

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 279/2010

Coram:

**Dr. Pramod Deo, Chairperson
Shri S. Jayaraman, Member**

Date of Hearing: 17.1.2012

Date of Order : 22.4.2013

In the matter of

Determination of tariff of Mejia TPS Unit-4 for the period from 13.2.2005 to 31.3.2009

And in the matter of

Damodar Valley Corporation

...Petitioner

Vs

1. Department of Energy, Government of West Bengal, Kolkata
2. Department of Energy, Government of Jharkhand, Ranchi
3. West Bengal State Electricity Distribution Co. Ltd., Kolkata
4. Jharkhand State Electricity Board, Ranchi
5. Ministry of Power, Government of India, New Delhi
6. Bhaskar Shrachi Alloys Ltd., Kolkata
7. Jai Balaji Industries Ltd., Kolkata
8. Shyam Ferro Alloys Ltd., Kolkata
9. Cosmic Ferro Alloys Ltd., Kolkata
10. BDG Metal and Power Ltd., Kolkata
11. Lalwani Ferro Alloys Ltd., Kolkata
12. Howrah Gases Ltd., Kolkata

....Respondents

Parties Present

1. Shri M.G. Ramachandran, Advocate, DVC
2. Ms. Swapna Seshadri, Advocate, DVC
3. Shri D.K Aich, DVC
4. Shri A. Biswas, DVC
5. Shri R.B Sharma, Advocate, JSEB
6. Shri Amit Kapur, Advocate, BSAL
7. Shri Apoorva Mishra, Advocate, BSAL
8. Ms. Deepika Kolia, Advocate, BSAL
9. Shri Amarendra Sharan, Sr. Advocate, SAIL-BSL
10. Shri Rajeev Shankar Dwivedi, Advocate, SAIL-BSL
11. Shri Rajeev Ranjan, Advocate, SAIL-BSL
12. Shri B.N.P Singh, SAIL-BSL



ORDER

The petition has been filed by Damodar Valley Corporation (DVC) for approval of tariff for Mejia TPS Unit 4 (210 MW) (hereinafter referred to as “the generating station”) based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 (hereinafter referred to as “the 2004 Tariff Regulations”), for the period 13.2.2005 to 31.3.2009 with the following specific prayers:

- “(a) determine and approve the generation tariff for Mejia Unit # 4 as per the claims made by DVC in the petition;*
- (b) permit a relaxation in O & M expenses to be allowed to DVC in terms of the above justification;*
- (c) permit DVC to file such additional documents and details for the purpose of determination of the above tariff; and*
- (d) pass such further order or orders as this Hon’ble Commission may deem just and proper in the circumstances of the case.”*

2. The petitioner initially filed the petition for determination of tariff for the generating station on 25.10.2010 for the period 1.4.2006 to 31.3.2009. However, the petitioner filed amended petition vide affidavit dated 22.12.2010 for determination of tariff of the generating station from the date of its commercial operation, that is, 13.2.2005 till 31.3.2009 after accounting for the additional capitalization incurred up to 31.3.2009. The tariff in this petition has been determined based on the claims of the petitioner in the amended petition and additional submissions of the petitioner.

3. Central Electricity Authority (the Authority) by its Office Memorandum dated 21.3.2002 conveyed techno-economic appraisal of the scheme for establishment of the generating station at an estimated capital cost of US \$11.090 Million + ₹746.029 crore, including IDC and FC of ₹74.11 crore, at Exchange Rate of 1 US \$ = ₹46.70.



The capital cost estimated by the Authority works out to ₹797.819 crore. Accordingly, the petitioner's Board by Resolution dated 22.3.2002 accorded the investment approval for ₹797.819 crore and for placement of Letter of Acceptance (LOA)/Letter of Intent (LOI) on Bharat Heavy Electricals Ltd (BHEL) at a cost of ₹699.99 crore, with COD of 30 months as stipulated by the Authority and imposition of liquidated damages after 33 months from the date of placement of LOA/LOI on EPC contractor. The petitioner placed the LOA/LOI was placed on BHEL, EPC contractor vide its letter dated 26.3.2002. Accordingly, the scheduled date of commercial operation of the generating station was 26.9.2004. However, the generating station was declared under commercial operation on 13.2.2005.

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

	(₹ in lakh)				
	2004-05 (Pro rata)	2005-06	2006-07	2007-08	2008-09
Depreciation	412	5001	5067	5081	5106
Interest on Loan	689	4965	4417	3822	3110
Return on Equity	371	2967	3001	3023	3038
Advance Against Depreciation	0	0	0	0	0
Interest on Working Capital	112	901	929	1019	1046
O & M Expenses	275	2277	3664	3734	3689
TOTAL	1859	16112	17076	16680	15988

5. The details of working capital and for interest thereon are as under:

	(₹ in lakh)				
	2004-05 (Pro rata)	2005-06	2006-07	2007-08	2008-09
Cost of Coal	261	2023	1997	1997	1997
Cost of Secondary Fuel Oil	33	169	116	116	116
O & M expenses	23	190	305	311	307
Spares	88	743	787	834	884
Receivables	576	4798	4959	4893	4778
Total Working Capital	981	7923	8165	8152	8083
Rate of Interest	11.38%	11.38%	11.38%	12.50%	12.94%
Interest on Working Capital	112	901	929	1019	1046

6. The petitioner has also claimed Energy Charge at the following rates:

	<i>(Paise/kWh)</i>				
	2004-05	2005-06	2006-07	2007-08	2008-09
Energy charge	104.38	98.22	94.67	94.67	94.67

7. During the pendency of the petition, the respondent Nos. 6 to 12 herein filed Interlocutory Application (I.A. No. 18/2011) for impleadment and the Commission, based on the submissions made by the parties during the proceedings held on 12.7.2011 allowed the interlocutory application. DVC was also allowed to amend the petition to implead the respondent Nos.6 to 12 as parties to the petition. Based on this, the petitioner has filed amended petition and served copy on the respondents. Reply to the petition has been filed by the respondent Nos. 4 and 6 and also Steel Authority of India-BSL, the HT consumers of the petitioner. The other respondents have not filed any reply.

