

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.147/2009

Coram: **1. Dr.Pramod Deo, Chairperson**
 2. Shri S.Jayaraman, Member
 3. Shri V.S.Verma, Member
 4. Shri M.Deena Dayalan, Member

DATE OF ORDER: 16.1.2012

IN THE MATTER OF

Revision of Commission's order dated 19.8.2011 in the light of the judgment of the Appellate Tribunal for Electricity dated 26.9.2011 in Appeal No.65/2010.

AND

IN THE MATTER OF

Approval of revised fixed charges for the period 2004-09, after considering the impact of additional capital expenditure incurred during 2007-08 and 2008-09 in respect of Vindhyachal STPS, Stage-I (1260 MW).

AND

IN THE MATTER OF

NTPC Ltd, New Delhi
Vs

.... Petitioner

- (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

ORDER

This petition was filed by NTPC Ltd, the petitioner herein, for approval of revised fixed charges for the period 2004-09, after considering the impact of additional capital expenditure incurred during 2007-08 and 2008-09 for Vindhyachal 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”).

2. The Commission by its order dated 11.1.2010 revised the annual fixed charges for the generating station for the period 2004-09 on account of the additional capital expenditure incurred during the years 2007-08, 2008-09 respectively. Aggrieved by the said order, the petitioner filed Appeal No. 65/2010 before the Appellate Tribunal for Electricity (the Tribunal) on the following issues:

- (i) *Exclusion of part of the capital expenditure validly incurred but pending actual disbursement/payment from the capital cost for the purpose of tariff;*
- (ii) *Equating Depreciation with normative loan repayment;*
- (iii) *Disallowance of cost of Maintenance Spares;*
- (iv) *Impact of de-capitalization of assets on cumulative repayment of loan ;*
- (v) *Readjustment of FERV (Foreign Exchange Rate Variation);*
- (vi) *Disallowance of expenditure on BFP Recirculation Valve*

3. During the pendency of the above appeal, the Commission by its order dated 19.8.2011 in Petition No.147/2009 revised the annual fixed charges of the generating station for the period 2004-09 based on the directions contained in the judgment of the Appellate Tribunal for Electricity dated 13.6.2007 in Appeal No.217/2006 (NTPC-v-CERC & ors) and the judgments dated 16.3.2009 and 1.9.2010 in Appeal No. 133, 135, 136 and 148/2008 and Appeal No. 58/2010 (NTPC-v- CERC & ors) respectively, subject to the final outcome of the Civil Appeals (C.A. Nos. 5434/2007 to 5452/2007 and 5622/2007 etc) and C.A Nos. 6286 to 6288/2009) filed by the Commission against the judgments of the Tribunal dated 13.6.2007 and 16.3.2009 and Appeal No.65/2010 filed by the petitioner and pending before the Tribunal. The capital cost and the annual fixed charges determined by order dated 19.8.2011 in Petition No.147/2009 is as under:

CAPITAL COST

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Opening Capital cost	145953.10	146163.75	146366.02	147338.16	148175.34
Additional capital expenditure approved	210.65	202.27	972.14	837.18	302.44
Closing Capital cost	146163.75	146366.02	147338.16	148175.34	148477.78
Average Capital cost	146058.42	146264.89	146852.09	147756.75	148326.56

ANNUAL FIXED CHARGES

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on loan	353.32	255.40	240.44	275.99	291.32
Interest on Working Capital	2777.98	2808.56	2843.32	2886.18	2919.42
Depreciation	5140.92	5148.18	5168.85	5200.69	5220.75
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Return on Equity	10221.14	10229.81	10254.47	10292.47	10316.40
O & M Expenses	13104.00	13633.20	14175.00	14742.00	15334.20
Total	31597.36	32075.16	32682.08	33397.33	34082.09

4. The Tribunal by its judgment dated 26.9.2011 has allowed the prayer of the petitioner as in paragraph 2(i) above in terms of its judgment dated 16.3.2009. Similarly, the prayers in paragraph 2(ii) to (iv) and (v) has been disposed of in terms of the judgments dated 13.6.2007 in Appeal Nos.139 to 142 etc of 2006, 10, 11 and 23/2007 (NTPC-v-CERC & ors)] and the judgment dated 1.9.2010 in Appeal No. 58/2010 respectively. As regards the prayer in paragraph 2(vi) above, the Tribunal has remanded the matter to the Commission to consider the same as per its directions contained therein. Thus, the Commission has been directed to issue consequential orders in respect of the issues referred above.

