

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Review Petition No. 16/RP/2012**

**in**

**Petition No. 247/2010**

**Coram:**

**Dr. Pramod Deo, Chairperson**

**Shri S. Jayaraman, Member**

**Shri V. S. Verma, Member**

**Date of Hearing: 20.9.2012**

**Date of Order: 9.4.2013**

**IN THE MATTER OF**

Review of order dated 3.5.2012 in Petition No. 247/2010 regarding approval of generation tariff for Korba Super Thermal Power Station, Stage-III (500 MW) from the date of commercial operation to 31.3.2014.

**AND**

**IN THE MATTER OF**

NTPC Ltd

**...Petitioner**

Vs

1. Madhya Pradesh Power Management 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, Government of Goa, Goa
6. Electricity Department, Administration of Daman & Diu, Daman
7. Electricity Department, Administration of Dadra and Nagar Haveli, Silvassa

**...Respondents**

**Parties Present**

Shri M.G.Ramachandran, Advocate, NTPC

Shri S.K.Sharma, NTPC

Dr. D.N.Naresh, NTPC

Shri Rohit Chabra, NTPC

Shri Rajesh Jain, NTPC

Shri Sachin Jain, NTPC

Shri A.K.Chaudhury, NTPC



## ORDER

Petition No. 247/2010 was filed by the petitioner, NTPC for approval of generation tariff in respect of Korba Super Thermal Power Station (500 MW) (hereinafter referred to as 'the generating station') for the period from the date of commercial operation (21.3.2011) to 31.3.2014, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 ('the 2009 Tariff Regulations'). The Commission by its order dated 3.5.2012 determined the capital cost for the generating station for the period 2009-14 as under:

<i>(₹ in lakh)</i>	
	<b>As on 21.3.2011</b>
Gross Block	233709.97
Less: Un-discharged liabilities included in the above	17689.96
<b>Capital cost on cash basis</b>	<b>216020.01</b>
Less: Extra IDC incurred due to delay in project execution	7487.09
Add: Notional IDC	0.00
Add: Short term FERV (charged to P&L A/c)	(-) 141.61
<b>Capital cost</b>	<b>208391.31</b>

2. The annual fixed charges approved vide Commission order dated 3.5.2012 is as under:

<i>(₹ in lakh)</i>				
	<b>2010-11</b> <i>(21.3.2011 to 31.3.2011)</i>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Return on Equity	14783.43	15413.45	16554.84	17426.10
Interest on Loan	13393.36	13421.80	13332.90	12917.37
Depreciation	11208.65	11686.33	12551.72	13212.30
Interest on Working Capital	2067.47	2111.31	2165.35	2208.38
O&M Expenses	6870.00	7265.00	7680.00	8120.00
Cost of secondary fuel oil	1448.75	1452.72	1448.75	1448.75
<b>Total</b>	<b>49771.66</b>	<b>51350.60</b>	<b>53733.56</b>	<b>55332.89</b>

3. Aggrieved by the said order, the petitioner has filed this review petition seeking review of the order dated 3.5.2012 on the following issues, namely:

- (a) Delay in the commissioning of the project not allowing time overrun; and
- (b) Adjustment of Interest During Construction prior to commercial operation of the project.

4. The matter was heard on 7.8.2012 on 'admission'. During the hearing the learned counsel for the petitioner pointed out that there is an error apparent on the face of the order and submitted that the details submitted by the petitioner in the original petition had been overlooked by the Commission in its order dated 3.5.2012. Based on this, the Commission vide its interim order dated 9.8.2012 admitted the review petition on the issues mentioned in paragraph 3 above. Replies to the application have been filed by MPPMCL (respondent no. 1) and MSEDCL (respondent no. 2). The petitioner has filed its rejoinder to the said replies.

5. In accordance with Rule 1 Order 47 of the Code of Civil Procedure (CPC), a person aggrieved by an order may apply for a review under the following circumstances:

- (a) On discovery of new and important matter or evidence which after exercise of due diligence was not within his knowledge or could not be produced by him at a time when the order was made;
- (b) An error apparent on the face of the record;
- (c) For any other sufficient reason.

6. Heard the parties present and examined the documents on record. We now proceed to consider the issues raised in this petition as discussed in subsequent paragraphs.