Preliminary Submissions

8. The petitioner originally filed the petition for approval of tariff for the period 2006-09. Subsequently, on instructions from this Commission, the petitioner revised its claim for tariff from the date of commercial operation 13.2.2005 to 31.3.2009. However, it has been repeatedly urged by the petitioner that the tariff should be determined for the period 2006-09, as was determined by order dated 3.10.2006 in Petition No 66/2005 for other assets of the petitioner. Therefore, the first question that has arisen for consideration is the period for which the tariff is to be determined. In this context we may point out that Petition No 66/2005 was filed by the petitioner for approval of tariff for the period 2004-05 to 2008-09 in accordance with the 2004 Tariff Regulations for the old assets in existence as on 31.3.3004. During the course of the proceedings in that petition, the petitioner had submitted that the tariff

approved under the Damodar Valley Corporation Act, 1948 since the year 2000 was continuing and requested for a transition period for switching over to the new tariff regime as the existing generating stations of DVC would require some time to adopt the norms of operation specified by this Commission. The Commission after considering the request of the petitioner, by its order dated 3.10.2006 arrived at the following conclusion:

"39. We have given our thoughtful consideration to the issue. We find some merit in the contentions of the petitioner. Firstly, we are in agreement that it would not be possible for the petitioner Corporation to rationalize O&M expenses from the back date or to improve norms from the back date. These are possible only prospectively. Further, in the light of the sudden change in the approach and methodology of tariff setting by applying the Commission's Regulations, with effect from 1.4.2004, it would not be possible for the petitioner Corporation to make amends for the loss in revenue if any, by cutting costs. However, we are not convinced that the prevailing tariff should be allowed to continue till 2007-08. As early as in June 2005, the petitioner Corporation was aware that it would be regulated by Commission so far as its generating stations and transmission system are concerned. The norms applicable, being contents of public documents, were also known. We also observe that the petitioner Corporation has already initiated steps to bring about improvements in operational norms. This is evident by the improvement in norms suggested by it in its own submission which were considered by the one-member Bench. In view of above, we allow the petitioner Corporation to continue the prevailing tariff till 2005-06. The tariff with effect from 1.4.2006 shall be determined based on the terms and conditions duly taking into account the deliberations before and the recommendations in the one-member Bench Order dated 5.5.2006."

9. On an appeal (Appeal No. 273/2006) filed by the petitioner against this order, the Appellate Tribunal by its judgement dated 23.11.2007 upheld the decision of the Commission in the following terms:

"K .4 We feel that recognising various issues involved with the change in the applicable laws, the CERC had agreed to provide a transition period to DVC also, which we would not like to disturb. However, this view cannot be taken as precedent."

10. It is evident from the above that special dispensation was allowed in respect of the existing generating stations of DVC which were in commercial operation prior to 1.4.2004 to enable the generating stations to come to the level of operation required under the norms specified by the Commission under the 2004 Tariff Regulations. This dispensation cannot be provided in case of a generating station which achieves commercial operation during the tariff period 2004-09. The petitioner has also not been able to justify in what respect the generating station has the deficiency to achieve the norms under the 2004 Tariff Regulations. Therefore, we are of the view that the generating station is not entitled for the special dispensation as allowed to the existing generating stations of DVC in our order dated 3.10.2006 in Petition No. 66/2005. That being the case, the tariff of the this generating station for the period from the date of commercial operation i.e 13.2.2005 to 31.3.2009 has been determined by this order, in accordance with the provisions of the 2004 Tariff Regulations.

11. Respondent No. 4, JSEB has submitted that the petitioner has not filed audited accounts in support of its claim for tariff. The petitioner has clarified that the copies of the audited accounts for the years 2005-06 to 2008-09 were filed with Petition Nos. 66/2005 and 272/2010 and copy of the audited accounts for 2004-05 has been filed with the present petition. In our view, the petitioner ought to have filed the supporting documents along with the present petition. To that extent, the objection of Respondent No. 4 is valid. However, since the audited accounts for the relevant years are available with this Commission though scattered in different petitions to which Respondent No 4 is party, the petitioner's claim in the present petition is verifiable.

12. The respondents have submitted that the amended petition has been filed on 23.12.2010 with a considerable delay as the generating station was declared under commercial operation on 13.2.2005. It has been urged that and the petitioner cannot be given any advantage like recovery of carrying cost because of its own delay. We appreciate the concern of the respondents. Undisputedly, there has occurred an inordinate delay in approaching this Commission for approval of tariff. It appears that the petitioner was awaiting the judgement of the Appellate Tribunal in Appeal No.146/2009 filed against the Commission's order dated 6.8.2009 in Petition No. 66/2005. The respondents have also participated in the proceedings in the said appeal before the Appellate Tribunal. Though it was expected that the petitioner should have implemented the order subject to the outcome of the appeal, we cannot hold that DVC had intentionally delayed the implementation of the order of the Tribunal. It will suffice if the petitioner is not allowed the carrying costs for reasons of delay on its part to file the tariff petition in time for approval of tariff.

13. Respondent No. 6, BSAL has pointed out that the petitioner has failed to furnish information in accordance with Form-5B of the Tariff Filing Formats which enables this Commission to exercise prudence check of capital cost. Similar concern was also echoed by the learned Senior Advocate for Steel Authority of India. According to the respondents, prudence check is an essential part of the exercise of tariff determination undertaken by this Commission and without the details asked for in Form 5B, prudence check cannot be exercised by this Commission. The respondents have relied upon the judgments of the Hon'ble Supreme Court in West Bengal Electricity Regulatory Commission Vs CESC Ltd [(2002) 8 SCC 715], Cellular Operators Association of India Vs Union of India [(2003) 3 SCC 186], PTC India Ltd

Vs CERC [(2009) 5 SCC 466] and certain judgments of the Appellate Tribunal in support of their submissions. The respondents have accordingly argued that in the absence of information as per Form 5B, the instant petition should be summarily rejected. It has been pointed out that if a statute provides for a thing to be done in a particular manner, then it has to be done in that manner only and in no other manner. For this proposition, the respondents have relied upon the judgment of the Hon'ble Supreme Court in the case of Chandra Kishore Jha Vs Mahavir Prasad [(1999) 8 SCC 266].