5. The Commission by its order dated 19.8.2011 while revising the tariff of the generating station for 2004-09 had considered the prayers [(prayers in paragraph 2(i) to (v) above] of the petitioner, based on the judgments of the Tribunal dated 13.6.2007, 16.3.2009 and 1.9.2010 respectively, subject to the final outcome of the Civil Appeals pending before the Hon'ble Supreme Court. Thus, the directions contained in the judgment of the Tribunal dated 26.9.2011 in Appeal No. 65/2010 in respect of the

above issues has been complied with by the Commission. Only the issue of disallowance of expenditure on BFP Recirculation valve as at paragraph 2(vi) above is required to be considered in terms of the directions of the Tribunal.

6. As regards disallowance of expenditure on BFP Recirculation Valve, the Tribunal in its judgment dated 26.9.2011 has observed as under:

"16. The perusal of note 2 would make it clear the gross value of the old asset is to be written off from the project cost for the purpose of capitalization of the value of an asset for replacement of the old asset. In other words, unless and until gross value of the old valve is deducted, the capitalisation cannot be done. Admittedly, in this case NTPC did not produce original value of the replaced valve. Under those circumstances the Central Commission has concluded that the new asset which has replaced the old asset cannot be capitalized. This conclusion on the basis of the note 2 of Regulation 18 in our view does not suffer from any infirmity, in view of the fact, the conclusion was arrived at on the strength of the Regulations. However, the learned Counsel for the Appellant requests this Tribunal to direct the Central Commission to make a fair estimation of the original value of the old BFR valve and de-capitalise it and allow the capitalization of the new asset on the basis of the particulars of scrap value now available.

18. While capitalizing any asset, depreciation is allowed upto 90% and 10% of the value is considered to be scrap value. If this principle is taken into account, the original cost would be 10 times of the scrap value. On that basis, the learned Counsel for the Appellant has filed an affidavit giving some details to calculate the estimated scrap value. These details are as follows:-

*"i) Total Number of Valves – 18
ii) Weight of one Valve - 40 Kg
iii) Total Weight of scrapped valves – 720 Kgs.
iv) Rate of Ferrous Scrap as M/s MSTCS – Rs.18,000/- per MT
v) Estimated scrap value – Rs.18000X0.72 = Rs.12960/-
vi) The rate of the ferrous scrap has been taken as per the bid sheet dated 9.8.2011 by M/s MSTC Limited (A Govt. of India Enterprise), the company through which NPTC generally auctions its scrap items."*

19. In view of these details contained in the affidavit filed by the Appellant, we deem it fit to direct the Central Commission to go into details and consider whether a fair estimation of the value of old asset could be made. If a fair estimation is possible, then it is for the Commission to decide about the de-capitalization of the said value. We make it clear that we do not express any opinion on this. It is for the Central Commission to decide about the course of action to be taken on the basis of the details given in the affidavit filed on behalf of Appellant.

20. In view of the above observations the Central Commission is directed to pass consequent orders in respect of the issues referred to above."

7. Taking into consideration the observations of the Tribunal as above, the matter has been re-examined in order to arrive at the fair estimation of the original value of the old asset and the same is discussed as under:

Scenario-I: As per the estimated scrap value of the metal as furnished by NTPC

- (a) Scrap value of the metal has been considered by the petitioner as ₹12960/- and on that basis the original value of the asset works out to be $10 \times ₹12960 = ₹129600$.
- (b) The value of an asset, more so of a power plant not only depends on the value of the metal but also the embedded price in it which was factored into the cost during the transformation of the metal to an useful asset i.e. the value-addition to the metal to put it for use as a valuable component of a power plant.

