CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Coram:

1. Dr. Pramod Deo, Chairperson
2. Shri R. Krishnamoorthy, Member
3. Shri S. Jayaraman, Member
4. Shri V. S. Verma, Member

Petition No. 155/2008

In the matter of

Approval of tariff in respect of Mejia Thermal Power Station Extension, Unit No. 5 and Unit No. 6 (2x250 MW) from the respective dates of their commercial operation to 31.3.2009.

And in the matter of

Damodar Valley Corporation (DVC) .....**Petitioner**

Vs

1. West Bengal State Electricity Distribution Company Limited
2. Jharkhand State Electricity Board
3. Madhya Pradesh Power Trading Co. Ltd., Jabalpur

….**Respondents**

The following were present:

1. Shri M. G. Ramachandran, Advocate, DVC.
2. Shri T.K.Gupta , DVC.
3. Shri D.K.Majumdar, DVC.
4. Shri P.K.Choudhuri, DVC.
5. Shri A. Biswas, DVC.
6. Shri D. K. Aich, DVC
7. Shri P.Bhattacharya, DVC
8. Shri R. Goswami, DVC
9. Shri G. Bhunia, DVC
10. Shri G, Chaudhury, DVC
11. Shri Shyamal Sarkar, Advocate, BSAL
12. Shri Gautam Shroff , Advocate, BSAL
13. Shri K.P. Roy , BSAL.

ORDER
(DATE OF HEARING: 16.6.2009)

Damodar Valley Corporation (hereinafter referred to as “the petitioner”) is a statutory body established by the Central Government under the Damodar Valley Corporation Act, 1948 (hereinafter referred to as "the DVC Act") for the development of the Damodar Valley, with three participating Governments, namely, the Central Government, the Government of West Bengal and the Government of Jharkhand. This petition has been filed by the petitioner for approval of tariff of Mejia TPS Extension Unit No.5 & Unit No.6 (2x250 MW) (hereinafter referred to as "the generating station"), for the period 29.2.2008 to 31.3.2009, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 (hereinafter referred to as "the 2004 regulations").

2. The petitioner has made the following specific prayers:

(a) Determine and approve the generation tariff for Mejia Units 5 and 6 as per the claims made by DVC in the present petition;

(b) Permit DVC to file such additional documents and details for the purpose of determination of the above tariff; and

(c) Pass such further order or orders as this Hon'ble Commission may deem just and proper in the circumstances of the case.

3. The generating station has two units with a capacity of 250 MW each. The dates of commercial operation of the units of the generating station is as follows:

	Date of Commercial Operation
Unit- 5	29.2.2008
Unit- 6 and Station Date Of Commercial Operation	24.9.2008

4. Commission in its order dated 30.4.2008 in Petition No. 53/2008 with IA No. 4/2008 has approved the single part provisional tariff of Rs. 2.90/kWh for the unit-5.

5. The details of the annual fixed charges claimed by the petitioner are given hereunder:

(Rs. in Lakh)

	Unit 5	**Unit 5**	**Unit 5&6**
	2007-08 (29.2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
(1)	(2)	(3)	(4)
Depreciation	688	3795	8150
Interest on Loan	686	3713	8078
Return on Equity	395	2179	4680
Advance against Depreciation	0	0	0
Interest on Working Capital	279	900	1891
O & M Expenses	316	1800	3865
Interest on Capital	541	2983	6407
Interest on Sinking Fund	112	965	1037
(Total)	**2906**	**16336**	**34109**

6. The details of working capital furnished by the petitioner and its claim for interest thereon are summarized hereunder:

(Rs in lakh)

	Unit 5	**Unit 5**	**Unit 5&6**
	2007-08 (29.2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
Spares	1076	1108	2217
Oil Stock	14	149	319
O&M Expenses	316	300	644
Receivables-2 months	617	4135	8718
Coal Stock	209	1264	2714
Total Working Capital	2233	6955	14611
Rate of Interest	12.50%	12.94%	12.94%
Total Interest on Working Capital	279	900	1891

7. In addition, the petitioner has claimed energy charge @ 95.82 paise/kWh for period from 29.2.2008 to 31.3.2008 and 110.21paise/kWh from 1.4.2008 onwards, subject to fuel price variation.

8. Respondent No. 3 has filed reply to the petition. The petitioner has published notices in the newspapers in accordance with the procedure specified by the Commission. No objections or suggestions have been received in response to these notices.