14. The petitioner has submitted that Form 5B, *inter alia*, requires asset-wise break up of capital cost under different packages. It has been submitted that in case of the generating station EPC contract was awarded to BHEL on turnkey basis, without any breakup into packages. Accordingly, the petitioner has argued that the breakup of various sub-items in Form 5B is not relevant. It has been further submitted that in the case of turnkey contracts, where a consolidated payment is made, the increase or decrease in the prices/costs of the sub-items have no impact on the consolidated package. The petitioner has pointed out that the relevant details of capital cost are given in Form 9.

15. We have given our thoughtful consideration to the objections raised. In our considered view, the objection has no merit. It has been noted that the EPC contract was awarded to BHEL on turnkey key basis for a total consideration of ₹699.99 crore. Under Form 5B, the details of original cost estimates, cost of the date of commercial operation and the reasons for variations are to be furnished under seven heads, namely, cost of land, plant & machinery, initial spares, civil works, construction & pre-commissioning expenses, overheads and IDC & financial charges etc are to be

given. The package-wise breakup of cost cannot be available with the petitioner as the petitioner had awarded EPC contract for works as well as services as one package. The petitioner has not claimed land cost or IDC or the financial charges. The petitioner has not claimed cost of initial spares on the date of commercial operation. It is therefore not possible for the petitioner to provide the break-up as required in Form 5B. This aspect cannot be overlooked. In our opinion, no prejudice has been caused to the respondents since some of the information which was to be available in Form 5B in consolidated form, is available in other forms, filed by the petitioner in particular Form-9 and Form-12. From the data made available by the petitioner, the respondents have not been able to point out any imprudent expenditure in execution of the project. The respondents have urged rejection of the tariff petition on the ground of non-filing of Form 5B. The petitioner has filed the information as per the format as far as practicable and has not submitted the break-up of capital cost as the EPC contract with BHEL was in the form of package. In any case, the Commission carries out prudence check of the capital cost based on the records and wherever required by comparing the capital cost with other similar projects before approving the capital cost of the generating station for the purpose of tariff.

CAPITAL COST

Capital Cost as on Date of Commercial Operation

16. Regulation 17 of the 2004 Tariff 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;

.....

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.”

17. The petitioner has claimed capital cost of ₹70051.06 lakh as on the date of commercial operation and also on 31.3.2005.

18. Respondent No. 6, BSAL and Steel authority of India have submitted that EPC contract with BHEL provided for payment of liquidated damages @0.25 % of the contract cost per week in case of delay in completion of the contract beyond 33 months from the date of LOA/LOI, that is, beyond 26.12.2004. The generating station was declared under commercial operation on 13.2.2005, with a delay of about six to seven weeks from the scheduled date for which the liquidated damages were payable. Respondent No. 6 has pointed out that the petitioner would have recovered ₹1225 lakh from BHEL as liquidated damages on account of the delay. Respondent No. 6 has further submitted that the petitioner has earned an amount of ₹554.46 lakh over and above the cost of fuel for supply of infirm power prior to commercial operation of the generating station. It has been submitted that the excess charges

recovered should be deducted from the capital cost in accordance with Regulation 19 of the 2004 Tariff Regulations.

19. The petitioner has clarified that the delay was not attributable to EPC contractor and has explained that delay was in completion of certain non-EPC works for various reasons, including lack of coordination between the multiple contractors. The petitioner has clarified that the liquidated damages have not been recovered from BHEL, the EPC contractor. The petitioner has further adjusted the amount recovered on account of sale of infirm power against the capital cost.

20. We have considered the submissions of the parties. For the reason that the petitioner has not claimed or recovered the liquidated damages and has not capitalized IDC for the period 26.12.2004 to 12.2.2005, no deduction in capital cost is called for. The actual capital cost of the generating station on the date of commercial operation and on 31.3.2005 as per the audited accounts duly certified by Comptroller & Auditor General is ₹70051.06 lakh. This translates into ₹3.33 crore/MW which compares favorably with cost of ₹3.99 crore/MW of similar project, Suratgarh TPS in the State of Rajasthan. The pleadings of the petitioner reveal that the capital cost of Suratgarh TPS was used as the benchmark cost by the petitioner while negotiating the turnkey cost with BHEL. Further, the petitioner has furnished clarifications under its letter dated 11.2.2011 in response to certain observations conveyed after the technical validation of the petition. Under its said letter dated 11.2.2011 the petitioner has filed as Annexure II "Break up Details of Works/Services from 2005 to 2009". These details reveal that the petitioner has already given adjustment of ₹554.46 lakh on account of net of sale of infirm power in the capital cost. Thereby, the petitioner

has complied with Regulation 19 of the 2004 Tariff Regulations and nothing more is expected of the petitioner.

21. Steel Authority of India have further pointed out that the Authority had estimated the capital cost of US \$11.090 Million + ₹746.029 crore, including IDC and FC of ₹74.11 crore. According to it, after excluding the foreign component of the capital and IDC & financial charges, the domestic cost works out to ₹671.919 crore. As such, this Commission should restrict consideration to the capital cost of ₹671.919 crore since the petitioner has not contracted the foreign currency loan. The petitioner has argued that the foreign cost component of the capital cost cannot be excluded since EPC contract awarded to BHEL had taken care of domestic component as well as the foreign component of the capital cost. We find merit in the submission of the petitioner. The foreign currency component of capital cost does not necessarily involve foreign currency loan. The foreign currency cost component enables the project developer to import the plant & machinery/equipment from other countries at competitive rates. In the present case, the EPC contract was awarded to BHEL who took care of domestic as well as foreign components of the plant and machinery. Therefore, the foreign currency component of the capital cost is to be read part of the total capital cost estimated by the Authority. The petitioner was negotiating with BHEL when CEA conveyed techno-economic clearance for the project on 21.3.2002. Therefore, the Board of the petitioner being aware of the negotiation carried out with BHEL accorded investment approval on 22.3.2002 itself for the project cost of ₹797.819 crore after including the foreign component of the estimated cost. There is no infirmity in this regard. Therefore, for all purposes the estimated projected cost of

₹797.819, including IDC and financial charges crore are to be considered for all purposes.

22. After considering the objections of the respondents and on exercise of prudence check through comparison of capital cost of similar project, we are satisfied that the capital cost of ₹70051.06 lakh as on the date of commercial operation is reasonable and we accept this cost for the purpose of tariff determination.

