

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 182/2009**

**Coram**

- 1. Shri S. Jayaraman, Member**
- 2. Shri M.Deena Dayalan, Member**

**DATE OF HEARING: 6.5.2010**

**DATE OF ORDER: 20.1.2011**

**IN THE MATTER OF**

Determination of revised fixed charges due to additional capital expenditure incurred during 2006-07, 2007-08 and 2008-09 at Rihand Super Thermal Power Station, Stage-I (1000MW).

**And in the matter of**

NTPC Ltd, New Delhi

Vs

**...Petitioner**

1. Uttar Pradesh Power Corporation Limited, Lucknow
  2. Jaipur Vidyut Vitran Nigam Ltd, Jaipur
  3. Ajmer Vidyut Vitran Nigam Ltd, Ajmer
  4. Jodhpur Vidyut Vitran Nigam Ltd, Jodhpur
  5. Delhi Transco Ltd, New Delhi
  6. North Delhi Power Ltd, Delhi
  7. BSES-Rajdhani Power Ltd, New Delhi
  8. BSES-Yamuna Power Ltd, Delhi
  9. Haryana Power Purchase Centre, Panchkula
  10. Punjab State Electricity Board, Patiala
  11. Himachal Pradesh State Electricity Board, Shimla
  12. Power Development Department, Govt. of J&K, Jammu
  13. Power Department, Union Territory of Chandigarh, Chandigarh
  14. Uttarakhand Power Corporation Ltd, Dehradun
- .....Respondents**

**The following were present:**

1. Shri V.K.Padha, NTPC
2. Shri S.K.Sharma, NTPC
3. Shri Manish Garg, NTPC
4. Shri V.K.Tandon, NTPC
5. Shri Ajay Dua, NTPC
6. Shri Manoj Saxena, NTPC
7. Shri Sankar Saran, NTPC
8. Shri S.Agarwal, NTPC



9. Shri Sachin Jain, NTPC
10. Shri V.K.Garg, NTPC
11. Ms. Shilpa Agarwal, NTPC
12. Shri Manish Garg, UPPCL

## **ORDER**

The petitioner, NTPC has made this application for determination of revised fixed charges due to capital expenditure incurred during the years 2006-07, 2007-08 and 2008-09 for Rihand STPS, Stage-I (1000 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:

*(i) Inclusion of disallowed capital liabilities of Rs.102.581 lakh, as on 1.4.2005 and Rs 22.131 lakh as on 1.4.2006 in CERC order dated 10.7.2008 in Petition No. 22/2007 into capital base for the years 2004-05 and 2005-06 as per Hon’ble ATE judgment dated 10.12.2008 as brought out above.*

*(ii) Approve the revised fixed charges of this station after considering the impact of additional capital expenditure as per details given in Annexure-I for the period 1.4.2004 to 31.3.2009.*

*(iii) Allow the recovery of filing fees from the respondents.*

*(iv) Allow recovery of income tax from the beneficiaries as per CERC Regulations for the period 2004-09.*

*(iv) Pass any other order in this regard as the Hon’ble Commission may find appropriate in the circumstances pleaded above.*

2. The generating station comprises of two units of 500 MW each and the date of commercial operation of Unit-I was 1.1.1990 and that of Unit-II (and generating station) is 1.1.1991. The tariff for the generating station for the period 1.4.2004 to 31.3.2009, was approved by the Commission by its order dated 19.6.2006 in Petition No.151/2004, and subsequently revised by order dated 21.7.2006. Subsequently, the Commission by its order dated 10.7.2008 in Petition No. 22/2007 revised the



tariff for the generating station based on additional capital expenditure for the years 2004-05 and 2005-06, after deducting un-discharged liabilities amounting to ₹102.58 lakh as on 1.4.2004 and ₹22.13 lakh as on 1.4.2006, based on the capital cost of ₹237256.52 lakh as on 1.4.2004. The capital cost, as approved by the Commission, is as under:

| (₹ 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>   |
| Opening Capital Cost           | 237256.52        | 238314.60        | 238996.15        | 238996.15        | 238996.15        |
| Additional Capital Expenditure | 1058.08          | 681.55           | 0.00             | 0.00             | 0.00             |
| Closing Capital Cost           | <b>238314.60</b> | <b>238996.15</b> | <b>238996.15</b> | <b>238996.15</b> | <b>238996.15</b> |
| Average Capital Cost           | <b>237785.56</b> | <b>238655.37</b> | <b>238996.15</b> | <b>238996.15</b> | <b>238996.15</b> |

