

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 147/2009 with I.A. 41/2009**

**Coram**

- 1. Shri R.Krishnamoorthy, Member**
- 2. Shri S. Jayaraman, Member**
- 3. Shri V.S.Verma, Member**

**DATE OF HEARING: 10.11.2009**

**DATE OF ORDER: 11.1.2010**

**In the matter of**

Approval of revised annual fixed charges for 2004-09 on account of additional capital expenditure incurred during 2007-09 in respect of Vindhyachal STPS, Stage-I (1260 MW)

**And in the matter of**

NTPC Ltd, New Delhi

.....**Petitioner**

Vs

- (1) Madhya Pradesh Power Trading Company Ltd, Jabalpur
- (2) Maharashtra State Electricity Distribution Co. Ltd, Mumbai
- (3) Gujarat Urja Vikas Nigam Ltd, Vadodara
- (4) Chhattisgarh State Power Distribution Co. Ltd, Raipur
- (5) Electricity Department, Govt. of Goa, Goa
- (6) Electricity Department, Administration of Daman & Diu, Daman
- (7) Electricity Department, Administration of Dadra and Nagar Haveli, Silvassa

...**Respondents**

**The following were present:**

1. Shri V.K.Padha, NTPC
2. Shri D.G.Salpekar, NTPC
3. Shri S.Saran, NTPC
4. Shri Manoj Saxena, NTPC
5. Shri A.S.Pandey, NTPC

## ORDER

The petitioner has made this petition for revision of annual fixed charges for 2004-09 after considering the additional capital expenditure incurred during 2007-09 in respect of Vindhychal STPS, Stage-I (1260 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 regulations"). The petitioner has made the following specific prayers:

- (a) Approve the impact of additional capital expenditure on fixed charges as per details given in Appendix-A for the period 1.4.2004 to 31.3.2009;*
- (b) Allow the recovery of filing fees from the respondents/beneficiaries;*
- (c) Allow inclusion of liabilities for the period 2004-06 as detailed in para 12 above;*
- (d) Allow normative FERV for 2001-04 as capital cost as on 1.4.2004 as detailed in para 14;*
- (e) Allow debt servicing on additional capital expenditure claimed as detailed in para 15 above;*
- (f) Allow recovery of income tax as detailed in para 21 above;*
- (g) Pass any other order in this regard as the Hon'ble Commission may find appropriate in the circumstances pleaded above.*

2. The generating station with a capacity of 1260 MW comprises of six units of 210 MW each. The dates of commercial operation of different units of the generating station are as under:

Unit-I	1.9.1988
Unit-II	1.1.1989
Unit-III	1.2.1990
Unit-IV	1.9.1990
Unit-V	1.4.1991
Unit-VI	1.2.1992

3. The tariff of the generating station for the period 1.4.2004 to 31.3.2009, was determined by the Commission by its order dated 29.6.2006 in Petition No.128/2004, based on the capital cost of Rs.145908.54 lakh as on 1.4.2004, including FERV of Rs.91.92 lakh. Subsequently, by order dated 3.2.2009 in Petition No. 25/2008, the Commission revised the annual fixed charges after considering the additional capital expenditure during the period 2004-05, 2005-06 and 2006-07 based on the capital cost of Rs.146929.43 lakh as on 31.3.2007. The capital cost approved by the Commission, is as under:

(Rs. in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Opening Capital Cost	145908.54	145984.70	146174.14	146929.43	147267.25
Additional capital expenditure	76.16	189.43	755.29	0.00	0.00
Liabilities discharged	0.00	0.00	0.00	337.82	0.00
<b>Closing Capital Cost</b>	<b>145984.70</b>	<b>146174.14</b>	<b>146929.43</b>	<b>147267.25</b>	<b>147267.25</b>

4. The annual fixed charges approved by order dated 3.2.2009 is as under:

(Rs in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on Loan	172	0	0	0	0
Interest on Working Capital	2772	2741	2775	2817	2849
Depreciation	5137	1715	1761	1842	1860
Advance Against Depreciation	0	0	0	0	0
Return on Equity	10215	10221	10241	10264	10271
O&M Expenses	13104	13633	14175	14742	15334
<b>TOTAL</b>	<b>31399</b>	<b>28310</b>	<b>28952</b>	<b>29665</b>	<b>30314</b>

### **INTERLOCUTORY APPLICATION**

5. The petitioner has filed interlocutory application (I.A No.41/2009) for amendment of Annexure-I to the petition taking into account the revised calculations

for fixed charges based on the principles laid down in the tariff orders dated 22.9.2006 and 18.6.2008 of the Commission and the judgment dated 13.6.2007 in Appeal Nos.139 to142 etc of 2006 and judgment dated 16.3.2009 in Appeal Nos. 133,135 etc of 2008 of the Appellate Tribunal passed against the various tariff orders of the Commission for the period 2004-09 in respect of the generating stations of the petitioner.

6. Though the interlocutory application was taken on record, the Commission observed that tariff would be determined in accordance with law. We now proceed to discuss as to whether the prayer of the petitioner for determination of tariff based on the revised calculations on the principles laid down in the judgments of the Appellate Tribunal dated 13.6.2007 in Appeal Nos. 139 to142 etc of 2006, and judgment dated 16.3.2009 in Appeal Nos.133,135 etc of 2008 can be considered.