CAPITAL COST

9. Regulation 17 of the 2004 regulations relating to the capital cost provide as under:

> *"17. **Capital Cost:** Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the generating station and shall include capitalised initial spares subject to following ceiling norms as a percentage of the original project cost as on the cut off date:*
>
> *(i) Coal-based/lignite-fired generating stations - 2.5%*
> *(ii) Gas Turbine/Combined Cycle generating stations - 4.0% Provided that where the power purchase agreement entered into between the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such ceiling for determination of tariff;*
>
> *Provided further that any person intending to establish, operate and maintain a generating station may make an application before the Commission for ' in principle' acceptance of the project capital cost and financing plan before taking up a project through a petition in accordance with the procedure specified in the Central Electricity Regulatory Commission (Procedure for making application for determination of tariff, publication of the application and other related matters) Regulations, 2004, as applicable from time to time. The petition shall contain information regarding salient features of the project including capacity, location,*

site specific features, fuel, beneficiaries, break up of capital cost estimates, financial package, schedule of commissioning, reference price level, estimated completion cost including foreign exchange component, if any, consent of beneficiary licensees to whom the electricity is proposed to be sold etc.

Provided further that where the Commission has given 'in principle' acceptance to the estimates of project capital cost and financing plan, the same shall be the guiding factor for applying prudence check on the actual capital expenditure:
Provided further that in case of the existing generating stations, the capital cost admitted by the Commission prior to 1.4.2004 shall form the basis for determination of tariff.

Note

Scrutiny of the project cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology, and such other matters for determination of tariff".

10. The board of DVC has originally approved Rs.2012.50 Crore towards the estimated project cost for execution of Mejia TPS Extn. Unit 5 & 6 (2 X 250 MW), vide its Resolution No. 7366 dated 31.8.2005, and the sanction of the Corporation was accorded vide its order No. EDCON/MECH/MST-5&6/829 dated 8.9.2005. Subsequently, the board in its 584th meeting held on 18.2.2009, approved the revised project cost of Rs.2366.63 Crore vide Resolution No. 7844 , in respect of Mejia TPS Extn. Unit 5 & 6 (2 x 250 MW).

11. The petitioner has filed the certificate of M/s. Sarkar Gurumurthy and Associates (Chartered Accountants), in support of the final capital cost of Mejia Units 5 & 6. The said Chartered Accountants have certified the capital cost of Rs.2032.45 Crore for Mejia Units 5 & 6 (2 x 500 MW) as on 30.9.2008.

12. Commission vide its letter dated 2.3.2009 asked DVC to submit segregated capital cost in respect of Mejia Unit 5 and Unit 6, respectively. In response to the same DVC vide its affidavit dated 7.4.2009 has submitted that –

> "Both Units 5 and 6 of Mejia TPS were conceived for combined development and the installation work was taken up together. The detailed project report was also a combined one. Moreover, both these units are of equal sizes i.e. 250 MW each and identical in nature with similar machines procured from BHEL. The installation work was also taken up together though Unit 5 was commissioned earlier than Unit 6. The capital expenditure was incurred jointly.
>
> In the circumstances mentioned above, the capital cost for Units 5 & 6 have not been incurred in a segregated form. Even the borrowings for the above units have been common. So, the capital cost can be appropriately segregated equally amongst Mejia Unit 5 and 6 i.e. taken as 50:50. The information supplied can be treated appropriately as 50% with relation to Unit 5 and the other 50% to Unit 6."

13. In addition to above, the petitioner has also furnished its unit-wise tariff claim considering 50% of the capital cost as on date of commercial operation of Unit 5 and 100% of the capital cost on date of commercial operation of Unit 6, vide its submission dated 9.9.2009. The capital cost considered by petitioner is tabulated below:

Rs. in Lakh)

Particulars	**Amount**
Capital Cost as certified by Chartered Accountant as on 30.9.2008 (including actual IDC amounting to Rs.21723.76 lakh and liabilities amounting to Rs. 10549.34 lakh, respectively)	203244.78
Add: Notional IDC claimed by petitioner	11960.11
Net capital cost considered by petitioner as on date of commercial operation i.e. 24.9.2008	**215204.90**

14. The petitioner has considered 50% of the above capital cost i.e. **Rs.107602.45 lakh** as on date of commercial operation of Unit 5 i.e. 29.2.2008.

15. The petitioner, when asked to furnish capital cost as on 24.9.2008 instead of that on 30.9.2008, has asserted that there is no change in the value of gross block between these two dates.