3. The annual fixed charges allowed by the Commission by order dated 10.7.2008 is as under:

| (₹ 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             | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| Interest on Working Capital  | 2410.02         | 2443.90         | 2478.56         | 2518.07         | 2552.01         |
| Depreciation                 | 4094.77         | 4164.36         | 4194.28         | 4194.28         | 4194.28         |
| Advance Against Depreciation | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| Return on Equity             | 16630.18        | 16666.71        | 16681.02        | 16681.02        | 16681.02        |
| O & M Expenses               | 9360.00         | 9730.00         | 10120.00        | 10520.00        | 10950.00        |
| <b>TOTAL</b>                 | <b>32494.97</b> | <b>33004.97</b> | <b>33473.86</b> | <b>33913.37</b> | <b>34377.32</b> |

4. Before we proceed to consider the additional capital expenditure, the claim of the petitioner for revision of tariff based on the principles laid down in the judgment of the Appellate Tribunal for Electricity (the Tribunal) dated 13.6.2007 in Appeal Nos. 139 to 142 etc of 2006, 10, 11 and 23/2007 is examined in the subsequent paragraphs.

5. The petitioner filed Appeal No.207/2006 before the Tribunal challenging the order of the Commission dated 19.6.2006 in Petition No.151/2004 determining tariff for the generating station for the period 2004-09. Similar appeals (Appeal Nos.139 to 142 etc of 2006, 10, 11 and 23/2007) was also filed before the Tribunal challenging

the various orders of the Commission determining tariff for other generating stations during the period 2004-09. Appeal No.207/2006 which pertains to this generating station was also clubbed along with the said appeals and the Tribunal by its common judgment dated 13.6.2007 allowed the prayers of the petitioner and remanded the matters for re-determination by the Commission. Against the judgment dated 13.6.2007, the Commission had filed 20 Civil Appeals before the Hon'ble Supreme Court (C.A. Nos. 5434/2007 to 5452/2007 and 5622/2007) including Civil Appeal No. 5446/2007 pertaining to this generating station, 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*

6. The Hon'ble Supreme Court on 26.11.2007 granted an 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 passed 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."*

7. The petitioner 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 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 (the Tribunal) does not become *non est*.

8. As stated above, the Hon'ble Supreme Court in its interim order dated 26.11.2007 had granted stay of the operation of the judgment dated 13.6.2007 of the 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 Tribunal. In our view, the petitioner has given an undertaking in the Civil Appeals pertaining to the tariff in the original petition before the Hon'ble Supreme Court that "the five issues shall not be pressed for fresh determination". It is logical that original tariff as well as revision of tariff for the generating station on the basis of additional capital expenditure is to be decided on the basis of the same principles. Accepting the contention of the petitioner would mean that additional capitalization should be determined on the principles different from those which have fallen for consideration while determining the tariff for the generating station in the original petition. The

tariff for the period 2004-09 is a composite 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 extension of the impact of the judgment of the Tribunal on the five issues should be deferred till the final disposal of the said Civil Appeals by the Hon'ble Supreme Court.

9. One more aspect for consideration is the prayer of the petitioner to revise the tariff for the generating station, after considering the un-discharged liabilities as stated therein, in terms of the judgment of the Tribunal dated 10.12.2008 in Appeal Nos.151 and 152/2007.

10. Appeal Nos 151 & 152/2007 was filed by the petitioner before the Tribunal challenging the orders of the Commission revising the tariff for Rihand and Ramagundam generating stations of the petitioner for the period 2004-09 based on the additional capital expenditure incurred and 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'"*. The Appellate Tribunal in its judgment dated 10.12.2008 observed 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."*

11. Subsequently, Appeal No.136/2008 was filed by the petitioner in respect of this generating station before the Tribunal challenging the order of the Commission dated 10.7.2008 in Petition No.22/2007 on the question of deduction of undischarged liabilities, IDC etc. Similar appeals (Appeal Nos.133, 135, and 148/2008) were also filed by the petitioner challenging the orders of the Commission revising tariff for some of its other generating stations for 2004-09 after deduction of un-discharged liabilities. Appeal No.136/2008 was clubbed with the said appeals and the Tribunal by a common judgment dated 16.3.2009 in Appeal Nos.133, 135, 136 and 148/2008 allowed the claim of the petitioner, following its earlier judgment dated 10.12.2008 *ibid*, and directed the Commission to give effect to the directions contained in the said judgment.

12. Against the judgments of the 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 Tribunal. Consequently, it has been decided to implement the judgment of the Tribunal subject to the final outcome of the Civil Appeals pending before the Hon'ble Supreme Court.