7. The petitioner filed Appeal Nos. 139 to142 etc of 2006 before the Appellate Tribunal challenging the various orders of the Commission determining tariff for its generating stations during the period 2004-09. The Appellate Tribunal by its judgment dated 13.6.2007 allowed the said appeals and remanded the matters for re-determination by the Commission. Against the said judgment the Commission has filed 20 appeals before the Hon'ble Supreme Court (in C.A. Nos. 5434/2007 to 5452/2007 and 5622/2007) on issues such as:

- (a) Consequences of refinancing of loan;*
- (b) Treating of depreciation as deemed repayment of loan;*
- (c) Cost of maintenance spares related to additional capitalization;*

- (d) Depreciation availability up to 90% in the event of disincentive; and*
- (e) Impact of de-capitalization of assets on cumulative repayment of loan*

8. The Hon'ble Supreme Court on 26.11.2007 granted interim order of stay of the operation of the order dated 13.6.2007 of the Appellate Tribunal. However, on 10.12.2007, the Hon'ble Supreme Court modified the interim order as under:

*"Learned Solicitor General appearing on behalf of the National Thermal Power Corporation stated that pursuant to the remand order, following five issues shall not be pressed for fresh determination:*

- (a) Consequences of refinancing of loan;*
- (b) Treating of depreciation as deemed repayment of loan;*
- (c) Cost of maintenance spares related to additional capitalization;*
- (d) Depreciation availability up to 90% in the event of disincentive; and*
- (e) Impact of de-capitalization of assets on cumulative repayment of loan*

*The Commission may, however, proceed to determine other issues.*

*It is clarified that this order shall apply to other cases also.*

*In view of this, the interim order passed by the Court on 26th November, 2007, is vacated. The interlocutory applications are, accordingly, disposed of."*

9. The petitioner in its application has submitted that it has been advised that the statement of the Solicitor General of India (SGI) before the Hon'ble Supreme Court resulting in the interim order dated 10.12.2007 does not restrict it from claiming additional capitalization based on the principles laid down by the Appellate Tribunal in its judgment dated 13.6.2007 and that the effect of the statement of SGI was that it would not seek fresh determination pursuant to the remand order. The petitioner has also submitted that the Hon'ble Supreme Court has not stayed further proceedings before the Commission for determination of additional capitalization and even if it was construed as stay, the decision of the court (Appellate Tribunal) does not become *non est*.

10. The Hon'ble Supreme Court in its interim order dated 26.11.2007 had granted stay on the operation of the judgment dated 13.6.2007 of the Appellate Tribunal. In view of the undertaking given by the Solicitor General of India on behalf of the petitioner that "the five issues shall not be pressed for fresh determination", the Hon'ble Supreme Court vacated the interim order dated 26.11.2007 and directed that "the Commission may proceed to determine the other issues". It was clarified that "this order shall apply to other cases also". It is the contention of the petitioner that the undertaking before the Hon'ble Supreme Court does not restrict it from claiming additional capitalization based on the principle laid down by the Appellate Tribunal. In our view, the undertaking given by the petitioner before the Hon'ble Supreme Court that "the five issues shall not be pressed for fresh determination" is binding on the petitioner and the petitioner is estopped from seeking fresh determination of these issues. Moreover, the petitioner seems to create a distinction between the main tariff petition and the petition for additional capitalization by stating that while the undertaking is confined to the remand order pertaining to the main petition, the additional capitalization can be considered as per the principles laid down by the Appellate Tribunal. Such an approach will lead to dichotomous situations wherein tariff for the main petition and petition for additional capitalization are determined on the basis of the different principles. The tariff for the period 2004-09 is a complete package which needs to be determined on the same principle. From the point of view of regulatory uniformity and continuity and also in line with the spirit of the interim order of the Hon'ble Supreme Court, we are of the view that the

implementation of the judgment of the Appellate Tribunal on the five issues should be deferred till the final disposal of the Civil Appeals by the Hon'ble Supreme Court. Accordingly, tariff for additional capitalization is determined on the basis of the existing principles, subject to the final outcome of the Civil Appeals pending before the Supreme Court.

11. One more prayer of the petitioner in the application is for revision of capital cost of the generating station considering the undischarged liabilities, in terms of the judgment of the Appellate Tribunal dated 16.3.2009 in Appeal Nos. 133,135 etc of 2008.

12. The Commission in some of the petitions filed by the petitioner (Rihand and Ramagundam generating stations) revised the tariff for the period 2004-09 based on additional capital expenditure incurred, after deducting undischarged liabilities, on the ground that " *the expenditure for the liability incurred for which payment was not made would not come under the category 'actual expenditure incurred'*". Against the orders, appeals were filed by the petitioner before the Appellate Tribunal (Appeal No 151&152/2007) and the Appellate Tribunal by its judgment dated 10.12.2008 held as under:

*"25. Accordingly, we allow both the appeals in part. We direct that the appellant be allowed to recover capital cost incurred including the portion of such cost which has been retained or has not yet been paid for. We also direct that in case the Commission attributes any loan taken at the corporate level to a particular project under construction and considers any repayment out of it before the date of commercial operation the sum deployed for such repayment would earn interest as pass through in tariff.*

*26. The Commission is directed to give effect to the directions given herein in the truing up exercise and consequent subsequent tariff orders."*

13. Similar appeals (Appeal Nos.133, 135,136 and 148/2008) were filed by the petitioner before the Appellate Tribunal against the orders of the Commission in respect of other generating stations by the petitioner on the question of deduction of undischarged liabilities, IDC etc. The Appellate Tribunal, following its judgment dated 10.12.2008 *ibid*, allowed the claim of the petitioner and directed the Commission to give effect to the directions contained in the said judgments.