Additional Capitalization

23. Regulation 18 of the 2004 Tariff Regulations provides for capitalisation of expenditure incurred after the date of commercial operation. For facility of reference Regulation 18 is reproduced below. :

*“18. **Additional capitalisation:** (1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission, subject to prudence check:*

(i) Deferred liabilities;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares in the original scope of work, subject to ceiling specified in regulation 17;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and

(v) On account of change in law:

Provided that original scope of work along with estimates of expenditure shall be submitted along with the application for provisional tariff:

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of the generating station.

(2) Subject to the provisions of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after the cut off date may be admitted by the Commission, subject to prudence check:

(i) Deferred liabilities relating to works/services within the original scope of work;

(ii) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;

(iii) On account of change in law;

(iv) Any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost; and

(v) Deferred works relating to ash pond or ash handling system in the original scope of work.

(3) Any expenditure on minor items/assets like normal tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, fans, coolers, TV, washing machines, heat-convectors, carpets, mattresses etc. brought after the cut off date shall not be considered for additional capitalisation for determination of tariff with effect from 1.4.2004.

Note

The list of items is illustrative and not exhaustive.

(4) Impact of additional capitalisation in tariff revision may be considered by the Commission twice in a tariff period, including revision of tariff after the cut off date.

Note 1

Any expenditure admitted on account of committed liabilities within the original scope of work and the expenditure deferred on techno-economic grounds but falling within the original scope of work shall be serviced in the normative debt-equity ratio specified in regulation 20.

Note 2

Any expenditure on replacement of old assets shall be considered after writing off the gross value of the original assets from the original project cost, except such items as are listed in clause (3) of this regulation.

Note 3

Any expenditure admitted by the Commission for determination of tariff on account of new works not in the original scope of work shall be serviced in the normative debt-equity ratio specified in regulation 20.

Note 4

Any expenditure admitted by the Commission for determination of tariff on renovation and modernization and life extension shall be serviced on normative debt-equity ratio specified in regulation 20 after writing off the original amount of the replaced assets from the original project cost.”

24. “Cut-off date” used in Regulation 18 is defined under clause (ix) of Regulation 14 of the 2004 Tariff Regulations as under:

“**Cut off Date**” means the date of first financial year closing after one year of the date of commercial operation of the generating station.”

25. The petitioner has claimed the following additional expenditure after the date of commercial operation.

	(₹ in lakh)				
	2005-06	2006-07	2007-08	2008-09	Total
Additional Capital Expenditure Claimed	1171.14	441.64	622.33	116.50	2351.61

26. The respondents have pointed out that the total expenditure of ₹1180.47 lakh claimed after the cut-off date, which is 31.3.2006 in the present case, cannot be considered for capitalization in view of the provisions of Regulation 18 of the 2004 Tariff Regulations extracted above.

27. We have considered the submission of the respondents. We have very carefully examined the works for which the additional capitalization has been claimed. We find that the additional capital expenditure mainly involves deferred liabilities or balance payments against EPC contract or payments made against non-EPC contracts awarded after the date of commercial operation but within the scope of the original works, including procurement of initial spares. The capitalization of such expenditure is covered under clauses (1) and (2) of Regulation 18 ibid. Therefore, we allow capitalization of the additional expenditure as claimed.

Total Capital Cost

28. Therefore, for the purpose of tariff, the capital cost considered for the purpose of tariff is as under:

Year	Additional Capital Expenditure	Capital Cost
As on 13.2.2005/31.3.2005	Not Applicable	70051.06
2005-06	1171.14	71222.20
2006-07	441.64	71663.84

2007-08	622.33	72286.17
2008-09	116.50	72402.68

29. The respondents have pointed out that the petitioner has admitted in its submissions that there is no project-specific loan for the generating station and the petitioner has claimed interest only on the notional loan, Therefore, the petitioner is not entitled to benefit of IDC approved by CEA in its Office Memorandum dated 21.3.2002 for addition to capital cost. The petitioner has urged that the Appellate Tribunal has already held that the generating company is entitled to capitalisation of IDC even in the case of notional loan. In this context the petitioner has relied upon the judgment of the Appellate Tribunal in NTPC Ltd Vs Central Electricity Regulatory Commission and others [2008 ELR (APTEL) 916, paras 20 to 24] and NTPC Ltd Vs Central Electricity Regulatory Commission and others [2009 ELR (APTEL) 337, paras 3.10 to 3.13]. However, the Appellate Tribunal in its judgment dated 1.5.2012 in Appeal No 40/2011 (Damodar Valley Corporation Vs Central Electricity Regulatory Commission and others) held that the Appellant's (present petitioner's) claim of 'notional interest' on 'notional loan' during construction period is in fact a claim on return on equity during construction which is not permissible. This Commission is bound by the judgment of the Appellate Tribunal rendered at a date subsequent to the judgment in NTPC's case and in the appeal filed by the petitioner. Therefore, the petitioner is not entitled to IDC on notional loan. The capital cost as on 31.3.2009 comes to ₹72402.67 lakh. This amount exceeds the estimated project cost of ₹72370.90 lakh, excluding IDC and finance charges, by a relatively insignificant amount of less than ₹32 lakh only. Therefore, the capital cost of ₹72402.68 lakh as on 31.3.2009 does not call for any interference.

Capital Cost of Subsidiary Activities

30. The Appellate Tribunal in its judgment dated 23.11.2007 in Appeal No 273/2006 (Damodar Valley Corporation Vs Central Electricity Regulatory Commission and others), decided that the expenditure incurred by the petitioner on other activities meant for social and economic upliftment of the people or to address the environmental concerns in the command area (other than the expenditure incurred on irrigation and flood control) is to be met from the tariff related to power business of the petitioner. The petitioner has stated that it will be filing appropriate application for meeting the cost and expenses for the permitted activities undertaken, to be included in the tariff. The apportioned cost of such activities shall be considered as part of the capital cost for the purpose of tariff in accordance with law as and when the same is claimed by the petitioner.