### **Un-discharged liabilities**

13. Based on the above, the un-discharged liabilities which were disallowed in order dated 10.7.2008 in Petition No. 22/2007 has been allowed for the purpose of tariff. In addition, any liability discharged from out of the liabilities disallowed earlier by the Commission has also been considered and necessary adjustments have been

made for the purpose of revision of tariff for the generating station. Accordingly, the additional capital expenditure for the period 2004-06 is revised as under:

| (₹ in lakh)   |         |         |         |
|---|---------|---------|---------|
| Particulars   | 2004-05 | 2005-06 | Total   |
| Additional Capital Expenditure allowed in order dated 10.7.2008 (A) | 1058.08 | 681.55  | 1739.63 |
| Un-discharged Liabilities disallowed (B )                           | 102.58  | 22.13   | 124.71  |
| Liabilities discharged during the year (C)                          | 0.00    | 47.92   | 47.92   |
| Additional Capital Expenditure allowed (D)<br>(E= A+B-C)            | 1160.66 | 655.76  | 1816.42 |

14. We now proceed to examine the claim of the petitioner for additional capital expenditure for the years 2006-07, 2007-08 and 2008-09, in the subsequent paragraphs.

15. Reply to the petition has been filed by the first respondent, UPPCL.

16. The petitioner has claimed revised fixed charges based on additional capital expenditure as under:

| (₹ in lakh)                    |         |         |         |
|--------------------------------|---------|---------|---------|
| Particulars                    | 2006-07 | 2007-08 | 2008-09 |
| Additional capital expenditure | 6.63    | 2788.24 | 1681.52 |

### **Additional Capitalization**

17. 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 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 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."*

18. The additional capital expenditure claimed by the petitioner as per books of accounts is as under:

| (₹ in lakh)   |            |         |         |
|---|------------|---------|---------|
| Particulars   | 2006-07    | 2007-08 | 2008-09 |
| Total additional expenditure of the generating station as per books of accounts (A) | (-) 292.40 | 3153.11 | 1168.49 |

|  |             |                |                |
|--|-------------|----------------|----------------|
| Exclusions for additional capitalization vis-à-vis books of accounts (B) | (-) 299.03  | 364.87         | (-) 513.03     |
| Total additional capitalization (A-B)                                    | <b>6.63</b> | <b>2788.24</b> | <b>1681.52</b> |

19. The summary of exclusions from the books of accounts claimed is as under:

| (₹ in lakh)                               |                   |                |                   |
|---|-------------------|----------------|-------------------|
| <b>Description</b>                        | <b>2006-07</b>    | <b>2007-08</b> | <b>2008-09</b>    |
| Inter-unit transfer of assets             | 0.00              | 0.00           | (-)635.25         |
| De-capitalisation of unserviceable assets | (-)299.17         | (-)36.70       | (-)65.32          |
| Capital spares (capitalized)              | 0.00              | 401.57         | 352.92            |
| FERV                                      | 0.15              | 0.00           | (-)165.38         |
| <b>Total Exclusions</b>                   | <b>(-) 299.03</b> | <b>364.87</b>  | <b>(-) 513.03</b> |

### **Exclusions**

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

(a) **Inter-unit transfers:** The petitioner has excluded an amount of (-) ₹635.25 lakh under this head on account of transfer of generator transformer to other generating station of the petitioner during the year 2008-09. The Commission while dealing with applications for additional capitalization in respect of other generating stations of the petitioner has decided that both positive and negative entries arising out of inter-unit transfers of temporary nature ***shall be ignored for the purposes of tariff***. In consideration of the said decisions, the exclusion of the amount of (-) ₹635.25 lakh for the year 2008-09 on account of inter-unit transfer of assets is allowed.

(b) **De-capitalization of unserviceable assets:** The petitioner has de-capitalized unserviceable assets like wagons, vehicles, furniture, IT and communication and guest house equipments in books of accounts amounting to (-) ₹299.17 lakh, (-) ₹36.70 lakh and (-) ₹65.32 lakh for the years 2006-07, 2007-08 and 2008-09, respectively. However, the petitioner has prayed that negative entries arising out of

de-capitalization of these assets are to be ignored for the purpose of tariff i.e de-capitalized unserviceable assets are to be retained in the capital base for the purpose of tariff. The ground on which the exclusion has been sought by the petitioner is as under:

*“Unservicable wagons/vehicles have been de-capitalized. The same are proposed to be replaced shortly. Therefore, it is submitted that pending replacement, Hon’ble Commission may not exclude the same from the tariff base. Notwithstanding the above, if Hon’ble commission decides not to allow the exclusion, it is submitted that Hon’ble commission may be pleased to allow for re-inclusion in tariff base on replacement.”*

*“Obsolete/Unservicable assets have been de-capitalized in books for accounting purposes. However, the replacement of these items may not allowed to be capitalized in tariff as per Regulation 2004. As new replacement is not being allowed in tariff, so this may not be excluded from the claim.”*

In view of the fact that these assets were a part of capital cost for the purpose of tariff and have been de-capitalized on their being unserviceable, their de-capitalization is not to be allowed to be excluded as these assets do not render any useful service to the generating station.