14. Against the judgments of the Appellate Tribunal dated 10.12.2008 and 16.3.2009 above, the Commission has filed Civil Appeal Nos. 4112-4113/2009 and Civil Appeal Nos. 6286 to 6289/2009 before the Hon'ble Supreme Court. These Civil Appeals are pending and there is no stay of the operation of the judgments of the Appellate Tribunal. Accordingly, it has been decided to revise the tariff of the generating station in terms of the directions contained in the judgment *ibid* subject to the final outcome of the appeals before the Supreme Court.

15. The Appellate Tribunal in its judgment dated 10.12.2008 had directed that the capital cost incurred in respect of the generating station including the portion of such cost which has been retained or has not been paid for shall be recovered in tariff. In other words, un-discharged liability in respect of works which have been executed but payments deferred for future date has to be capitalized. As regards IDC, if the loan amount has been repaid out of the internal resources before the date of



commercial operation, such repayments would earn interest. The Commission has been directed by the Appellate Tribunal to give effect to the directions contained in the judgment in the truing up exercise and subsequent tariff orders.

16. The directions of the Appellate Tribunal pertain to additional capitalization for the tariff period 2004-09 which has come to an end on 31.3.2009 and the exercise for implementation of the directions have been undertaken after the expiry of the said tariff period. Accordingly, tariff of the generating station is revised after considering the additional capital expenditure, capitalization of undischarged liabilities and IDC after truing up of the expenditure as on 31.3.2009. While truing up, the liabilities discharged, liabilities reversed on account of de-capitalization of assets during the tariff period have been accounted for.

17. The interlocutory application No. 41/2009 is disposed of as above. We proceed to consider the petition on merits.

### **Additional Capitalization**

18. Regulation 18 of the 2004 regulations provides for considering the additional capital expenditure for tariff as under:

*"18. (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 cutoff 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 machine, heat-convectors, carpets, mattresses etc. brought after the cutoff date shall not be considered for additional capitalization for determination of tariff with effect from 1.4.2004.*

*(4) Impact of additional capitalization 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 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 capital cost."*

**Preliminary objection**

19. The first respondent MPPTCL has raised the issue of maintainability and has submitted that the petition has been filed in gross violation of sub-clause (4) of Regulation 18 of the 2004 regulations, since the Commission has notified the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, applicable from 1.4.2009 and retrospective revision of tariff could not be allowed. In response, the petitioner has submitted that it had filed the petition after finalization of accounts and in terms of the liberty granted by the Commission by order dated 29.9.2008 in Petition No.27/2007 in respect of Kahalgaon STPS. Clause (4) of Regulation 18 limits revision of tariff to two occasions during the tariff period 2004-09. The tariff in respect of the generating station for the period 2004-09 was revised based on additional capital expenditure incurred for the period 2004-07 by order dated 3.2.2009 and further revision of tariff based on additional capital expenditure for the period 2007-09 has been sought for in this petition, in terms of the liberty granted by the Commission in order dated 29.9.2008 in Petition No. 27/2007, as under:

*"However, if for reasons of non-finalization of accounts for the year 2008-09, it is not possible for the petitioner to make an application for revision of tariff as per 2004 regulations, the petitioner may approach the Commission for such revision for this reason, after finalization of accounts for the year 2008-09 including additional capitalization for earlier years of 2004-09 period, not claimed so far, latest by 30.9.2009."*

We therefore, do not find any merit in the objection of the respondent on this issue.

20. The petitioner has claimed the revised fixed charges based on additional expenditure as under:

(Rs in lakh)			
Particulars	2007-08	2008-09	Total
Additional capital expenditure	909.18	316.68	1225.86

21. Reply to the petition has been filed by the first respondent MPPTCL.

22. The additional capital expenditure as per books vis-à-vis additional capital expenditure claimed by the petitioner is as under:

(Rs in lakh)		
	2007-08	2008-09
Total additional expenditure of the station as per books of accounts (A)	673.59	(-) 1251.05
Exclusions for additional capitalization vis-à-vis books of accounts (B)	(-) 235.59	(-) 1567.73
Total additional capitalization (A-B)	909.18	316.68

23. The summary of exclusions from the books of accounts claimed for the purpose of tariff is as under:

(Rs in lakh)		
Description	2007-08	2008-09
Capital Spares (Capitalized in books)	59.86	84.76
MBOA (De-capitalized in books)	(-) 26.14	0.00
De-cap of unserviceable assets	(-) 32.21	(-) 14.78
Assets transfer to Unserviceable at net block	6.03	0.00
Unserviceable assets already reduced in order dated 3.2.2009	(-) 8.16	(-) 5.18
Transformer de-cap in order dated 3.2.2009	(-) 234.96	0.00
FERV Capitalized in books of accounts	0.00	(-) 1632.53
<b>Total</b>	<b>(-) 235.59</b>	<b>(-) 1567.73</b>

## Exclusions

24. In the first instance, we consider the exclusions under different heads in the claim.

(a) **Capital Spares:** The petitioner has procured spares amounting to Rs.59.86 lakh and Rs.84.76 lakh during the years 2007-08 and 2008-09 respectively, for maintaining stock of necessary spares. Since capitalization of spares over and above initial spares procured after cut-off date are not allowed for the purpose of tariff, as they form part of O&M expenses when consumed, the petitioner has excluded the said amounts. The exclusion of the said amounts under this head is allowed.