DEBT-EQUITY RATIO

31. Clause (2) of Regulation 20 of the 2004 Tariff Regulations prior to its amendment in June, 2006 provided that:

“(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;”

32. The petitioner has claimed tariff in the normative debt-equity ratio of 70:30 in accordance with clause (2) of Regulation 20 *ibid*.

33. Respondent No 4 has pointed out that in Form 13 of the Tariff Filing Formats the petitioner has shown actual gross loan of ₹770.95 crore during the year 2004-05 for the generating station. It has been submitted that since the actual cost as on the date of commercial operation was ₹700.51 crore, the petitioner has not deployed any equity and therefore equity should be treated as 'zero'.

34. The petitioner has submitted that Form 13 shows total actual gross loan taken. The petitioner has further submitted that it has not borrowed any capital for financing the project and the entire cost has been met through its internal resources.

35. In the light of clarification submitted by the petitioner, debt equity ratio of 70:30 has been considered for computation of tariff. The normative equity works out as under:

(₹ in lakh)		
Year	Capital Cost	Normative Equity
2004-05	70051.06	21015.32
2005-06	71222.20	21366.66
2006-07	71663.84	21499.15
2007-08	72286.17	21685.85
2008-09	72402.68	21720.80

TARGET AVAILABILITY

36. Target availability of 80% has been considered for recovery of full fixed charges and computation of fuel element in the working capital.

RETURN ON EQUITY

37. In accordance with clause (iii) of Regulation 21 of the 2004 Tariff Regulations, return on equity shall be computed on the equity base determined in accordance with Regulation 20 of the 2004 Tariff Regulations @ 14% per annum. Accordingly, return on equity has been worked out as under:

(₹ in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Notional Equity- Opening	21015.32	21015.32	21366.66	21499.15	21685.85
Addition of Equity due to Additional Capitalisation	0.00	351.34	132.49	186.70	34.95
Normative Equity-Closing	21015.32	21366.66	21499.15	21685.85	21720.80
Average Normative Equity	21015.32	21190.99	21432.91	21592.50	21703.33
Return on Equity	2942.14	2966.74	3000.61	3022.95	3038.47

INTEREST ON LOAN

38. Clause (i) of regulation 21 of the 2004 Tariff Regulations 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 in accordance with Regulation 20 minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis;

(c) The generating company shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries;

(d) The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefit passed on to the beneficiaries;

(e) In case of dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment ordered by the Commission to the generating company during pendency of any dispute relating to re-financing 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 re-financing of loan and interest on loan;

(h) The generating company may, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice-versa, at its own cost and gains or losses as a result of such swapping shall accrue to the generating company:

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted, whether on floating or fixed rate of interest”



39. We have considered loan of ₹ 49035.74 lakh being the 70 % of the capital cost as on the date of commercial operation as gross normative loan. Addition to normative loan on account of additional capital expenditure also has been considered. Depreciation allowed has been considered as normative repayment of loan during the respective year of the tariff period 2004-09.

40. Respondent No 6 and Steel authority of India have pointed out that since the petitioner has not borrowed any capital it should not be allowed interest on notional loan. The submission is without any basis. The petitioner has met the project cost through internal resources. The submission of the respondents negates the basic concept of cost of capital. Capital, whether contributed by the entrepreneur or borrowed from outside sources, is not free, it always carries cost. Capital is to be serviced either by way of return or interest. Considering the fact that return on equity proves costlier in the long run, this Commission through its regulations has limited the return on 30% of equity or the equity actually deployed when it is less than 30% of the project cost. The balance amount is to be treated as loan and serviced accordingly. Therefore, the petitioner is considered entitled to interest on notional loan.

41. The petitioner is has claimed interest at the following rates:

	2004-05	2005-06	2006-07	2007-08	2008-09
Rate of Interest (%)	11.19	10.67	10.5	10.23	9.56

42. This Commission has already worked out the weighted average rate of interest for the petitioner Corporation for the years 2006-07, 2007-08 and 2008-09.in Petition No 66/2005. The same rates have been applied since the petitioner has not contracted any external loans. The weighted averages of loan for the years 2004-05

and 2005-06 have also been calculated on the principles considered in Petition No 66/2005 for the period 2006-09.

43. The computation of interest on loan by applying the weighted average interest rate as aforesaid is appended herein below:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Gross opening loan	49035.75	49035.75	49855.54	50164.69	50600.32
Cumulative repayment of loan up to previous year	0.00	637.37	5628.52	10676.65	15762.37
Net Loan Opening	49035.75	48398.38	44227.02	39488.04	34837.95
Addition due to Additional capitalisation	0.00	819.80	309.15	435.63	81.55
Less : Repayment of Loan	637.37	4991.15	5048.13	5085.72	5111.82
Net Loan Closing	48398.38	44227.02	39488.04	34837.95	29807.68
Average Loan	48717.06	46312.70	41857.53	37162.99	32322.81
Weighted Average Rate of Interest on Loan	10.437%	10.184%	9.851%	9.450%	8.920%
Interest on Loan	654.74	4716.37	4123.28	3512.06	2883.19
Interest on Loan (annualised)	5084.69	4716.37	4123.28	3512.06	2883.19

DEPRECIATION

44. Sub-clause (a) of clause (ii) of Regulation 21 of the 2004 Tariff 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 capitalisation 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”.

45. Respondent No 4 has urged that depreciation should be calculated by Straight Line Method and at rates specified in Appendix II to the 2004 Tariff Regulations. In our calculations, depreciation has been arrived in accordance with the judgment of the Appellate Tribunal dated 23.11.2007 in Appeal No 273/2006, that is, at the rates prescribed by the Comptroller and Auditor General. The weighted average rate works out to 7.066% which is the same rate as considered by the petitioner for the year 2004-05 .The value of land is 'Nil'. The necessary calculations in support of depreciation are as shown below:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Opening capital cost	70051.06	70051.06	71222.20	71663.84	72286.17
Closing capital cost	70051.06	71222.20	71663.84	72286.17	72402.68
Average capital cost	70051.06	70636.63	71443.02	71975.01	72344.42
Depreciable value @ 90%	63045.96	63572.97	64298.72	64777.51	65109.98
Balance depreciable value	63045.96	62935.60	58670.20	54100.86	49347.61
Depreciation	637.37	4991.15	5048.13	5085.72	5111.82
Depreciation (annualized)	4949.78	4991.15	5048.13	5085.72	5111.82
Cumulative Depreciation	637.37	5628.52	10676.65	15762.37	20874.19

ADVANCE AGAINST DEPRECIATION

46. As per sub-clause (b) of clause (ii) of Regulation 21 of the 2004 Tariff Regulations, in addition to allowable depreciation, the generating is entitled to Advance Against Depreciation, computed in the manner given hereunder:

$$\text{AAD} = \text{Loan repayment amount as per regulation 21 (i) subject to a ceiling of } 1/10\text{th of loan amount minus depreciation as per schedule}$$

47. 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.