(c) **Capital spares capitalized:** The petitioner has procured spares amounting to ₹401.57 lakh and ₹352.92 lakh during the years 2007-08 and 2008-09, respectively. However, the petitioner has not claimed capitalization of these spares for the purpose of tariff since it has been the consistent approach of the Commission not to allow capitalization of spares after the cut-off date. As such, the petitioner’s claim for exclusion of the spares is allowed.

(d) **FERV:** The petitioner’s claim for exclusion of a net amount of ₹0.15 lakh and (-) ₹165.38 lakh for the years 2006-07 and 2008-09 on account of FERV is allowed. The petitioner may recover the FERV amounts directly from the beneficiaries in accordance with the 2004 regulations.

21. In view of the above discussions, the following amounts have been allowed under exclusions:

| (₹ in lakh)                    |             |               |                   |
|--------------------------------|-------------|---------------|-------------------|
| Description                    | 2006-07     | 2007-08       | 2008-09           |
| Inter-unit transfer of assets  | 0.00        | 0.00          | (-) 635.25        |
| De-cap of unserviceable assets | 0.00        | 0.00          | 0.00              |
| Capital spares (capitalized)   | 0.00        | 401.57        | 352.92            |
| FERV                           | 0.15        | 0.00          | (-) 165.38        |
| <b>Total Exclusions</b>        | <b>0.15</b> | <b>401.57</b> | <b>(-) 447.71</b> |

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

| (₹ in lakh)   |             |                |                |
|---|-------------|----------------|----------------|
| Nature of capitalization  | 2006-07     | 2007-08        | 2008-09        |
| Deferred Liabilities relating to works within original scope of work. [18(2)(i)]                                    | 6.63        | 15.38          | 23.26          |
| On account of change in law [18(2)(iii)]  | 0.00        | 2.93           | 2580.67        |
| For efficient and successful operation of generation station, but not included in original project cost [18(2)(iv)] | 0.004       | 2525.82        | (-) 1091.16    |
| Deferred works relating to Ash pond or Ash handling system, in original scope of work [18(2)(v)]                    | 0.00        | 244.12         | 168.75         |
| <b>Total</b>  | <b>6.63</b> | <b>2788.24</b> | <b>1681.52</b> |

23. After applying prudence check on the asset-wise details and justification of additional capitalization claimed by the petitioner under various categories for the years 2006-09, the admissibility of additional capitalization is discussed in the succeeding paragraphs:

**Deferred liabilities relating to works/services within original scope of work-[Regulation 18(2)(i)]**

24. The petitioner has claimed an amount of ₹6.63 lakh (inclusive of an amount of (-) ₹34.86 lakh corresponding to de-capitalization of 600 line PBX on account of its transfer to Barh on permanent basis), ₹15.38 lakh and ₹23.26 lakh for the years 2006-07, 2007-08 and 2008-09 respectively under this head, towards balance

payments in respect of works/assets approved vide Commission's order dated 10.7.2008.

25. In respect of the claim for balance payment in respect of works / assets already approved by order dated 10.7.2008, amount of ₹41.49 lakh, ₹15.38 lakh and ₹23.26 lakh is allowed for the years 2006-07, 2007-08 and 2008-09, respectively under this head.

However, the de-capitalization of an amount of ₹34.86 lakh claimed under this head, on account of transfer of 600 Lines PBX to Barh, has been considered and allowed separately, on account of it being inter-unit transfer on permanent basis.

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

26. The petitioner has claimed an expenditure of ₹.2.93 lakh and ₹2580.67 lakh for the years 2007-08 and 2008-09, respectively under this head. The admissibility of the claims is discussed as under.

**2007-08**

27. The claim for an expenditure of ₹2.93 lakh is in respect of "Ash tiles making machine" and the justification submitted by the petitioner for such expenditure is as under:

*"This is to meet the ash utilization as per MOEF guidelines. Similar item no. 6 of the year 2004-05 in petition no. 22/07 was approved by Hon'ble Commission vide order dated 10.7.2008."*

As the expenditure incurred is as per the guidelines of the Ministry of Environment and Forests (MoEF), the same has been allowed.

**2008-09**

28. The petitioner's claim for an expenditure of ₹2580.67 lakh is in respect of additional payment made in respect of forest land in terms of the judgment of the

Hon'ble Supreme Court. As the said expenditure pertains to payment made in terms of the judgment of the Hon'ble Court, the same has been considered and allowed in terms of Regulations 18 (2) (ii) (i.e *Liabilities to meet award of arbitration or for compliance of the order or decree of a court* ) and not under Regulation 18(2)(iii).