(b) **De-capitalization of MBOA:** The petitioner has de-capitalized MBOA in books of accounts amounting to Rs.26.14 lakh during the year 2007-08 on it being unserviceable. However, the petitioner has prayed that negative entries arising out of de-capitalization of MBOA be retained in the capital base for the purpose of tariff. The ground on which the exclusion is sought by the petitioner is as under:

*"As per tariff regulation, 2004, Hon'ble Commission has disallowed the capitalization of MBOA items. However, for smooth and efficient operation of the station these items are being replaced with new one after useful life. Since, capitalization of these assets is not allowed the capitalization and de-capitalization of these needs to be excluded from capital base."*

The prayer of the petitioner for exclusion of de-capitalized MBOA is justified if these de-capitalized MBOA are the ones disallowed for the purpose of tariff. However, considering the fact that capitalization of minor assets for the purpose of

tariff was disallowed only during the tariff period 2004-09, it appears that these de-capitalized assets are the ones which were procured before 2004 and was allowed in the capital base for the purpose of tariff. Further, the petitioner's claim that these assets have already depreciated to the extent of 90% of the gross block indicates that these assets were procured prior to 1.4.2004 and were part of the capital base. Hence, the exclusion of negative entries arising due to de-capitalization of unserviceable MBOA is not justified and not allowed for the purpose of tariff.

(c) **De-capitalization of assets:** The petitioner has de-capitalized unserviceable assets like shunt loco, pick up van, fire tenders, wagons and cranes in books of accounts amounting to Rs.32.21 lakh and Rs.14.78 lakh during 2007-08 and 2008-09, respectively. The petitioner has also prayed that negative entries arising out of de-capitalization of the assets be retained in the capital base for the purpose of tariff.

The ground on which the exclusion is sought by the petitioner is as under:

*"These assets were in use since 1988-89/ COD of the station. The assets have outlived their useful life and rendered unserviceable. The replacements shall be purchased in coming years. On these assets 90% depreciation has been recovered in tariff."*

The petitioner's prayer for exclusion of negative entries arising due to de-capitalization of unserviceable assets on the ground that corresponding new assets would be purchased in future, is not allowed as these assets do not provide service to the beneficiaries. The petitioner is at liberty to approach the Commission after procurement of new assets.

(d) **Asset transferred to the head "unserviceable assets" at net block and exclusion of negative entries arising due to sale of unserviceable assets:** The petitioner's claim for exclusion of an amount of Rs.6.03 lakh during 2007-08 on account of transfer of

certain assets to the head "unserviceable assets" at their net book value, is allowed as unserviceable assets cannot be allowed to remain in the capital base for the purpose of tariff. Further, the petitioner's claim for exclusion of (-) Rs.8.16 lakh and (-) Rs.5.18 lakh arising on account of sale of unserviceable assets, for the years 2007-08 and 2008-09 respectively, is allowed since unserviceable assets as on 31.3.2007 has been removed from the capital base for the purpose of tariff in order dated 3.2.2009 in Petition No.25/2008.

(e) **Unserviceable asset de-capitalized in books, however already de-capitalized by Commission's order dt.3.2.2009:** The petitioner has sought exclusion of negative entry of Rs.234.96 lakh arising out of de-capitalization of generator transformer on the ground that negative entry effected in the books of accounts during 2007-08 has been considered vide order dated 3.2.2009 in Petition No. 25/2008 while allowing capitalization of new generator transformer during the year 2004-05. The claim of the petitioner has been verified and found to be in order. In view of the above, exclusion of negative entry of Rs.234.96 lakh is allowed.

(f) **FERV:** The claim for exclusion of an amount of (-) Rs.1632.53 lakh for the period 2008-09 on account of FERV is allowed, as the petitioner has billed the said amount directly to the beneficiaries in accordance with the 2004 regulations.

25. The year-wise and category-wise break-up of the additional expenditure claimed by petitioner is as under:

(Rs in lakh)

<b>Nature of capitalization</b>	<b>2007-08</b>	<b>2008-09</b>	<b>Total</b>
On account of change in law [18(2)(iii)]	7.89	3.62	<b>11.50</b>
Works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost- 18(2)(iv)	473.67	313.16	<b>786.84</b>
Deferred works relating to ash pond or ash handling system in the original scope of work [18(2)(v)]	427.61	(-)0.10	<b>427.52</b>
<b>Total</b>	<b>909.18</b>	<b>316.68</b>	<b>1225.86</b>

26. After applying prudence check on the asset-wise details and justification of additional capitalization claimed by the petitioner under various categories for the years 2007-08 and 2008-09, the admissibility of additional capitalization is discussed in the succeeding paragraphs:

**On account of change in law [18(2)(iii)]**

27. The petitioner has incurred an expenditure of Rs. 7.89 lakh and Rs.3.62 lakh for supply, erection and installation of township metering during the year 2007-08 and 2008-09 respectively, for compliance with the mandatory provision of Electricity Act, 2003. Hence, the expenditure is allowed.

**Additional works/services necessary for efficient and successful operation of the generating station, but not included in the original project cost {Regulation 18 (2)(iv)}**

28. The petitioner has claimed an amount of Rs.473.67 lakh and 313.16 lakh during the years 2007-08 and 2008-09 respectively. The admissibility of the claim for the respective years is discussed below:

**2007-08**



29. The petitioner's claim for Rs.473.67 lakh in respect of works/assets under CEA approved capital addition schemes, as under:

(a) **On line condenser tube cleaning system:** The claim of the petitioner for an expenditure of Rs.18.83 lakh against the new asset is allowed as the asset is considered necessary for the efficient and successful operation of the generating station.