16. The petitioner has claimed its tariff based on above Capital cost (i.e. including the liabilities and notional IDC). Regarding the deployment of funds, for most of the quarters i.e. up to quarter ending on 30th September'2006 debt utilization is within limits of 70%. However, beyond quarter ending on 30th September'2006 and up to quarter ending on 30th June' 2008 the equity is below 30%. But the overall debt utilization is within limits of 70%.

17. Perhaps notional IDC has been claimed by the petitioner due to higher equity deployment in initial period. As the project approached completion stage, the deployment of equity amount of the project was reduced gradually and in some quarter it has gone down to below 10%. However, debt-equity ratio remained at 70:30 on the date of commercial operation. We feel that allowing notional interest during the period when equity is higher than 30% may not be justified without considering the period when equity deployment is less than 30%. Moreover, there is no provision in the 2004 regulations for allowing notional IDC. Hence it is not being allowed.

18. Un-discharged liabilities are not part of the capital as it has not been paid yet. However, it could form a part of the capital cost as additional capital expenditure as and when it is paid for. Hence it is not being allowed. Thus, the capital cost after

rectification of errors and exclusion of un-discharged liability and notional IDC is being calculated as follows:-

(Rs. in Lakh)

Particulars		
Capital Cost claimed by the petitioner		215204.90
Less: Notional IDC		11960.11
Capital Cost After removal of notional IDC (as certified by Chartered Accountant)		203244.78
Less: Liabilities included in above capital cost		10549.34
Actual capital expenditure (including IDC claimed by petitioner)		192695.44
Less: IDC claimed by petitioner		21723.76
Actual capital expenditure excluding IDC		170971.68
Allocation of above determined capital cost to Unit 5 & 6	29.02.2008	24.09.2008
Proportion used	50%	100%
Actual capital expenditure excluding IDC	85485.84	170971.68
Add: Actual IDC as admissible	17711.04	21684.25
Admissible capital cost up to date of commercial operation for the purpose of tariff	103196.88	192655.93

19**.** **Initial Spares**: The capital cost as above is inclusive of initial spares amounting to Rs. 2463.76 lakh which is within the permissible limit of 2.5% of capital cost as prescribed by the 2004 regulations. Accordingly, the initial spares of Rs. 2463.76 lakh has been considered for working out the tariff for the period 2008-09.

20. **DEBT-EQUITY RATIO**

Clause (2) of Regulation 20 of the 2004 regulations, as amended, *inter alia* provides that:

(1) In case of the existing project, debt-equity ratio Considered by the Commission for fixation of tariff for the period ending 31.3.2004 shall be considered for determination of tariff.

(2) In case of the generating stations for which investment approval was accorded prior to 1.4.2004 and which is likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt-equity in the ratio of 70:30 shall be considered:

Provided that where deployment of equity is less than 30% the actual equity deployed shall be considered for the purpose of determination of tariff.

Provided further that the Commission may in appropriate case consider equity higher than 30% for the purpose of determination of tariff, where the generating company is able to establish to the satisfaction of the Commission that deployment of equity more than 30% was in the interest of general public;

(3) In case of generating stations for which investment approval is accorded on or after 1.4.2004, debt equity in the ration of 70:30 shall be considered for the purpose of determination of tariff.

Provided that where deployment of equity is less than 30% the actual equity deployed shall be considered for the purpose of determination of tariff.

(4) The debt and equity amount arrived at in accordance with above sub-clause (1),(2) or (3), as the case may be, shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation."

21. The petitioner has considered normative debt-equity ratio of 70:30 in line with the 2004 regulations. As such, debt equity ratio of 70:30 has been considered for computation of tariff as actual deployment of equity as on date of commercial operation is 30.72%.

22. Cut of the capital cost amounting to Rs.103196.88 lakh as on 29.2.2008 for Unit-5 and Rs. 192655.93 lakh as on 24.9.2008 for both Unit-5 and Unit-6 as arrived at in para 18 above, an amount of Rs. 30959 lakh as on 29.2.2008 and Rs. 57797 lakh as on 24.9.2008 for Unit-5 and Unit-5 & 6 combined respectively have been treated as

normative equity. For the purpose of tariff, equity has been considered as follows:

(Rs in lakh)

	Unit 5	Unit 5	Unit 5&6
	2007-08 (29.2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
Normative Equity	**30959**	**30959**	**57797**

RETURN ON EQUITY

23. As per clause (iii) of Regulation 21 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 20 @ 14% per annum. Accordingly, the return on equity has been worked out at 14% per annum on the normative equity and shall be claimed on pro rata basis for part of the year as under:

(Rs in lakh)