48. The petitioner has not claimed Advance Against Depreciation. As such Advance Against Depreciation has not been allowed.

O&M EXPENSES

49. The 2004 Tariff Regulations have prescribed the following O&M expense norms for 200/210 MW units:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
O & M Expenses	10.40	10.82	11.25	11.70	12.17

50. The petitioner has prayed for allowing the following O&M expenses:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
1. Operation					
(i) Salaries Wages & Allowances including P.F. Pension cum Gratuity & Bonus/Bonus Equivalent	-	25542116	30766563	38864993	49738747
(ii) Lubricants, Consumable Stores & Stationery Supplies	-	4531323	2907456	4149819	3588654
(iii) Cooling Water	-	475000	625000	625000	567580
(iv) Loose Tools	-	-	-	-	-
(v) Other Chargeable Expenditure	-	6485913	2171772	10563090	2444892
1, Total Operation Expenses	-	37034352	36470791	54202902	56339873
2. Repair & Maintenance :					
(i) Salaries Wages & Allowances including P.F./ Pension & Bonus or Bonus Equivalent	-	4886405	9030503	-	9015267
(ii) Boilers, Plant & Equipment	-	13954966	29148602	38166243	33356197
(iii) Turbine & Generator	-	3073101	24361504	16152039	5944684
(iv) Water & Cooling System	-	-	750371	1146403	775215
(v) Switch Gear & Switch Board	-	1225609	19020	2927277	1122485
(vi) Miscellaneous Power Plant	-	14879210	20353911	38228377	29611208
(vii) Power House Building	-	2225158	3193328	3256320	6981991

& other Civil Works					
2. Total : Repair & Maintenance	-	40244449	86857239	99876659	86807047
3. Stores & Other Stores Expenses	-	2304190	33947	5609933	9335826
4. Insurance	-	22077	4759	8344086	5751552
5. Staff Welfare	-	2491000	4851755	5243366	3820769
6. Colony Services	-	3785013	8062858	10634678	6023199
7. Administrative Services	-	7392923	17690103	40955910	25859979
8. Security Services	-	9274922	10685875	9873835	11568687
9. Loss on Stores / Assets	-	-	-	-	-
10. Cost of fuel for Barter Import	-	-	-	-	-
11. Loss due to Exchange Rate	-	-	-	-	-
Total : (1-11)	-	102548926	164657327	234741369	205506932
12. Proportionate Share of Direction & Other Office (Schedule-XIV)	-	10282133	12965243	13871663	15921353
13. Proportionate Share of General Overhead Charges	-	114903681	77844632	3867614	16840567
Total (1 to 13)	-	227734740	255467202	252480646	238268852
14. Share of Operating expenses of Subsidiary Activities	-	-	8103338	15321821	14544825
15. Share of Operating expenses of Fuel	-	-	102785329	105629691	116044726
Total (inclusive of allocations)	27524384	227734740	366355869	373432158	368858403

51. While claiming the aforesaid O&M expenses the petitioner has prayed for relaxation of norms in exercise of power of this Commission under Regulation 13 of the 2004 Tariff Regulations to demand reimbursement of expenditure on account of pay revision of its employees w.e.f. 1.1.2006. In this regard it is noted that this Commission in its order dated 12.10.2012 Petition No. 35/MP/2012 and other related petitions has decided as follows:

"17. The Commission has allowed the benefit of wage revision in the O & M norms for 2009-14 considering increase in salary and wages to the extent of 50%. The relevant provision in the Statement of Reasons to the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2009 dated 3.2.2009 is extracted as under:

"19.10 The CPSU regulated by us were asked to make their estimation of hike on account of revision of scales of pay. The hikes on account of revision of scales of pay estimated by some of the CPSU's are as follows:

NTPC	56%
Power Grid	70%
NLC	73%
NEEPCO	70%

The estimates submitted by NLC and NEEPCO were not supported by the calculations. The estimates of NTPC and Power Grid were however, gone into and it was observed that the increase includes PRP and allowances in excess of 50% of the basic. Further certain facilities like school, hospital facilities etc. at site were not monetized. On all these consideration, estimates of CPSU's appears to be on higher side. Commission after due consideration of various aspects covered in the implementation of pay revision has come to a conclusion that a uniform normative increase of 50% in employee cost would be just and reasonable for all CPSU's."

'It is noted that the Commission had allowed only normative increase of 50% of the employee cost for all PSUs during the 2009-14 period. We are of the view that it would be just and reasonable if the same principle is adopted to consider the increase in salary and wages of CPSUs including the petitioner. Accordingly, we direct that for the period 1.1.2007 to 31.3.2009, the actual increase in employee cost on account of wage revision is allowed which shall be limited to 50% of the salary and wages (Basic + DA) of the employees of the petitioner company as on 31.12.2006. In so far as increase in the salary of the CISF personnel posted at NTPC stations and the employees of Kendriya Vidyalaya are concerned, the increase in salary shall be on actual basis and shall be a pass through to the beneficiaries.

18. In exercise of our power to remove difficulty under Regulation 12 of the 2004 Tariff Regulations, we allow the above increase in the employee cost of NTPC as additional O&M charges. However, the arrears shall be paid by the beneficiaries in twelve equal monthly installments during the year 2013-14 in addition to the O&M charges as per the 2009 Tariff Regulations. Keeping in view of the distance of time we order that as a special case, no interest shall be charged on the arrear which will benefit the consumers. In our view, this arrangement will protect the interest of both the petitioner and the beneficiaries."