(b) **NGT and NGR system:** The petitioner has claimed an expenditure of Rs.3.79 lakh against this asset along with the corresponding de-capitalization of the original asset amounting to Rs.0.68 lakh during the year 2008-09. The capitalization of Rs.3.79 lakh is allowed as the NGT and NGR system provides the facility to monitor and limit ground fault current and prevent unwanted fault damage. As the asset is considered necessary for the successful and efficient operation of generating station, the expenditure is allowed for the purpose of tariff after adjusting the corresponding de-capitalization in the year 2007-08.

(c) **DCS & Transmitter package:** The petitioner has claimed expenditure of Rs.1233.93 lakh against this asset along with the corresponding de-capitalization of the original asset amounting to Rs.685.01 lakh. The justification submitted by the petitioner for the expenditure is as under:

*"The original Russian transmitters have become obsolete. These transmitters were drifting in service. There was frequent failure of control system due to malfunctioning of transmitters. Also the OEM in erstwhile USSR has ceased to be in operation and maintaining this DCS is nearly impossible. This has been approved by CEA under Capital addition scheme. CEA (S.No.12)"*

In view of the justification and in terms of Note-2 under Regulation 18, the expenditure on CEA approved capital addition scheme is allowed along with the corresponding de-capitalization.

(d) **Replacement of LT and HT circuit breakers:** The petitioner has claimed an expenditure of Rs.7.28 lakh and 20.79 lakh on replacement of LT and HT circuit breakers respectively, along with the corresponding de-capitalization amounting to Rs.13.06 lakh. The justification submitted by the petitioner for the expenditure is as under:

*"Due to dis-integration of USSR the availability of spares parts as well as complete breaker were not available. Also most of the original equipment manufacturer has closed down. The Russian make Circuit Breakers were replaced to ensure safe and reliable operation of important auxiliaries of the units. This has been covered under Capital Addition Scheme approved by CEA (S.No. 17 and 18)."*

In view of the justification and in terms of Note-2 under Regulation 18, the expenditure on CEA approved capital addition scheme is allowed along with the corresponding de-capitalization.

(e) **Replacement of BFP recirculation valve:** The petitioner has claimed an expenditure of Rs.12.97 lakh on replacement of this asset. The justification submitted by the petitioner for the expenditure is as under:

*"The existing valves have outlived their useful life and were passing heavily. All this has lead to loss of heat rate and increase in Auxiliary Power Consumption. The prolonged use of these valves may seriously jeopardize the safety of men and machine. This proposal has been approved by CEA under Capital Addition Scheme of VSTPS-I.CEA (S.No. 25)."*

The petitioner has not furnished the corresponding de-capitalization value of the asset and has stated as under:

*This entire package was procured from erstwhile USSR. The break-up prices for recirculation valves and BFP is not available. Further, the old valve has been removed*

*from main equipment and has been declared as scrap. The valuation of old asset is being done and shall be adjusted upon sale of scrap."*

The justification of the petitioner for not furnishing the de-capitalized value of original asset even after two years of de-capitalization of the asset is not acceptable and hence, in terms of Note-2 under Regulation 18, the claim of the petitioner for Rs.12.97 lakh is not allowed.

(f) The petitioner's claim of (-) Rs.125.85 lakh in respect of de-capitalization of "Cranes" on inter-unit transfer on permanent basis to other generating stations is allowed for the purpose of tariff.

30. In view of the above discussions, an expenditure of Rs.460.02 lakh for the year 2007-08 is allowed for the purpose of tariff under this head.

#### **2008-09**

31. The petitioner has claimed an amount of Rs.313.16 lakh under this head in respect of works/assets as under:

**(a)DCS & transmitter package:** The petitioner has claimed an expenditure of Rs.769.44 lakh against this asset along with the corresponding de-capitalization of the original asset amounting to Rs.455.74 lakh. The justification submitted by the petitioner for the expenditure is as under:

*"The original Russian transmitters have become obsolete. These transmitters were drifting in service. There was frequent failure of control system due to malfunctioning of transmitters. Also the OEM in erstwhile USSR has ceased to be in operation and maintaining this DCS is nearly impossible. This has been approved by CEA under Capital addition scheme. CEA (S.No.12)"*

In view of the justification and in terms of Note-2 under Regulation 18, the expenditure on CEA approved capital addition scheme is allowed along with the corresponding de-capitalization.

(b) **Replacement of BFP recirculation valve:** The petitioner has claimed an amount of Rs.0.15 lakh in respect of balance payment of this asset. As the expenditure on original asset is not allowed for the year 2007-08, the petitioner's claim for balance payment of Rs.0.15 lakh is also not allowed.

(c) The petitioner has de-capitalized an amount of Rs.0.68 lakh in respect of NGT and NGR system capitalized during 2007-08. In view of the adjustment of de-capitalization in the year 2007-08, the negative entry during 2008-09 is ignored.

32. In view of the above discussions, an expenditure of Rs.313.70 lakh for the year 2007-08 is allowed for the purpose of tariff under this head.

**Deferred works relating to ash pond or ash handling system in the original scope of work [18(2)(v)]**

33. The petitioner has claimed Rs.427.61 lakh and (-) Rs.0.10 lakh during 2007-08 and 2008-09 under this head. As the expenditure incurred towards raising of Ash dyke is an on going process and is necessary after few years of operation of the generating station, the expenditure is allowed.