	Unit 5	Unit 5	Unit 5&6
Return on Equity	**2007-08** (29.2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
Equity (Normative)	30959	30959	57797
Return on Equity@14% (annualized)	4334	4334	8092

INTEREST ON LOAN

24. Clause (i) of Regulation 21 of the 2004 regulations, as amended, *inter alia,* provides that-

(a) *Interest on loan capital shall be computed loan-wise on the loans arrived at in the manner indicated in Regulation 20.*

(b) *The loan outstanding as on 1.4.2004 shall be worked out as the gross loan as per Regulation 20 minus cumulative repayment as admitted by the Commission for the period up to 31.3.2004. The repayment for the period 2004-09 shall be worked out accordingly on normative basis.*

(c) *The generating company shall make every effort to swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such swapping shall be borne by the beneficiaries l*

(d) *The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefits passed on to the beneficiaries.*

(e) *In case of any dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold payment as ordered by the Commission to the generating company during pendency of any dispute relating to swapping of loan.*

(f) *In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.*

(g) *The Generating Company shall not make any profit on account of swapping of loan and interest on loan.*

25. The interest on loan has been worked out as mentioned below:

(a) In the generating station, the gross normative loan corresponding to 70% of admissible capital cost works out to Rs.72237.82 lakh as on 29.2.2008 (i.e. date of commercial operation of Unit 5) and Rs.134859.15 lakh as on 24.9.2008 (i.e. date of commercial operation of Unit 6 and station).

(b) Since the tariff of the station is being fixed for the first time net loan opening as on 29.2.2008 is same as gross loan, Cumulative repayment of loan up to previous year being nil.

(c) It is noticed that specific loan has been applied towards financing of the project and the petitioner has considered method of repayment strictly in accordance with the terms of loan agreement. The terms of loan agreement with Power Finance Corporation Ltd. provides *"As per the policy of the Corporation (PFC) the repayment of the principal is adjusted in the order of occurrence of the dues i.e. the disbursement made first will be adjusted fully before adjusting the next disbursement"*.

(d) Loan drawn up to station date of commercial operation has been taken into consideration.

(e) Rate of interest as prevailing on date of commercial operation has been used for calculations. Any variation on account of change in rates will be settled mutually.

(f) Actual repayment of actual loan based on above corrections is used to calculate normative repayment of Loan. Normative repayment is worked out as per formula below.

$$\text{Normative Repayment} = \frac{\text{Actual Repayment}}{\text{Actual loan}} \times \text{Normative Loan}$$

(g) Normative repayment of the loan is considered which is equal to admissible depreciation for the year or the normative repayment whichever is higher as considered in determination of tariff for other generating stations. The weighted average rate of interest calculated on actual loan and actual repayment as considered above, has been applied on normative loan for the calculation of interest.

26. The computation of interest on loan by applying weighted average interest rate is appended below:

COMPUTATION OF INTEREST ON LOAN

(Rs.in lakh)

	Unit 5	Unit 5	Unit 5&6
	2007-08 (29.2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
Interest on Loan			
Gross Normative Loan	72238	72238	134859
Cumulative Repayment upto Previous Year	0	699	4552
Net Loan-Opening	72238	71539	130307
Repayment during the year	699	3854	7726
Net Loan-Closing	71539	67685	122581
Average Loan	71888	69612	126444
Weighted Average Rate of Interest on Loan	10.3949%	10.4413%	10.5392%
Interest (Annualized)	7473	7268	13326

DEPRECIATION

27. Sub-clause (a) of clause (ii) of Regulation 21 of the 2004 regulations provides for computation of depreciation in the following manner:

(i) The value base for the purpose of depreciation shall be the historical Cost of the asset.

(ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalization on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government /Commission.

(iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

(iv) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

28. For the purpose of computing weighted average rate of depreciation the petitioner has considered rates of depreciation as prescribed by the Comptroller and Auditor General of India which is in variation with the provision of the Regulation 2004

in line with the direction of ATE in case of appeal no. 273/2006. It is to be mentioned here that CERC has moved before Hon'ble Supreme Court of India against the order of ATE. Since no stay is granted and the matter is in subjudice we are accepting the depreciation rate of 7.7445% for the calculation of depreciation.