52. The above principle shall apply to the case on hand. Accordingly, for the period 1.1.2006 to 31.3.2009, the actual increase in employee cost on account of wage revision is allowed as additional O&M charges and the same shall be recoverable by the petitioner. It is to be noted that in case of NTPC, the arrears on account of the said pay revision was ordered to be paid by the beneficiaries in twelve monthly instalments during 2013-14 keeping in view that no tariff petitions of NTPC for the period 2004-09 were pending as on the date of the said order. However, in the

instant case of the petitioner, since the tariff for the period from 13.2.2005 to 31.3.2009 in respect of the generating station is being determined in this petition, we direct that the impact of arrear payments (on account of employee cost) based on the pay revision allowed, is payable by the beneficiaries in addition to the O&M expenses allowed in this order as per the 2004 Tariff Regulations. However, keeping in view of the distance of time, we order that interest shall not be charged on the said arrear amount, which will benefit the consumers.

53. The petitioner in its claim has included proportionate share of operating expenses for Direction & Other Offices (Schedule–XIV), General Overhead Charges, charges on Subsidiary Activities and Operating expenses of fuel. In support of its claim the petitioner has invoked the judgment of the Appellate Tribunal dated 23.11.2007 in Appeal No 273/2006. The reliance on the judgment of the Appellate Tribunal to claim O&M expenses Direction & Other Offices is misplaced. In the said judgment, the Appellate Tribunal allowed the petitioner to consider capital investment made in respect of Head Office, Regional Offices, Administrative and other Technical Centres, etc. for the purpose of determination of capital base The O & M expenses on Direction Office, Central offices etc are already included in the normative O&M charges as Corporate office expenses and hence have not been considered separately. Similarly, the operating expenses relating to fuel are the expenses relating to establishment and handling charges for the fuel, in addition to the landed cost of the fuels and are also included in the normative O&M expenses and have not been allowed. Allocation of share of subsidiary activities other than soil conservation are not directly related to power and as such have not been considered in absence of actual expenditure incurred on soil conservation.

54. In view of above discussions, O&M expenses as per the norms of the 2004 Tariff Regulations have been allowed as given under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M Expenses	281.23	2272.20	2362.50	2457.00	2555.70
Annualised O&M Expenses	2184.00	2272.20	2362.50	2457.00	2555.70

Pension and Gratuity Fund

55. The petitioner has made a claim towards Pension and Gratuity Fund contribution in respect of the generating station by apportioning liability against the total liability towards Pension and Gratuity Fund since the actuarial valuation is inclusive of all activities of the petitioner.

56. The petitioner in Petition No 66/2005 had claimed recovery of ₹169015.00 lakh as pension liability for creation of Pension and Gratuity Fund for power sector related business. This Commission allowed recovery of pension liability from the consumers as computed below:

	(₹ in lakh)
	Amount
Pension liability allocated to power business	169015.00
Less Liability to Distribution system	614.00
Less Liability pertaining to 4th unit of MTPS	14952.00
Net Amount	153449.00
Less 40% to be borne by the utility	61380.00
Balance 60% recoverable from consumers	92069.00
Amount of each Instalment (Total 3 instalments)	30690.00

57. Subsequently, in order dated 6.8.2009, this Commission permitted recovery of 40% share, earlier allocated to the respondent, from the consumers in five yearly instalments of ₹12275.92 lakh per annum starting from the year 2009-10 in the process of implementation of judgment of the Appellate Tribunal. The relevant part of the order dated 6.8.2009 is extracted below:

“73. Accordingly, in compliance with the directions contained in the judgment of the Appellate Tribunal, it has been decided to stagger the balance 40% of the

pension fund over a period of five years during the tariff period 2009-14, without any revision in the pension fund allocated in tariff for the period 2006-09. Based on the above, calculations have been made and the amount to be recovered in five instalments during the tariff period 2009-14 is ₹61379.60 lakh, with an annual instalment of ₹12275.92 lakh.”

58. It has been submitted that Pension and Gratuity liability for the period 2006-09 after implementation of recommendations of 6th Pay Commission has increased to ₹320094 lakh as worked out by actuary as on 31.3.2009. Thus, there is an increase in the liability by ₹166644 lakh. The petitioner has submitted that in Petition No. 272/2010 wherein it has claimed deferred elements of tariff for the years 2006-09, has claimed 60% of the additional liability, that is, ₹99986 lakh towards Pension and Gratuity Fund as on 31.3.2009 and the balance 40%, ₹128038 lakh shall be claimed during the tariff period 2009-14.

59. For the purpose of the present petition, we allow the petitioner to recover an amount of ₹8971 lakh, being 60% of ₹14952 lakh towards Pension and Gratuity Fund in respect of the generating station along with tariff for the period 2006-09. The remaining 40%, that is, ₹5981 lakh shall be recovered in five equal yearly instalments along with the tariff for the period 2009-14 in line with the Commission's order dated 6.8.2009 in Petition No. 66/2005. However, the increase in actual liability on account of revision of pay consequent to implementation of recommendations of the 6th Pay Commission in respect of the generating station during the period from 1.1.2006 to 31.3.2009 is recoverable by the petitioner to the extent of 60% during 2006-09 and the balance 40% shall be recovered during the period 2009-14 along with the P&G liability to be recovered during the period 2009-14, in line with the decision of the Tribunal.

60. Respondent No. 6 has pointed out that while claiming provision for Pension and Gratuity Fund, the petitioner has not deducted the interest earned on investment of the Fund. The petitioner has explained that the Fund is invested by a trust constituted for its administration in the approved securities and the income accrued is used on the welfare activities of the employees. The explanation of the petitioner merits acceptance. Accordingly, the objection of Respondent No 6 is not accepted.

INTEREST ON WORKING CAPITAL

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

- (i) Cost of coal or lignite for 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;
- (iv) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and
- (v) Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on the target availability.

62. Under the 2004 Tariff 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.

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

(a) **Coal stock:** The coal cost has been worked out for 2 months on the basis of operational parameters specified in the 2004 Tariff Regulations and weighted average price of coal.