**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)}**

29. The petitioner has claimed expenditure of ₹401, ₹2525.82 lakh and (-) ₹1091.16 lakh for the years 2006-07, 2007-08 and 2008-09, respectively. The admissibility of the claims is discussed as under.

**2006-07**

30. The petitioner has claimed expenditure of ₹401 incurred towards construction of road. In this connection, the petitioner has submitted that:

*“This is balance payment of item no. 14 of the year 2004-05 in petition no. 22/2007.”*

It is observed the Commission in its order dated 10.7.2008, had not allowed the capitalization of expenditure on construction of road and hence, the expenditure claimed by the petitioner has not been allowed.

**2007-08**

31. The petitioner's claim for an amount of ₹35.64 lakh (net of gross value of replaced assets) towards CEA approved R&M schemes on assets like “automatic soot blowing (R&M scheme No. D7), Generation gas monitoring system (R&M scheme No. E8), Dew point analyser (R&M scheme No. E8), chartless recorder (R&M scheme No. E12) is allowed in terms of Note-4 under Regulation 18 of the 2004 regulations.

32. In addition to the above, the petitioner has claimed an expenditure of ₹2490.17 lakh towards the replacement of “Excitor Rotor”. The justification submitted by the petitioner is as under:

*“The turbine generator set of Rihand stage-I were supplied by M/s Alstom Limited UK (OEM). These (2x500 MW) units are in operation for last 17 years. On 4.11.2005, there was a tripping of Unit-I on account of Rotor Earth Fault. Detailed investigation at Alstom works revealed that Diode Assembly of the Excitor has deformed and insulation level had weakened. The 2x 500 MW units at Rihand Stage-I are the only units of this type in the country and therefore it was not possible to even take a replacement on loan from some other station/Utility. No spare Excitor was procured earlier by NTPC. To restore generation, feasible repairs were carried out at Alstom works at Baroda, however, only 5 diodes per phase could be put back instead of 7 diode per phase. The insulation values only marginally improved but could not come up to the desired value. The Excitor was put back on 6.1.2006 with the generation loss of 62 days, but with restriction on the MVAR capability of the Generator. The Excitor again failed on 24.3.2006, and the same was again got repaired. The unit was brought back into service on 20.5.2006, again resulting in a generation loss of 56 days. It had therefore become apparent that along with Periodic Monitoring, the Excitor would need to be replaced at the earliest to have safe and reliable operation of 500 MW units and avoiding repeated outages resulting in huge generation losses for protracted periods. Accordingly, one Excitor was procured and replaced. The corresponding decap has been in 2008-09.”*

33. From the justification submitted above, it is observed that replacement of the said asset was necessary for the efficient operation of the generating station. As such, the above expenditure is allowed in terms of Note-2 under Regulation 18, after writing-off the corresponding de-capitalization amount of (-) ₹2028.17 lakh in respect of replaced asset, during 2007-08 itself (the petitioner has de-capitalized the said amount for the year 2008-09 in its claim for additional capitalization).

#### **2008-09**

34. The petitioner has claimed net amount of ₹722.64 lakh in respect of the following assets/works , under the CEA approved R&M schemes:

- (a) Load condenser tube cleaning system (Scheme No. B9) for ₹511.06 lakh.
- (b) Installation of elevator in crusher house (Scheme No. F4) for ₹46.22 lakh.
- (c) Renovation of PLC system (Scheme No. E20) for ₹46.13 lakh along with de-capitalization amount for (-) ₹11.78 lakh.

- (d) Renovation of breakers in 400KV S/Y (Scheme No. D3) for ₹166.65 lakh along with de-capitalization amount for (-) ₹41.86 lakh.
- (e) Balance payment in respect of assets like “Automatic soot blowing, Gen gas monitoring system, dew point analyser and chartless recorders” approved vide order dated 10.7.2008 for ₹6.22 lakh.

35. The claim of the petitioner for the said amounts in respect of the above assets under CEA approved scheme, is allowed for capitalization under this head.

36. The petitioner has claimed an expenditure of (-) ₹1813.80 lakh in respect of assets / works other than the CEA approved schemes. The admissibility of the claims is discussed as under.

(a) An expenditure of ₹183.49 lakh for implementation of SAP has been allowed.

(b) For an expenditure for ₹30.88 lakh towards “solar power system mgr”, the petitioner has submitted the justification as under:

*“As GOI is giving thrust on renewable energy and NTPC is also putting efforts for energy conservation, solar water heating systems were installed at public buildings.”*

As the above asset does not contribute to the efficient and successful operation of generating station, the expenditure on this count has not been allowed under this head.