29. The depreciation has been calculated as under:

(Rs. in lakh)

date of commercial operation		**Unit 5**	**Unit 5**	**Unit 5&6**
		2007-08 (29.2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
Gross Block as on Fin Yr considered for tariff		**103196.88**	**103196.88**	**192655.93**
Value of Freehold Land included in Gross Block	38.33			
Rate of Depreciation	7.7445%			
Depreciable Value		92843	92843	173356
Depreciation		699	3854	7726
Depreciation Annualized		7992	7992	14920
Cumulative Depreciation		699	4552	12278

ADVANCE AGAINST DEPRECIATION

30. As per sub-clause (b) of clause (ii) of Regulation 21 of the 2004 regulations, in addition to allowable depreciation, the generating company shall be entitled to Advance Against Depreciation, computed in the manner given hereunder:

> AAD = Loan repayment amount as per regulation 21 (i) subject to a ceiling of 1/10th of loan amount as per regulation 20 minus depreciation as per schedule

31. It is provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year. It is further provided that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

32. Based on the above, the petitioner is not entitled to Advance Against Depreciation, as shown hereunder:

ADVANCE AGAINST DEPRECIATION

(Rs. in lakh)

	Unit 5	**Unit 5**	**Unit 5&6**
	2007-08 (29.2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
Advance against Depreciation			
1/10th of Gross Loan(s)	7224	7224	13486
Repayment of the Loan	699	3854	7726
Minimum of the above	699	3854	7726
Depreciation during the year	699	3854	7726
(A) Difference	0	0	0
Cumulative Repayment of the Loan	699	4552	12278
Cumulative Depreciation	699	4552	12278
(B) Difference	0	0	0
Advance against Depreciation Minimum of (A) and (B)	0	0	0

O&M EXPENSES

33. As per the 2004 regulations, the following norms for O&M expense shall be adopted for a generating station with 250 MW units:

Rs. lakh per MW

2004-05	2005-06	2006-07	2007-08	2008-09
10.40	10.82	11.25	11.70	12.17

34. The petitioner has claimed O&M Expenses as detailed below:

(Rs. in lakh)

	Unit – 5	Unit -5	Unit - 5&6
	2007-08	**2008-09**	**2008-09**
	(29.2.2008 to 31.3.2008)	(1.4.2008 to 23.9.2008)	24.9.2008 to 31.3.2009)
Total O&M Expenses for the year	2925	3043	6085
Effect of Pay Revision	690	690	1380
Total O&M claimed (proportionate to actual days)	316	1800	3865

In addition to above O&M , petitioner has stated that effect of Arrear due to pay revision and consequent increase in annual pension & gratuity, leave contribution and insurance of plant etc. will be claimed as per actual in addition to above O&M.

35. Regarding the impact of pay revision, Commission in the order dated 5.2.2009 in Petition No. 162/2008 (filed by NLC) has observed as follows:

> *"7. We do not propose to go into the justification for the petitioner's claim under different heads noted above. The Commission has recently specified the terms and conditions for determination of tariff for the period 1.4.2009 to 31.3.2014. While laying down the norms for O&M expenses, the Commission has taken into consideration the fact of revision of salary and wages payable to the employees of the central public sector undertakings, based on the recommendations of Wage Revision Committee appointed by the Central Government. Shri Suresh fairly conceded that O&M expenses norms for the period from 1.4.2009 are just and reasonable. However, the question raised in these petitions is in regard to revision of O&M expense for the period prior to 1.4.2009, primarily on account of revision of salaries and wages w.e.f 1.1.2007. This is an issue which universally affects other central power sector utilities as well. Therefore, a holistic view needs to be taken in the matter in accordance with law and by involving all the stakeholders. For this reason, the present petitions are considered to be premature."*

36. In line with the above decision, we do not take up this issue for consideration at this stage. The petitioner may approach for a relief in this regard at the appropriate stage in accordance with law.

37. In view of above, the petitioner is allowed the following O&M expenses as per norm provided in the Tariff Regulations, 2004.

(Rs. in lakh)

Particulars	**Unit - 5**	**Unit -5**	**Unit - 5&6**
	2007-08	2008-09	2008-09
O&M Expenses allowed (annualized)	**2925**	**3043**	**6085**

INTEREST ON SINKING FUND

38. Section 40 of the DVC Act provides that the petitioner shall make provision for depreciation and for reserve and other funds at such rates and on such terms as may be specified by the C&AG in consultation with the Central Government. In this, the Appellant Tribunal in its judgment dated 23.11.2007 has observed as under:

> "*E.15. As regards sinking funds which is established with the approval of Comptroller and Accountant General of India vide letter dated December 29, 1992 under the provision of Section 40 of the DVE Act is to be taken as an item of expenditure to be recovered through tariff, as brought out in Para 82 earlier*"

39. it is noticed from the books of accounts of the petitioner that sinking fund has been created out of appropriation of profits and has not been considered as expenditure. However, in line with the decision of the Appellate Tribunal, tariff has been calculated considered sinking fund as expenditure, subject to the decision of the Supreme Court.