Accordingly, the estimated value of the old asset cannot be taken only on the scrap value of metal and hence not considered.

Scenario-II: Valuation of asset comparing the Capital cost of the project at the time of commissioning (1991-92) to the project cost of similar project when the new BFP valves (2005-06) were procured.

8. The generating station comprises of six units of 210 MW size (1260 MW) and was commissioned during the period 1988-89 to 1991-92. The actual commercial operation of the generating station is 1.2.1992.

9. It is observed from the submission of the petitioner before the Tribunal that the de-capitalization value of BFP re-circulation valve cannot be furnished as the entire package was procured from *erstwhile* USSR and as such the break-up price of the re-circulation valves were not available.

10. In absence of any break-up price, it is considered that it would be a fair exercise if the valuation of old asset can be made based on the comparison of the capital cost of the generating station to the cost of the power project of a similar size, during the year 2005-06, when the purchase order for the said asset i.e BFP recirculation valves, were placed.

11. As per Tariff notification dated 2.11.1992 of the Ministry of Power, Government of India, the project cost of the generating station considered was ₹1357.07 crore. Thus,

the per MW cost was ₹1357.07 crore/1260 MW = ₹1.08 crore (say roughly, Rs. 1.00 crore/MW)

12. It is observed from the records of the Commission that the estimated project cost of a similar unit capacity (250 MW) [for Mejia TPS Extension (Unit 5 & 6) (2 X 250 MW)] as approved by the board of DVC during August, 2005 was ₹2012.50 crore. Thus, the per MW cost works out to ₹ 2012.50 crore/500= ₹4.03 crore. Even if an escalated figure is considered taking into account the fact that Units-5 & 6 of Mejia TPS is an extension project, the cost would be ₹4.5 crore /MW (approx) for a green field project. On this basis, the cost of power project components was about (4.50/ 1.00) = 4.5 times in the year 2005, when compared to the year 1991-92. Accordingly, the cost of old BFP recirculation valve would be about 1/4.5th of the cost of new BFP valves.

13. The above scenario, in our view, is more rationale and provides a fairer estimation of the value of the old asset, since the metal cost along with all other cost embedded in the asset before putting the asset to useful service, has been taken into account.

14. It is observed from the Commission's order dated 11.1.2010 that an amount of 0.15 lakh as balance payment in the year 2008-09 for BFP recirculation valve was also disallowed as the capitalisation of ₹12.97 lakh in the year 2007-08 was not allowed. Since, the expenditure on BFP recirculation valve in the year 2007-08 is allowed by this order, the balance payment of ₹ 0.15 lakh in the year 2008-09 is also allowed.

15. In terms of the above discussions, the actual de-capitalisation value of the old BFP valve works out to ₹2.92 lakh [₹(12.97+0.15)lakh/4.5]. Thus, the total de-capitalisation of ₹2.92 lakh has been considered for the year 2007-08 only, since the capitalisation for the year 2008-09 relates to the balance payment of ₹0.15 lakh.

16. Based on the above, the additional capital expenditure allowed is ₹847.23 lakh for 2007-08 and ₹302.58 lakh for 2008-09.

17. Accordingly, the capital cost and the components of fixed charges approved for the generating station for 2004-09 vide order dated 19.8.2011 is revised as under:

Capital Cost

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Opening Capital cost (considered now)	145953.10	146163.75	146366.02	147338.16	148185.39
Additional capital expenditure allowed	210.65	202.27	972.14	847.23	302.58
Closing Capital cost	146163.75	146366.02	147338.16	148185.39	148487.97
Average Capital cost	146058.42	146264.89	146852.09	147761.78	148336.68

Return on Equity

18. Based on the above, the return on equity approved vide order dated 19.8.2011 is revised as under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Equity –Opening considered now	72976.55	73039.74	73100.43	73392.07	73646.24
Addition of Equity due to admitted additional capital expenditure	63.20	60.68	291.64	254.17	90.78
Equity-Closing	73039.74	73100.43	73392.07	73646.24	73737.01
Average equity	73008.15	73070.09	73246.25	73519.15	73691.62
Return on Equity @ 14%	10221.14	10229.81	10254.47	10292.68	10316.83

