
<b>Capital cost considered for provisional tariff</b>	<b>132274.91</b>	<b>233159.10</b>

### Projected Additional Capital Expenditure

19. The projected capital expenditure claimed for the period from 31.10.2011 (expected COD of Unit-7) to 31.3.2013 is as under:

**(₹ in lakh)**

	2011-12 ( 31.10.2011 to 31.3.2012)	2012-13
Additional Capital Expenditure	4082.85	1227.92

20. It is observed that the capital cost including the projected additional capital expenditure up to 31.3.2013 works out to ₹5.7 crore/ MW (approx). This appears to be higher,



apparently due to the increase in IDC on account of time overrun involved in the commissioning of the project.

21. As stated in para 13 above, the delay in the commissioning of the project and the consequential time and cost overrun involved on this count is required to be examined in detail after hearing the hearing the parties on merits, at the time of final determination of tariff of the generating station. In view of this, we deem it prudent to allow the capitalization of 90% of the expenditure claimed, in respect of works included in the original scope of work and for works deferred for execution, subsequent to the COD of the generating station. Accordingly, the projected capital expenditure for 2011-13 allowed for the purpose of provisional tariff is as under:

	<i>(₹ in lakh)</i>	
	2011-12 (31.10.2011 to 31.3.2012)	2012-13
Additional Capital Expenditure	3674.57	1105.13

22. Based on the above, the capital cost considered for determination of provisional tariff for 2011-14 is as under:

	<i>(₹ in lakh)</i>		2012-13	2013-14
	2011-12			
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
Opening capital cost	132274.91	233159.09	236833.66	237938.79
Additional capital expenditure allowed	-	3674.57	1105.13	-
<b>Closing capital cost</b>	<b>132274.91</b>	<b>236833.66</b>	<b>237938.79</b>	<b>237938.79</b>

23. 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.

24. Return on Equity, considering MAT rate as claimed by the petitioner has been considered.

### Interest on Loan

25. The weighted average rate of interest on loans as claimed by the petitioner for the respective years and considered for the purpose of provisional tariff is as under:

Weighted average rate of interest on loans	2011-12		2012-13	2013-14
	10.01%	10.03%	10.05%	10.09%

### Depreciation

26. The depreciation rate of 7.7445% as claimed by the petitioner has been considered for the period 2011-14.

### O&M Expenses

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

	(₹ in lakh)			
	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
O&M expenses ( <i>annualized</i> )	5085.00	10170.00	10755.00	11370.00
O&M expenses ( <i>pro rata</i> )	1532.47	4179.45	10755.00	11370.00

## Operational Norms

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

Normative Annual Plant Availability Factor	85%
Gross Station Heat rate (kcal/kwh)	2403
Auxiliary power consumption	9.0%
Specific Fuel Oil Consumption (ml/kwh)	1.0

29. The operational norms considered by the petitioner are in order. However, the Gross Station Heat Rate (GSHR) has been rounded off by the petitioner to 2403 kcal/kwh, while the GSHR works out to 2402.459 kcal/kwh. Hence, the GSHR considered is 2402.459 kcal/kwh for the purpose of provisional tariff.

## Interest on Working Capital

### (a) Fuel Component and Energy Charges

30. Based on the weighted average GCV and price of fuel for the preceding three months from the COD of Unit-8 (15.7.2011) and from COD of Unit-7 (2.11.2011), the fuel component in working capital for the period 2011-14 works out as under:

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
Coal stock for 2 months	3628.69	8451.84	8428.74	8428.74
Oil stock for two months	110.92	324.54	323.66	323.66

### (b) Receivables

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

(₹ in lakh)

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
Fixed Charges	3628.69	8451.84	8428.74	8428.74
Variable Charges	5751.52	10565.88	10534.63	10356.27
<b>Total (annualized)</b>	<b>9380.21</b>	<b>19017.71</b>	<b>18963.37</b>	<b>18785.02</b>

(c) O&M expenses for 1 month

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

(₹ in lakh)

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
O & M expenses for 1 month	423.75	847.50	896.25	947.50