INTEREST ON CAPITAL (AS PER PART IV OF DVC ACT)

40. Capital invested in the project shall be serviced either in the form of equity capital or loan capital. ROE is allowed if it is invested in equity capital whereas interest is payable if it is considered as loan capital. Hence, interest on capital over and above ROE and interest on loan is not admissible.

INTEREST ON WORKING CAPITAL

41. In accordance with clause (v) of Regulation 21 of the 2004 regulations, working capital in case of Coal based/Lignite-fired generating stations shall cover :

(i) *Cost of coal or lignite for 1½ months for pit-head generating stations and two months for non-pit-head generating stations, corresponding to the target availability;*

(ii) *Cost of secondary fuel oil for two months corresponding to the target availability;*

(iii) *Operation and Maintenance expenses for one month;*

(ii) *Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and*

(iii) *Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability*.

42. As per the 2004 regulations, the rate of interest on working capital shall be on a normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the generating station or a unit

thereof is declared under commercial operation, whichever is later. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

43. Working capital has been calculated considering the following elements :

a) **Coal stock**: The cost of coal has been worked out for two months on the basis of operational parameters given in the 2004 regulations and weighted average price and GCV of coal as per the following details:

(Rs. In lakhs)

Particulars	**29.2.08 - 31.3.08**	**01.4.08 - 23.9.08**	**24.9.08 - 31.3.09**
Weighted Avg. GCV of Coal (kCal/kg)	3819	3819	3727
Heat Contribution by Coal (kCal/kwh)	2479	2479	2479
Specific Coal Consumption (kg/kwh)	0.65	0.65	0.67
Annual Requirement of Coal (MT)	1140477	1137361	2330879
Coal Stock (2 months) (MT)	190080	189560	388480
Weighted Avg. Price of Coal (Rs./MT)	**1256.30**	**1256.30**	**1352.20**
Coal Stock-2 month- (Rs.in Lakhs)	2388	2381	5253

(b) **Secondary Fuel Oil**: The petitioner has claimed cost of fuels (Coal and HFO) in the working capital based on price and GCV of fuels for preceding three months from the date of commercial operations (i.e. November 2007 to January 2008 for unit-5 and June 2008 to August 2008 for the station i.e. Unit-5 &6 both. Since HFO is the main secondary fuel oil, it is considered for the computation of working capital and base rate of energy charge. Accordingly, the fuel oil component in working capital works out as follows for the tariff period 29.2.2008 to 31.3.2009:

(Rs. in Lakh)

Particulars	**29.2.08 - 31.3.08**	**01.4.08 - 23.9.08**	**24.9.08 - 31.3.09**
Weighted Avg. GCV of Oil (kCal/Lit.)	**10500**	**10500**	**10500**
Heat Contribution by Oil (kCal/kwh)	21.00	21	21
Annual Requirement of Oil (ltrs)	3513600	3504000	7008000
Oil Stock(2 months) (KL)	585.60	584.00	1168.00
Weighted Avg. Price of Oil (Rs./KL)	**28584.43**	**28584.43**	**52920.14**
Oil Stock- 2 months- (Rs. in Lakhs)	167	167	618

(c) **O&M Expenses:** O&M expenses for working capital have been worked out for 1 month of O&M expenses as approved above and is considered for the calculation of working capital requirement.

(d) **Spares:** The petitioner has calculated the value of maintenance spares for the purpose of working capital considering the capital cost inclusive of deferred liabilities and IDC(Notional and Actual). The amount claimed for maintenance spares for the purpose is given below

(Rs in lakh)

Year	2007-08	2008-09
Maintenance Spares claimed	1076	2217

44. As per the 2004 regulations, maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation is permissible. Accordingly, the spare requirement has been worked out on admissible capital cost as on date of commercial operation less cost of initial spares on particular dates. The value of spares considered in the computation of working capital is as under:

(Rs in lakh)

Year	2007-08	2008-09	2008-09
From	29.2.2008 to 31.3.2008	1.4.2008 to 23.9.2008	24.9.2008 to 31.3.2009
Gross Block as allowed for tariff	103197	103197	192656
Initial Spares included in above	2464	2464	2464
Effective Gross Block for Maintenance Spares	100733	100733	190192
Maintenance Spares	**1007.33**	**1007.33**	**1901.92**

(e) **Receivables**: As per the 2004 regulations, receivables will be equivalent to two months of fixed and variable charges for sale of electricity calculated on Target Availability.