(c) De-capitalization of an amount of (-) ₹2028.17 lakh against the capitalization of exciter rotor during 2007-08: As de-capitalization of this asset has already been considered during 2007-08 while allowing capitalization of this asset, the de-capitalization has not been allowed during the year.

In view of the above discussions, amounts of ₹497.65 lakh and ₹906.13 lakh have been allowed for the years 2007-08 and 2008-09 respectively, under this head.



**Deferred works relating to ash pond or ash handling system in original scope of work. {Regulation 18(2)(v)}**

37. The petitioner's claim for an expenditure of ₹244.12 lakh for 2007-08 in respect of "Ash pipe line lagoon-II" and ₹168.75 lakh for 2008-09 "Raising of central ash dyke-Lagoon-I, 'Raising of central ash dyke' and Ash pipe line lagoon-I' has been allowed under this head.

38. Based on the above discussions, the additional capital expenditure allowed for the purpose of tariff for the years 2006-07, 2007-08 and 2008-09 is as under:

| (₹ in lakh)   |                   |                |                |
|---|-------------------|----------------|----------------|
| <b>Nature of capitalization</b>   | <b>2006-07</b>    | <b>2007-08</b> | <b>2008-09</b> |
| Deferred Liabilities relating to works within original scope of work. [18(2)(i)]                                    | 41.49             | 15.38          | 23.26          |
| Award of arbitration or for compliance of the order or decree of a court [18(2)(ii)]                                | 0.00              | 0.00           | 2580.67        |
| On account of change in law [18(2)(iii)]  | 0.00              | 2.93           | 0.00           |
| For efficient and successful operation of generation station, but not included in original project cost [18(2)(iv)] | 0.00              | 497.65         | 906.13         |
| Deferred works relating to Ash pond or Ash handling system, in original scope of work [18(2)(v)]                    | 0.00              | 244.12         | 168.75         |
| Inter-unit transfer on permanent basis  | (-) 34.86         | 0.00           | 0.00           |
| <b>Total before adjustments of exclusions (A)</b>   | <b>6.63</b>       | <b>760.07</b>  | <b>3678.81</b> |
| Exclusions not allowed (B)  | (-) 299.17        | (-) 36.70      | (-) 65.32      |
| <b>Additional capital expenditure allowed (C=A+B)</b>   | <b>(-) 292.54</b> | <b>723.37</b>  | <b>3613.49</b> |

**Capital cost**

39. As stated above, the Commission had admitted the capital cost of ₹237256.52 and ₹238996.15 lakh as on 1.4.2004 and 1.4.2006 respectively, 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 capital expenditure approved for the years 2004-05 and 2005-06 (after revising the additional capital expenditure allowed) and the additional capital

expenditure approved at para 38 above for the years 2006-07, 2007-08 and 2008-09, the capital cost for the period 2004-09 is worked out as under:

| (₹ in lakh)                                   |                  |                  |                  |                  |                  |
|---|------------------|------------------|------------------|------------------|------------------|
| Year  | 2004-05          | 2005-06          | 2006-07          | 2007-08          | 2008-09          |
| Opening Capital cost as on 1.4.2004           | 237256.52        | 238417.18        | 239072.94        | 238780.39        | 239503.76        |
| Additional capital expenditure considered now | 1160.66          | 655.76           | (-)292.54        | 723.37           | 3613.49          |
| <b>Closing Capital cost</b>                   | <b>238417.18</b> | <b>239072.94</b> | <b>238780.39</b> | <b>239503.76</b> | <b>243117.25</b> |
| <b>Average Capital cost</b>                   | <b>237836.85</b> | <b>238745.06</b> | <b>238926.66</b> | <b>239142.08</b> | <b>241310.50</b> |

### Debt-Equity ratio

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. Further, the petitioner has submitted that the expenditure on additional capitalization during the years 2007-08 and 2008-09 have been met partly out of debt and partly out of equity. The debt comprises of KFW drawls as under:

| Name of Drawl | Interest Rate on date of drawl | Drawl date | Drawl amount (\$) | Exchange Rate (Rs./ \$) | 2007-08 (₹ in lakh) | 2008-09 (₹ in lakh) |
|---------------|--------------------------------|------------|-------------------|-------------------------|---------------------|---------------------|
| Drawl II      | 5.2500%                        | 8.1.2008   | 1217000           | 39.2960                 | 478.23              | 0.00                |
| Drawl III     | 3.8100%                        | 7.3.2008   | 916000            | 40.6720                 | 372.56              | 0.00                |

|              |         |          |         |         |               |                |
|--------------|---------|----------|---------|---------|---------------|----------------|
| Drawl IV     | 3.3100% | 2.6.2008 | 956000  | 42.5280 | 0.00          | 406.91         |
| Drawl V      | 3.0600% | 9.9.2008 | 679500  | 45.0345 | 0.00          | 306.01         |
| Drawl VI     | 1.0600% | 2.3.2009 | 1143000 | 51.7875 | 0.00          | 591.93         |
| <b>Total</b> |         |          |         |         | <b>850.79</b> | <b>1304.85</b> |