(d) Maintenance Spares in working capital

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

(₹ in lakh)

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
Cost of maintenance spares	1017.00	2034.00	2151.00	2274.00

34. The rate of interest of 11.75% on working capital has been considered as per Clause (3) of Regulation 18 of the 2009 Tariff Regulations, amended on 21.6.2012, as against the rate of interest of 13% claimed by petitioner. Accordingly, the interest on working capital allowed for the purpose of provisional tariff is as under:

(₹ in lakh)

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
Coal Stock- 2 months	3628.69	8451.84	8428.74	8428.74
Oil stock -2 months	110.92	324.54	323.66	323.66
O & M expenses	423.75	847.50	896.25	947.50
Spares	1017.00	2034.00	2151.00	2274.00

Receivables	9380.21	19017.71	18963.37	18785.02
<b>Total Working Capital</b>	<b>14560.58</b>	<b>30675.59</b>	<b>30763.02</b>	<b>30758.92</b>
Rate of Interest	11.7500%	11.7500%	11.7500%	11.7500%
Total Interest on Working capital ( <i>annualized</i> )	<b>1710.87</b>	<b>3604.38</b>	<b>3614.65</b>	<b>3614.17</b>

### Cost of Secondary Fuel Oil

35. The Cost of Secondary fuel oil claimed by the petitioner based on actual of the weighted average price of the three preceding months from the COD of Unit-8 (15.7.2011) is as under:

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
Cost of secondary fuel oil	196.38	556.42	1327.41	1327.41

36. However, the cost of secondary fuel oil as worked out based on the weighted average price for the three preceding months from the COD of Unit-8 (15.7.2011) and from the COD of Unit-7 (2.11.2011) is allowed for the purpose of tariff as under:

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012		
Cost of secondary fuel oil	200.02	803.38	1941.94	1941.94

### Annual Fixed Charges

37. Based on the above discussions, the provisional annual fixed charges for Unit-7 & Unit 8 (combined) (from 2.11.2011 to 31.3.2014) and for Unit-8 (from 15.7.2011 to 1.11.2011) allowed in respect of the generating station in terms of Regulation 5(4) of the 2009 Tariff Regulations as under:

	2011-12		2012-13	2013-14
	15.7.2011 to 1.11.2011 (Unit-8)	2.11.2011 to 31.3.2012 (Units-7 & 8)		
Annual Fixed Charges allowed (annualized)	34509.10	63395.25	63207.75	62137.63

38. 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

39. The petitioner has claimed an Energy Charge Rate (ECR) of 128.20 paise/kWh based on the weighted average price and GCV of Coal procured and burnt for the preceding three months from the COD of Unit-8 (15.7.2011) i.e April, 2011 to June, 2011 and operational norms as per the 2009 Tariff Regulations. The ECR based on the weighted average price and GCV of Coal procured and burnt for the preceding three months from the COD of Unit-8 (15.7.2011) and from the COD of Unit-7 (2.11.2011) is worked out and allowed for the purpose of provisional tariff as under:

	Unit	2011-12		2012-13 & 2013-14
		15.7.2011 to 1.11.2011	2.11.2011 to 31.3.2012	
Capacity	MW	250	500	500
Gross Station Heat Rate	kcal/kWh	2402.46	2402.46	2402.46
Aux. Energy Consumption	%	9.00	9.00	9.00
Weighted Average GCV of Oil	kCal/l	9365.00	9306.67	9306.67
Weighted Average GCV of Coal	kCal/Kg	3524.67	3235.67	3235.67
Weighted Average Price of Oil	Rs./KL	35654.43	52160.56	52160.56

Weighted Average Price of Coal	Rs./MT	1717.94	1836.60	1836.60
Rate of Energy Charge from Coal	Paise/kWh	116.641	135.838	135.838
Rate of Energy Charge ex-bus per kWh Sent	Paise/kWh	128.177	149.272	149.272

40. 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.

41. 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

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[V.S.VERMA]  
MEMBER

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[S.JAYARAMAN]  
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