Accordingly, the receivables have been worked out on the basis of two months of fixed and variable charges. For this purpose, the operational parameters and weighted average price of fuel has been considered. Two months of fixed charges have been calculated on Annual Fixed Charges (excluding interest on sinking fund) for the period under consideration as tabulated hereunder:

Computation of receivables component of Working Capital

(Rs.in lakh)

Variable Charges	**2007-08** (29.2.2008 to 31.3.2008)	**2008-09** (24.9.2008 to 31.3.2009)	**2008-09** (24.9.2008 to 31.3.2009)
Coal (Rs/kwh)	0.8962	0.8962	0.9885
Oil (Rs/kwh)	0.0628	0.0628	0.1163
Rs./kwh	0.9590	0.9590	1.1048
Variable Charges per year	15332	15290	35227
Variable Charges -2 months	2555	2548	5871
Fixed Charges - 2 months	3999	3984	7513
Receivables	**6554**	**6532**	**13384**

45. The average SBI PLR of 12.25% has been considered as the rate of interest on working capital during the period 29.2.2008 to 31.3.2008 and 24.9.2008 to 31.3.2009.

46. The necessary details in support of calculation of interest on working capital are appended below:

Calculation of Interest on Working Capital

(Rs in lakh)

	Unit 5	Unit 5	Unit 5&6
	2007-08 (29. 2.2008 to 31.3.2008)	**2008-09** (1.4.2008 to 23.9.2008)	**2008-09** (24.9.2008 to 31.3.2009)
	2007-08	**2008-09**	**2008-09**
Coal Stock- 2 months	2388	2381	5253
Oil stock -2 months	167	167	618
O & M expenses	244	254	507
Spares	1007	1007	1902
Recievables	6554	6532	13384
Total Working Capital	10361	10342	21664
Rate of Interest	12.25%	12.25%	12.25%
Total Interest on Working capital	1269	1267	2654

TARGET AVAILABILITY

47. The petitioner has considered target availability of 80%, based on the provisions of the 2004 regulations. Accordingly, target availability of 80 % has been considered for recovery of full fixed charges and computation of fuel element in the working capital for the period from 29.2.2008 to 31.3.2009.

ANNUAL FIXED CHARGES

48. A statement showing summary of the capital cost and other related matters is annexed to this order. The pro-rata annual fixed charges payable for the period 29.2.2008 to 31.3.2009 allowed in this order are summed up as below**:**

(Rs. in lakhs)

Component	**29.02.08 to 31.03.08**	**01.04.08 to 23.09.08**	**24.09.08 to 31.03.09**
	2007-08	**2008-09**	**2008-09**
Depreciation	699	3854	7726
Interest on Loan	653	3505	6900
Return on Equity	379	2090	4190
Advance against Depreciation	0	0	0
Interest on Working Capital	111	611	1374
O&M Expenses	256	1467	3151
Interest on Capital (as per part IV of DVC Act)	0	0	0
Interest on Sinking Fund (as per part IV of DVC Act)	112	965	1037
Total	**2210**	**12492**	**24378**

ENERGY/VARIABLE CHARGES

49. The petitioner has adopted the following operational norms for 250 MW units as per clause (iii) , (iv) and (v) of Regulation 16 of the 2004 regulations:

Secondary Oil Consumption	2 ml/kWh
Auxiliary Consumption*	9.0%
Heat Rate	2500 Kcal/kWh

The operational norms considered as above are in order.

50. The petitioner has claimed of energy charge @ 95.82 paise/kWh for unit No.5 for the period 29.2.2008 to 31.3.2008 and @ 110.21 paisa/kWh for unit No. 5 for the period

1.4.2008 to 23.9.2008 and 110.21 paisa/kWh for unit no. 5 &6 (i.e. Station) for the period 24.9.2008 to 31.3.2009 based on above operational parameters and following weighted average price and GCV of coal and secondary fuel (HFO) procured during preceding three months:

Particulars		**Unit 5**	**Unit 5**	**Unit 5&6**
		2007-08	**2008-09**	**2008-09**
		(29.2.2008 to 31.3.2008)	(1.4.2008 to 23.9.2008)	24..2008 to 31.3.2009)
GCV of Oil (HFO)	kCal/l	10500	10500	10500
GCV of Coal	kCal/Kg	3819	3727	3727
Weighted Average Price of Oil (as procured basis)	Rs./KL	28204	52762	52762
Price of Coal (as procured basis)	Rs./MT	1256	1349	1349