Interest on loan

19. Interest on loan has been computed as under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Gross Opening loan – considered now	72976.55	73124.01	73265.60	73946.09	74539.15
Cumulative Repayment of Loan upto previous year	68175.94	68561.00	69193.39	69360.42	69476.25
Net Loan Opening	4800.61	4563.01	4072.20	4585.67	5062.90
Addition of loan due to approved additional capital expenditure	147.46	141.59	680.50	593.06	211.81
Repayment of loan (Normative)	623.80	689.37	427.12	735.94	1070.55
Less: Adjustment for de-	238.75	56.97	260.10	620.11	329.36

capiltaisation during the period					
Repayment of loan during the year (net)	385.06	632.39	167.03	115.83	741.19
Net Loan Closing	4563.01	4072.20	4585.67	5062.90	4533.52
Average Loan	4681.81	4317.61	4328.94	4824.29	4798.21
Weighted Average Rate of Interest on Loan	7.5467%	5.9154%	5.5543%	5.7261%	6.0818%
Interest on Loan	353.32	255.40	240.44	276.25	291.82

Depreciation

20. The necessary calculations for depreciation is as under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Opening capital cost	145953.10	146163.75	146366.02	147338.16	148185.39
Closing capital cost	146163.75	146366.02	147338.16	148185.39	148487.97
Average capital cost	146058.42	146264.89	146852.09	147761.78	148336.68
Depreciable value @ 90%	129201.82	129387.64	129916.12	130734.84	131252.25
Cumulative depreciation at the beginning of the year	104504.79	109369.84	114451.32	119335.64	123739.22
Balance depreciable value (at the beginning)	24697.03	20017.80	15464.81	11399.20	7513.03
Balance useful life	12.58	11.58	10.58	9.58	8.58
Depreciation	5140.92	5148.18	5168.85	5200.87	5221.11
Cumulative depreciation adjustment on account of de-capitalization	275.87	66.71	284.53	797.29	423.47

Interest on Working capital

21. The necessary details in support of calculation of interest on working capital are as under:

	(₹ 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
Maintenance Spares	2878.03	3052.67	3245.49	3448.40	3658.08
Receivables	15414.84	15494.47	15595.62	15742.75	15829.17
Total Working Capital	27102.20	27400.56	27739.69	28158.11	28482.42
Rate of Interest	10.2500%	10.2500%	10.2500%	10.2500%	10.2500%
Total Interest on Working capital	2777.98	2808.56	2843.32	2886.21	2919.45

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

	<i>(₹ in lakh)</i>				
	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on loan	353.32	255.40	240.44	276.25	291.82
Interest on Working Capital	2777.98	2808.56	2843.32	2886.21	2919.45
Depreciation	5140.92	5148.18	5168.85	5200.87	5221.11
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Return on Equity	10221.14	10229.81	10254.47	10292.68	10316.83
O & M Expenses	13104.00	13633.20	14175.00	14742.00	15334.20
Total	31597.36	32075.16	32682.08	33398.00	34083.40

23. The target availability of 80% considered by the Commission in the order dated 19.8.2011 remains unchanged. Similarly, other parameters viz. specific fuel consumption Auxiliary Power consumption and Station Heat rate etc considered in the order dated 19.8.2011 have been retained for the purpose of calculation of the revised fixed charges.

24. The annual fixed charges determined by this order is subject to the outcome of Civil Appeals pending before the Hon'ble Supreme Court.

25. The petitioner shall claim the difference in respect of the tariff determined by order dated 19.8.2011 and the tariff determined by this order from the beneficiaries in three equal monthly installments.

Sd/-
(M.DEENA DAYALAN)
MEMBER

Sd/-
(V.S.VERMA)
MEMBER

Sd/-
(S.JAYARAMAN)
MEMBER

Sd/-
(DR.PRAMOD DEO)
CHAIRPERSON