43. The petitioner has considered debt-equity ratio of 70:30 for its claim for additional capital expenditure. 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:

|                            | (₹ in lakh)    |                |                |
|----------------------------|----------------|----------------|----------------|
|                            | <b>2006-07</b> | <b>2007-08</b> | <b>2008-09</b> |
| Additional Notional Equity | (-) 87.76      | 217.01         | 1084.05        |

#### **Return on Equity**

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

|  | (₹ in lakh)     |                 |                 |                 |                 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|
|  | <b>2004-05</b>  | <b>2005-06</b>  | <b>2006-07</b>  | <b>2007-08</b>  | <b>2008-09</b>  |
| <b>Equity-Opening</b>  | 118628.26       | 118976.46       | 119173.18       | 119085.42       | 119302.43       |
| Addition of Equity due to Additional capital expenditure allowed | 348.20          | 196.73          | (-) 87.76       | 217.01          | 1084.05         |
| Equity-Closing   | 118976.46       | 119173.18       | 119085.42       | 119302.43       | 120386.48       |
| Average equity   | 118802.36       | 119074.82       | 119129.30       | 119193.93       | 119844.45       |
| <b>Return on Equity @ 14%</b>                                    | <b>16632.33</b> | <b>16670.47</b> | <b>16678.10</b> | <b>16687.15</b> | <b>16778.22</b> |

#### **Interest on loan**

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

- The cumulative normative repayment of loan outstanding as on 1.4.2004 has exceeded the gross normative loan. The situation of normative loan exceeding gross loan continues from 1997-98 till date.
- The notional loan on account of debt-equity ratio, as approved above is (-) ₹204.78 lakh during 2006-07, ₹506.36 lakh during 2007-08 and ₹2529.44 lakh during 2008-09.
- When in any year de-capitalization is considered the de-capitalized amount has been segregated in to negative loan and negative equity. In that

particular year where ever the sum total of net negative opening balance of loan (ie. gross loan *minus* cumulative repayment of loan) and negative loan due to de-capitalization of loan has resulted into negative balance, in that case said negative loan due to de-capitalization of loan has been restricted to the net positive opening balance of loan.

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

- (e) 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. 5446/2007 and other related appeals.

46. Interest on loan has been computed as under:

|  | (₹ in lakh) |             |             |             |             |
|--|-------------|-------------|-------------|-------------|-------------|
|  | 2004-05     | 2005-06     | 2006-07     | 2007-08     | 2008-09     |
| Gross Opening Loan   | 118628.26   | 119440.72   | 119899.75   | 119899.75   | 120406.11   |
| Cumulative Repayment of Loan upto previous year                | 163099.00   | 163911.46   | 164370.49   | 164370.49   | 164876.85   |
| Net Loan Opening   | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
| Addition of loan due to additional capital expenditure allowed | 812.46      | 459.03      | 0.00        | 506.36      | 2529.44     |
| Repayment of loan during the year                              | 812.46      | 459.03      | 0.00        | 506.36      | 2529.44     |
| Net Loan Closing   | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |
| Average Loan   | 0.00        | 0.00        | 0.00        | 0.00        | 0.00        |
| Weighted Average Rate of Interest on Loan                      | -           | -           | -           | -           | -           |
| <b>Interest on Loan</b>  | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> | <b>0.00</b> |

### Depreciation

47. The balance depreciable value as on 1.4.2004, considered vide order dated 10.7.2008 was ₹.49684.85 lakh (i.e. 90% of ₹237256.52 lakh after deducting land amounting to ₹3044.00 lakh minus the cumulative depreciation amounting to ₹161106.41 lakh). Further, in line with the Commission's order dated 10.7.2008, the balance depreciation recoverable, after accounting for the admitted additional capital expenditure, has been spread over the balance useful life of 12.25 years of the

generating station as on 1.4.2004. There is an increase in the value of land to the tune of ₹2625.37 lakh during the period 2006-09, and the same has been considered while calculating the depreciable value. 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. The necessary calculations are as under:

|                           | (₹ in lakh)      |                  |                  |                  |                  |
|---------------------------|------------------|------------------|------------------|------------------|------------------|
|                           | <b>2004-05</b>   | <b>2005-06</b>   | <b>2006-07</b>   | <b>2007-08</b>   | <b>2008-09</b>   |
| Opening capital cost      | 237256.52        | 238417.18        | 239072.94        | 238780.39        | 239503.76        |
| Closing capital cost      | <b>238417.18</b> | <b>239072.94</b> | <b>238780.39</b> | <b>239503.76</b> | <b>243117.25</b> |
| Average capital cost      | 237836.85        | 238745.06        | 238926.66        | 239142.08        | 241310.50        |
| Depreciable value @ 90%   | 211313.56        | 212130.95        | 212276.52        | 212456.55        | 212077.02        |
| Balance depreciable value | 50207.15         | 46926.00         | 42900.36         | 39194.74         | 36456.33         |
| Balance useful life       | 12.25            | 11.25            | 10.25            | 9.25             | 8.25             |
| <b>Depreciation</b>       | <b>4098.54</b>   | <b>4171.20</b>   | <b>4185.40</b>   | <b>4237.27</b>   | <b>4418.95</b>   |

#### **Advance Against Depreciation**

48. The petitioner has not claimed Advance Against Depreciation. Therefore, the petitioner's entitlement to Advance Against Depreciation is "nil".

#### **O&M expenses**

49. The O&M expenses as considered in order dated 10.7.2008 in Petition No. 22/2007 has been considered for revision of tariff.

#### **Interest on Working capital**

50. For the purpose of calculation of working capital the operating parameters including the price of fuel components as considered in the order dated 10.7.2008 in Petition No. 22/2007 have been kept unchanged. The "receivables" component of the working capital has been revised due to revision of return on equity interest on loan etc. The necessary details in support of calculation of interest on working capital are as under:

(₹ 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> |
|--|----------------|----------------|----------------|----------------|----------------|
| Coal Stock- 1.5 months                   | 5605.55        | 5605.55        | 5605.55        | 5620.91        | 5605.55        |
| Oil stock -2 months                      | 329.66         | 329.66         | 329.66         | 330.56         | 329.66         |
| O & M expenses                           | 780.00         | 810.83         | 843.33         | 876.67         | 912.50         |
| Maintenance Spares                       | 3577.65        | 3792.30        | 4019.84        | 4261.03        | 4516.70        |
| Receivables                              | 13220.56       | 13306.35       | 13380.71       | 13485.67       | 13587.86       |
| Total Working Capital                    | 23513.42       | 23844.70       | 24179.09       | 24574.84       | 24952.27       |
| Rate of Interest                         | 10.2500%       | 10.2500%       | 10.2500%       | 10.2500%       | 10.2500%       |
| <b>Total Interest on Working capital</b> | <b>2410.13</b> | <b>2444.08</b> | <b>2478.36</b> | <b>2518.92</b> | <b>2557.61</b> |

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

(₹. 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             | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| Interest on Working Capital  | 2410.13         | 2444.08         | 2478.36         | 2518.92         | 2557.61         |
| Depreciation                 | 4098.54         | 4171.20         | 4185.40         | 4237.27         | 4418.95         |
| Advance Against Depreciation | 0.00            | 0.00            | 0.00            | 0.00            | 0.00            |
| Return on Equity             | 16632.33        | 16670.47        | 16678.10        | 16687.15        | 16778.22        |
| O & M Expenses               | 9360.00         | 9730.00         | 10120.00        | 10520.00        | 10950.00        |
| <b>Total</b>                 | <b>32501.00</b> | <b>33015.76</b> | <b>33461.86</b> | <b>33963.34</b> | <b>34704.78</b> |

52. The target availability of 80% considered by the Commission in the order dated 10.7.2008 remains unchanged. Similarly other parameters viz. specific fuel consumption Auxiliary Power consumption and Station Heat rate etc considered in the order dated 10.7.2008 have been retained for the purpose of calculation of the revised fixed charges.

53. The difference in respect of the tariff determined by order dated 10.7.2008 and the tariff determined by this order shall be adjusted by the parties in three equal monthly installments.

54. 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.

55. The petitioner's claim for reimbursement of filing fees has not been allowed in terms of the Commission's general order dated 11.9.2008 in Petition No.129/2005 wherein it was directed that filing fee during the period 2004-09 would not be reimbursed, as the same has been factored in the normalized O&M expenses under the 2004 regulations.

56. This order is however subject to the final outcome of the said Civil Appeals pending before the Hon'ble Supreme Court of India.

57. Petition No.182/2009 stands disposed of in terms of the above.

Sd/-  
**(M.DEENA DAYALAN)**  
**MEMBER**

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