(b) **Oil Stock:** The oil stock for 2 months as per the operational parameters and weighted average price of secondary fuel oil has been considered. Details of the fuel components in working capital are as under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Cost of coal for 2 months	257.50	1999.76	1999.76	2005.24	1999.76
Cost of secondary fuel oil for two months	14.91	115.80	115.80	116.12	115.80

(c) **O&M Expenses:** O&M expenses for working capital have been worked out for 1 month of O&M expenses approved in para 54 above are considered in tariff of the respective year:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
O & M Cost for 1 month	182.00	189.35	196.88	204.75	212.98

(d) **Spares:** The petitioner has calculated the value of maintenance spares for the purpose of working capital considering the capital cost of ₹72402.67 lakh. The amount claimed for maintenance spares for the purpose is given below:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance spare	700.51	742.54	787.09	834.32	884.38

(e) **Receivables:** The receivables have been worked out on the basis of two months of fixed and variable charges. The supporting calculations in respect of receivables are tabulated hereunder:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Variable Charges for 2 months	2115.56	2115.56	2115.56	2121.35	2115.56
Fixed Charges for 2 months	1177.18	2624.11	2555.16	2478.87	2396.84
Total	3292.74	4739.66	4670.72	4600.22	4512.40

64. The average SBI PLR of 10.25% as on 1.4.2004 has been considered as the rate of interest on working capital against the varying rates considered by the petitioner.

65. The calculations of interest on working capital allowed are appended below:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Cost of coal – 2 months	257.50	1999.76	1999.76	2005.24	1999.76
Cost of secondary fuel oil – 2 months	14.91	115.80	115.80	116.12	115.80
O&M expenses – 1 month	182.00	189.35	196.88	204.75	212.98
Maintenance Spares	700.51	742.54	787.09	834.32	884.38
Receivables – 2 months	3292.74	4739.66	4670.72	4600.22	4512.40
Total working capital	6290.80	7787.11	7770.25	7760.64	7725.31
Rate of interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	644.81	798.18	796.45	795.47	791.84

66. The annual fixed charges based on the above deliberations works out as below:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	4949.78	4991.15	5048.13	5085.72	5111.82
Interest on Loan	5084.69	4716.37	4123.28	3512.06	2883.19
Return on Equity	2942.14	2966.74	3000.61	3022.95	3038.47
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	644.81	798.18	796.45	795.47	791.84
O&M Expenses	2184.00	2272.20	2362.50	2457.00	2555.70
Total	15957.36	15744.64	15330.97	14873.20	14381.03

67. The fixed charges approved are on yearly basis. Therefore the fixed charges for the year 2004-05 shall be recoverable on proportionate basis for the period 13.2.2005 to 31.3.2005.

OPERATIONAL NORMS

68. The operational norms specified under the 2004 Tariff Regulations are given below:

	2004-05	2005-06	2006-07	2007-08	2008-09
Target Availability (%)	80	80	80	80	80
Auxiliary Energy Consumption (%)	9.0	9.0	9.0	9.0	9.0
Gross Station Heat Rate (kCal/kWh)	2500	2500	2500	2500	2500
Specific Fuel Oil Consumption (ml/kWh)	2.0	2.0	2.0	2.0	2.0

69. The petitioner has claimed tariff based on the following operational parameters:

	2004-05	2005-06	2006-07	2007-08	2008-09
Target Availability (%)	80	80	80	80	80
Auxiliary Energy Consumption (%)	9.5	9.2	9.0	9.0	9.0
Gross Station Heat Rate (kCal/kWh)	2600	2537	2500	2500	2500
Specific Fuel Oil Consumption (ml/kWh)	4.5	2.9	2.0	2.0	2.0

70. The operational norms considered by the petitioner for Auxiliary Energy Consumption, Station Heat Rate and Specific Fuel Oil Consumption during the years 2004-05 and 2005-06 are on the higher side as compared with the norms specified under the 2004 Tariff Regulations. For the purpose of determination of tariff, we have considered the normative operational parameters in accordance with the 2004 Tariff Regulations.

ENERGY CHARGE

71. The petitioner has claimed the Energy Charge at the following rates:

<i>(Paise/kWh)</i>				
2004-05	2005-06	2006-07	2007-08	2008-09
104.38	98.22	94.67	94.67	94.67

72. The rates of Energy Charge claimed by the petitioner for the years 2004-05 and 2005-06 is higher than the Energy Charge Rate claimed for the years 2006-07 to 2008-09. This is for the reason that the petitioner has considered relaxed norms of Station Heat Rate, Auxiliary Energy Consumption, and Secondary Fuel Oil Consumption for these years. In accordance with the 2004 Tariff Regulations, the base energy charge is not to be determined year-wise, but is to be determined on the date of commercial operation based on the price and GCV of fuel for the preceding

three months. Accordingly, the base energy charge has been calculated in accordance with these regulations as under:

	Unit	2004-05 As on date of commercial operation (13.2.2005)
Capacity	MW	210.00
Gross Station Heat Rate	kCal/kWh	2500.00
Specific Fuel Oil Consumption	ml/kWh	2.00
Aux. Energy Consumption	%	9.00
Weighted Average GCV of Oil	kCal/l	10500.00
Weighted Average GCV of Coal	kCal/Kg	4289.33
Weighted Average Price of Oil	₹/KL	23605.45
Weighted Average Price of Coal	₹/MT	1410.68
Rate of Energy Charge ex-bus per kWh Sent	Paise/kWh	94.78

73. The base energy charge as calculated by us is **94.78** Paise/kWh as compared to base energy charge of 94.67 Paise/kWh claimed by the petitioner from 2006-07 to 2008-09. The difference is because of the fact that the weighted price of oil considered by the petitioner is ₹23572/KL as against the weighted price of ₹23605.45/KL computed by us based on the secondary oil details furnished by the petitioner.

74. The base rate of energy charge shall be subject to fuel price adjustment in accordance with the following formula:

$$\mathbf{FPA = A + B}$$

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,

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

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

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

75. 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 Tariff Regulations, as applicable.

76. The tariff approved above is subject to outcome of the Civil Appeal No 4881/2010 filed by the petitioner before the Hon'ble Supreme Court and Civil Appeal Nos. 971-973/2008 filed

by the consumers including Respondent No. 6 arising out of the Appellate Tribunal's judgment dated 23.11.2007.

77. This order disposes of Petition No. 279/2010.

Sd/-
(S Jayaraman)
Member

Sd/-
(Dr. Pramod Deo)
Chairperson