51. The base rate of energy charge works out to 95.90 paise/kWh for the period 29.2.2008 to 31.3.2008 and 110.48 paise/kWh from 24.9.2008 onwards as per following computations:

Description	Unit	From 29.2.2008 to 31.3.2008 for unit-5	From 24.9.2008 onwards for Station
Capacity	MW	250.00	500.00
Gross Station Heat Rate	kCal/kWh	2500.00	2500.00
Specific Fuel Oil Consumption	ml/kWh	2.00	2.00
Aux. Energy Consumption	%	9.00	9.00
Weighted Average GCV of Oil	kCal/l	10500.00	10500.00
Weighted Average GCV of Coal	kCal/Kg	3818.67	3726.67
Weighted Average Price of Oil	Rs./KL	28584.43	52920.14
Weighted Average Price of Coal	Rs./MT	1256.30	1352.20
Rate of Energy Charge from Sec. Fuel Oil	Paise/kWh	5.72	10.58
Heat Contributed from HFO	kCal/kWh	21.00	21.00
Heat Contributed from Coal	kCal/kWh	2479.00	2479.00
Specific Coal Consumption	Kg/kWh	0.65	0.67
Rate of Energy Charge from Coal	Paise/kWh	81.56	89.95
Rate of Energy Charge ex-bus per kWh Sent		**95.90**	**110.48**

52. The Base rate of energy Charges (BREC) shall however, be subject to fuel price adjustment as per following formula:

FPA = A + B

Where,

FPA – Fuel price Adjustment for a month in Paise/kWh Sent out

A – Fuel price adjustment for Secondary Fuel oil in Paise/kWh sent out

B – Fuel price adjustment for Coal in Paise/kWh sent out

And,

$$A = \frac{10 \times (SFC_n)}{(100 - AC_n)} \left\{ (P_{om}) - (P_{os}) \right\}$$

$$B = \frac{10}{(100 - AC_n)} \left[(SHR_n) \left\{ (P_{cm}/K_{cm}) - (P_{cs}/K_{cs}) \right\} - (SFC_n) \left\{ (k_{om} x P_{cm}/K_{cm}) - (k_{os} x P_{cs}/K_{cs}) \right\} \right]$$

Where,

SFC_n – Normative Specific Fuel Oil consumption in l/kWh

SHR_n – Normative Gross Station Heat Rate in kCal/kWh

AC_n – Normative Auxiliary Consumption in percentage

P_{om} – Weighted Average price of fuel oil on as consumed basis during the month in Rs./KL.

K_{om} – Weighted average GCV of fuel oils fired at boiler front for the month in Kcal/Litre

P_{os} – Base value of price of fuel oils as taken for determination of base energy charge in tariff order in Rs. / KL.

K_{os} – Base value of gross calorific value of fuel oils as taken for determination of base energy charge in tariff order in Kcal/Litre

P_{cm} – Weighted average price of coal procured and burnt during the month at the power station in Rs. / MT.

K_{cm} – Weighted average gross calorific value of coal fired at boiler front for the month in Kcal/Kg

P_{cs} – Base value of price of coal as taken for determination of base energy charge in tariff order in Rs. /MT

K_{cs} – Base value of gross calorific value of coal as taken for determination of base energy charge in tariff order in kCal/Kg

OTHER CHARGES

53. In addition to the charges approved above, the petitioner is entitled to recover other charges like incentive, claim for reimbursement of Income-tax, other taxes, cess levied by a statutory authority, in accordance with the 2004 regulations, as applicable.

REIMBURSEMENT OF CHARGES

54. The petitioner is entitled to claim the reimbursement of expenditure incurred on publication of notices in the newspapers directly from the respondents in one installment in the ratio applicable for sharing of fixed charges on production of evidence of incurring expenditure to the respondents. The petitioner has confirmed publication of public notices and submitted copies of the notices vide its affidavit dated 12.12.2008. The expenditure on petition filing fees is not being allowed in view of the decision of the Commission in its order dated 11.9.2008 in Petition No. 129/2005.

55. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's interim directions. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

56. This order disposes of Petition No.155/2008

sd/-	sd/-	sd/-	sd/-
[V.S. VERMA]	**[S. JAYARAMAN]**	**[R. KRISHNAMOORTHY]**	**[DR. PRAMOD DEO]**
(MEMBER)	**(MEMBER)**	**MEMBER)**	**(CHAIRPERSON)**

New Delhi, dated the 23rd December 2009