34. Based on the above discussions, the additional capital expenditure for the period 2007-09 allowed is as under:

(Rs in lakh)

<b>Nature of capitalization</b>	<b>2007-08</b>	<b>2008-09</b>
On account of change in law [18(2)(iii)]	7.89	3.62
Works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost- 18(2) (iv)	460.02	313.70
Deferred works relating to ash pond or ash handling system in the original scope of work [18(2)(v)]	427.61	(-)0.10
<b>Total before adjustments of exclusions(A)</b>	<b>895.52</b>	<b>317.22</b>
<b>Exclusions not allowed (B)</b>	(-)58.35	(-)14.78
<b>Additional capital expenditure allowed C=(A+B)</b>	<b>837.18</b>	<b>302.44</b>
Less: Undischarged liabilities included	0.74	186.57
Add: Discharge of liabilities as considered in order dated 3.2.2009 in Petition No. 25/2008	337.82	0.00
<b>Net additional capital expenditure allowed</b>	<b>1174.26</b>	<b>115.87</b>

#### **FERV (2001-04)**

35. Commission vide order dated 29.6.2006 in Petition No.128/2004 had allowed capitalization of FERV on actual basis amounting to Rs.91.92 lakh for the period 2001-04.

36. In the petition the petitioner has prayed that FERV amounting to Rs.137 lakh corresponding to normative loan should have been added to the capital cost as on 1.4.2004, in line with methodology adopted by the Commission in the tariff petitions for the period 2004-09, instead of an amount of Rs.91.92 lakh.

37. The petitioner's claim of FERV on normative basis has been examined. Based on normative loan outstanding, FERV works out to Rs.136.48 lakh, which has been admitted for the purpose of tariff. The necessary calculation is shown as under:

(Rs. in lakh)				
Particulars	2001-02	2002-03	2003-04	Total
Net opening loan (actual) - A	3264	1500	1026	
Net opening loan (normative) - B	4847	2227	1524	
Actual FERV allowed in order dated 29.6.2006 - C	3	82	6.92	<b>91.92</b>
FERV allowable on normative basis (D = C x B ÷ A)	4.45	121.74	10.28	<b>136.48</b>

38. Thus the differential FERV considered for the tariff period 2001-04 works out to Rs.44.56 lakh.

### Capital cost

39. As stated above, the Commission had admitted the capital cost of Rs.145908.54 lakh (inclusive of FERV amounting to Rs.91.92 lakh, on actual basis, for the tariff period 2001-04) as on 1.4.2004 and Rs.146929.43 lakh as on 1.4.2007 for determination of tariff for the period 2004-09.

40. Taking into account the capital cost of the generating station as on 1.4.2004, the additional FERV allowed for tariff period 2001-04, the additional capital expenditure approved for the years 2004-05, 2005-06 and 2006-07 and the additional capital expenditure approved for the years 2007-08 and 2008-09 as per para 34 above, the capital cost for the period 2004-09 is worked out as under:

(Rs. in lakh)					
Year	2004-05	2005-06	2006-07	2007-08	2008-09
Opening Capital cost as on 1.4.2004 considered vide order dated 29.6.2006 in Petition No. 128/2004	145908.54	-	-	-	-
Add: Additional FERV on normative basis for tariff period 2001-04	44.56	-	-	-	-
Opening Capital cost	145953.10	146029.26	146218.69	146973.98	148148.24

Additional capital expenditure allowed earlier vide order dated 3.2.2009	76.16	189.43	755.29	-	-
Additional capital expenditure now considered	-	-	-	1174.26	115.87
<b>Closing Capital cost</b>	<b>146029.26</b>	<b>146218.69</b>	<b>146973.98</b>	<b>148148.24</b>	<b>148264.11</b>
<b>Average Capital cost</b>	<b>145991.18</b>	<b>146123.98</b>	<b>146596.34</b>	<b>147561.11</b>	<b>148206.18</b>

## Debt-Equity

41. Regulation 20 of the 2004 regulations provides that:

*“(1) In case of the existing project, debt–equity ratio Considered by the Commission for the period ending 31.3.2004 shall be considered for determination of tariff with effect from 1.4.2004.*

*Provided that in cases where the tariff for the period ending 31.03.2004 has not been determined by the Commission, debt equity ratio shall be as may be decided by the Commission:*

*Provided further that in case of the existing generating stations where additional capitalization has been completed on or after 1.4.2004 and admitted by the Commission under regulation 18, equity in the additional capitalization to be considered shall be:-,*

- (a) 30% of the additional capital expenditure admitted by the Commission; or*
  - (b) Equity approved by the competent authority in the financial package, for additional capitalization; or*
  - (c) Actual equity employed,*
- Whichever is the least:*

*Provided further that in case of additional capital expenditure admitted under the second proviso, the Commission may consider equity of more than 30% if the generating company is able to satisfy the Commission that deployment of such equity of more than 30% was in the interest of general public.*

42. The debt-equity ratio of 50:50 was considered by the Commission in respect of FERV (on actual basis amounting to Rs.91.92 lakh) for the period 1.4.2001 to 31.3.2004 vide order dated 29.6.2006. The Appellate Tribunal in its judgment dated 4.10.2006 in Appeal no. 135, 136, etc. of 2005, at para-16 has observed as under:

*“Once the fixed cost has been agreed to be financed in a certain ratio of debt and equity, the equity can be affected by FERV only if equity is in foreign exchange. The provision of FERV as a pass through has been kept to ensure that any liability or gain, if any, arising on account of any variation in foreign exchange rates (whether debt or equity) is passed on to the beneficiary. In case there is no FERV liability or gain, as the case may be, there will not be any FERV adjustment. In the instant case the additional liability arising on account of FERV shall have an impact only on the debt liability and not equity capital. In this view of the matter, we hold that FERV adjustment is to be made in respect of debt liability and not in respect of the equity. Accordingly, we hold that the CERC is only to make adjustment in respect of debt liability and not in respect of the equity.*

*In view of the aforesaid discussions, the appeal is partly allowed to the extent indicated above. The Central Electricity Regulatory Commission shall re-calculate the effect of FERV on the debt liability.”*

43. In view of the above and in consideration of the decision of the Commission in order dated 11.1.2010 in Petition No. 120/2005, the impact of FERV is adjusted against loan as it arises out of loan liability.

44. Accordingly, FERV of Rs.91.92 lakh allowed amounting earlier and the differential FERV of Rs.44.56 lakh allowed in the petition for the period from 1.4.2001 to 31.3.2004 has been allocated to debt as on 1.4.2004.

45. The gross opening loan (normative) as on 1.4.2004 has been revised from Rs.72954.27 lakh to Rs.73044.79 lakh and the normative equity as on 1.4.2004 is revised from Rs.72954.27 lakh to Rs.72908.31 lakh.

46. Consequent to the adjustment of FERV for the period 1.4.2001 to 31.3.2004, as above, the difference in the FERV recovered, shall be mutually settled between the parties.



47. Further, the petitioner has submitted that the additional capital expenditure claimed has been financed through loan of Rs.746.39 lakh drawn out of KFW loan during 2008-09 and the balance from internal accruals/resources. Considering the details of the capital work in progress furnished by the petitioner and the amount of de-capitalized assets, the equity component of additional capitalization is more than 30%. Hence, the debt-equity ratio of 70:30 has been considered for the additional capital expenditure approved in terms of sub-clause (a) of clause (1) of Regulation 20 of the 2004 regulations. Accordingly, additional notional equity of the generating station on account of capitalization approved, works out as under:

	(Rs. in lakh)	
	<b>2007-08</b>	<b>2008-09</b>
Additional Notional Equity	352.28	34.76

### **Return on Equity**

48. Return on equity is allowed @ 14% on the average normative equity, as under:

	(Rs. in lakh)				
	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Equity-Opening vide order dated 29.6.2006	72954.27	-	-	-	-
Addition of Equity due to additional FERV on normative basis for the period 2001-04 and on account of allocating FERV to debt	(-)45.96	-	-	-	-
Equity – Opening considered now	72908.31	72931.16	72987.99	73214.58	73566.85
Addition of Equity allowed vide order dated 3.2.2009 due to additional capital expenditure	22.85	56.83	226.59	-	-
Addition of Equity due to additional capital expenditure	-	-	-	352.28	34.76
Equity-Closing	72931.16	72987.99	73214.58	73566.85	73601.61
Average equity	72919.73	72959.57	73101.28	73390.72	73584.23
Return on Equity @ 14%	<b>10208.76</b>	<b>10214.34</b>	<b>10234.18</b>	<b>10274.70</b>	<b>10301.79</b>

## Interest on loan

49. Interest on loan has been worked out as mentioned below:

(a) Revised gross opening loan on normative basis on 1.4.2004 as mentioned at para-45 above is Rs.73044.79 lakh corresponding to revised capital cost of Rs.145953.10 lakh.

(b) Cumulative repayment of normative loan on 1.4.2004 amounting to Rs.68458.01 lakh as considered in order dated 3.2.2009 in Petition No. 25/2008 has been considered.

(c) The revised net opening loan on normative basis on 1.4.2004 is Rs.4586.77 lakh.

(d) There is addition of notional loan to the tune of Rs.821.98 lakh and Rs.81.11 lakh on account of additional capital expenditure (including discharged liability) incurred during the period 2007-08 and 2008-09, respectively.

(e) Weighted average rate of interest on loan has been worked out after accounting for the rate of interest considered in order dated 3.2.2009 along with addition of loan of 746.39 lakh drawn out of KFW loan during the year 2008-09, and interest capitalized during the years 2007-08 and 2008-09.

(f) Normative repayment of the normative loan has been calculated based on following formula:

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

(g) Normative repayment of loan considered is equal to the admissible depreciation for the year or normative repayment whichever is higher, as considered in the determination of the tariff for other generating stations of the

petitioner for the period 2004-09. This is however subject to the final decision of the Hon'ble Supreme Court in Civil Appeal No. 5434/2007 and other related appeals.

50. Interest on loan has been computed as under:

	(Rs. in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Gross Opening Loan as considered in order dated 29.6.2006	72954.27	-	-	-	-
Addition of loan due to additional FERV on normative basis for tariff period 2001-04 & on account of allocating FERV to debt	90.52	-	-	-	-
Gross Opening Loan – Considered now	73044.79	73098.10	73230.70	73759.41	74581.39
Cumulative Repayment of Loan upto previous year	68458.01	73098.10	73230.70	73759.41	74581.39
Net Loan Opening	4586.77	0.00	0.00	0.00	0.00
Addition of loan allowed vide vide order dt.3.2.2009 due to additional capital expenditure	53.31	132.60	528.70	-	-
Addition of loan due to additional capital expenditure approved above in the instant petition	-	-	-	821.98	81.11
Repayment of loan during the year	4640.09	132.60	528.70	821.98	81.11
Net Loan Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	2293.39	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan	7.6312%	6.1391%	5.2605%	6.0755%	6.6341%
<b>Interest on Loan</b>	<b>175.01</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### Depreciation

51. In order dated 29.6.2006, the balance depreciation recoverable as on 1.4.2004 was considered as Rs.24564.45 lakh. However, on account of additional FERV on normative basis amounting to Rs.44.56 lakh the balance depreciation recoverable has been increased to Rs.24602.21 lakh after adjustment of Rs.2.34 lakh in respect of

depreciation recovered on account of additional FERV for the period 1.4.2001 to 31.3.2004. Thus, the cumulative depreciation as on 1.4.2004 is revised to Rs.104504.82 lakh. However, after taking into account the additional capital expenditure of Rs.76.16 lakh during 2004-05, the balance depreciable value as on 1.4.2004 is revised to Rs.24636.48 lakh. An amount of Rs.5138.55 lakh is recoverable as depreciation for the period 2004-05 by applying the depreciation rate of 3.5198%.

52. The balance depreciation recoverable as on 1.4.2005 works out to Rs.19893.32 lakh after considering the additional capital expenditure allowed for the period 2005-06. As the entire loan has been repaid during 2004-05, the balance depreciation of Rs.19893.32 lakh has been spread over the balance useful life of the generating station from 2005-06 onwards.

53. The admitted amount of additional capital expenditure has been considered after disallowing exclusion of de-capitalization of certain unserviceable assets and allowing de-capitalization of certain assets. Adjustment of cumulative depreciation on account of de-capitalization of assets has been considered in the calculations as carried out in the tariff orders for the period 2004-09 for other generating stations of the petitioner:

	(Rs. in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Opening capital cost	145953.10	146029.26	146218.69	146973.98	148148.24
Closing capital cost	146029.26	146218.69	146973.98	148148.24	148264.11
Average capital cost	145991.18	146123.98	146596.34	147561.11	148206.18
Depreciable value @ 90%	129141.30	129260.82	129685.94	130554.24	131134.80

Balance depreciable value	24636.48	19893.32	18667.25	18055.69	17546.17
Balance useful life	12.58	11.58	10.58	9.58	8.58
Depreciation	<b>5138.55</b>	<b>1717.90</b>	<b>1764.39</b>	<b>1884.73</b>	<b>2045.01</b>

### Advance Against Depreciation

54. The petitioner has not claimed Advance Against Depreciation. Therefore the petitioner's entitlement to Advance Against Depreciation is "Nil".

### O&M expenses

55. O&M expenses as considered in order dated 3.2.2009 has been considered for revision of tariff.

### Interest on Working capital

56. For the purpose of calculation of working capital the operating parameters including the price of fuel components as considered in the order dated 3.2.2009 have been kept unchanged. The "receivables" component of the working capital has been revised due to reason of revision of return on equity interest on loan etc. The necessary details in support of calculation of interest on working capital are as under:

Particulars	(Rs. in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Coal Stock- 1.1/2 months	7293.87	7293.86	7293.86	7313.85	7293.86
Oil stock -2 months	423.46	423.46	423.46	424.62	423.46
O & M expenses	1092.00	1136.10	1181.25	1228.50	1277.85
Spares	2848.21	3019.10	3200.24	3392.26	3595.79
Receivables	15381.59	14866.30	14973.35	15129.58	15237.51
Total Working Capital	27039.12	26738.82	27072.17	27488.81	27828.48
Rate of Interest	10.2500%	10.2500%	10.2500%	10.2500%	10.2500%
<b>Total Interest on Working capital</b>	<b>2771.51</b>	<b>2740.73</b>	<b>2774.90</b>	<b>2817.60</b>	<b>2852.42</b>

57. The target availability of 80% considered by the Commission in the order dated 29.6.2006 and 3.2.2009 remains unchanged. Similarly other parameters viz. specific fuel consumption Auxiliary Power consumption and Station Heat rate etc considered in the order dated 3.2.2009 have been retained for the purpose of calculation of the revised fixed charges.

58. The revised annual fixed charges for the period from 1.4.2004 to 31.3.2009 are summarized as under:

(Rs. in lakh)					
<b>Particulars</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Interest on loan	175.01	0.00	0.00	0.00	0.00
Interest on Working Capital	2771.51	2740.73	2774.90	2817.60	2852.42
Depreciation	5138.55	1717.90	1764.39	1884.73	2045.01
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Return on Equity	10208.76	10214.34	10234.18	10274.70	10301.79
O & M Expenses	13104.00	13633.20	14175.00	14742.00	15334.20
<b>Total</b>	<b>31397.83</b>	<b>28306.17</b>	<b>28948.47</b>	<b>29719.03</b>	<b>30533.42</b>

59. 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 statutory authority, in accordance with the 2004 regulations, as applicable.

60. The petitioner shall claim the difference in respect of the tariff determined by dated 3.2.2009 and the tariff determined by this order, from the beneficiaries in three equal monthly installments.

61. The petitioner's claim for reimbursement of filing fees is not allowed in terms of the Commission's general order dated 11.9.2008 in Petition No. 129/2005.

62. Petition No.147/2009 stands disposed of in terms of the above.

**Sd/-  
(V.S. VERMA)  
MEMBER**

**Sd/-  
(S.JAYARAMAN)  
MEMBER**

**Sd/-  
(R.KRISHNAMOORTHY)  
MEMBER**