**Delay in the commissioning of the project not allowing time overrun**

7. In paragraph 16 of the order dated 3.5.2012, the Commission while concluding that that the delay in the commissioning of the project and the reasons thereof are attributable to the petitioner had observed as under:

"16. The matter has been examined. It is not clear as to why the petitioner had not undertaken the testing of soil condition prior to the placement of award for main plant civil works, which in our view would have saved time and cost. The petitioner cannot absolve itself of its responsibility of undertaking these preliminary works before the commencement of the main plant civil work. Moreover, the plant being an expansion project, the petitioner could have done the testing / trial operation using its existing arrangements in Stages-I & II of the generating station. Hence, the submissions of the petitioner that the initial delay in the start of civil works due to geological surprise had contributed to the delay in commissioning of the project are not sustainable. It is noticed that the petitioner had taken 4 months (approx) for declaration of commercial operation of the unit from the actual date of its synchronization. Considering the 4 months between the actual synchronization and actual date of commercial operation, the scheduled date of commercial operation works out as 11.7.2010 from the scheduled date of synchronization of 11.3.2010. Even if the zero date is considered as date of placement of order, there is time over run of 8 months from the scheduled date of commercial operation of 11.7.2010. In view of the above discussions, we are of the view that there is delay in commissioning of the project and the reasons for the same are attributable to the petitioner"

8. The petitioner in its petition has submitted that the conclusion reached by the Commission in regard to the petitioner not undertaking the testing of soil condition before the placement of order is factually not correct. The petitioner has also pointed out that pursuant to the directions of the Commission in the original petition, it had submitted additional details through affidavits dated 13.10.2011, 7.12.2011 and 6.1.2012 giving detailed reasons for time taken in the commissioning of the projects and that there was no additional/consequent escalation paid due to time overrun, namely, the period between the scheduled commercial operation date and the actual date of commercial operation. Referring to the affidavit dated 6.1.2012 filed in the original petition, it has been submitted that on deferment of the project construction due to soil condition, the petitioner had mitigated the circumstances and deferred incurring of the expenditure, namely deferment of the deployment of funds and the same had resulted in equal amount of actual IDC as compared to IDC considering the original schedule of construction. Referring to the pleadings in affidavits filed on 13.10.2011, 7.12.2011 and 27.4.2012 respectively, the petitioner has pointed out that it had placed on record the peculiar problems faced in the main plant civil works, namely collapsing/caving of soil during boring of piles which had resulted in the delay of 6 to 7 months in regard to

commencement of various works and that similar problems were not there for Stage-I and Stage-II of the generating station within the same complex. It has further been submitted that though number of clarifications were sought for by the Commission as regards the delay in the completion of the project, no inquiry into the aspect as to whether there was any soil testing prior to the placement of order for construction of the project was made by the Commission and that it would have placed on record all standard procedures in regard to soil testing that were undertaken in the project before placement of order, had such inquiry been made.

9. During the hearing on 20.9.2012, the learned counsel for the petitioner submitted that the details of soil investigation carried out was submitted vide affidavit filed on 13.10.2011. He also submitted that the details on soil investigation which were furnished under item No. 1.3 namely "Preliminary investigation and site development" pertaining to break-up of capital cost for coal/lignite based projects have not been considered by the Commission in its order dated 3.5.2012. The learned counsel also submitted that on account of delay, the petitioner had mitigated the circumstances and had deferred the deployment of funds resulting in equal amount of actual IDC as compared to IDC considering the original schedule of construction and prayed that the order dated 3.5.2012 may be reviewed and consequential order be passed. The respondent, MPPMCL in its reply has mainly objected to the prayers of the petitioner and has submitted that the LOA was placed by the petitioner ex post fact to regularize the work and that no detailed investigation had been carried out by the petitioner. It has also submitted that the project cost was higher consequent upon the delay in the commissioning of the project and has prayed that the relief claimed in the petition may not be granted. The respondent, MSEDCL in its reply has submitted that the

Commission shall carry out prudence check on the contentions of the petitioner as whether the delay in project execution was occurred at the initial stage of the project itself. It has also submitted that the judgment of the Tribunal in Appeal No. 72/2010 as regards time overrun of the generating station may also be considered by the Commission. In response, the petitioner has reiterated its submissions made in the petition and has pointed out that detailed investigation had been carried out in two stages viz preliminary geotechnical investigation for tender purpose and detailed investigation for design purpose as per procedure given in relevant Indian Standard IS:1892. It has also submitted that it has claimed IDC incurred for the actual fund deployed as allocated for the project. As regards consideration of the judgment of the Tribunal in Appeal No. 72/2010, the petitioner has submitted that the scope of review cannot be enlarged since review of the order has been sought on the limited aspect of the findings of the Commission related to carrying out the soil investigation prior to commencement of foundation work and the delay due to geological surprise of pile bore collapse during the construction work.

10. The submissions of the parties and the documents on record have been examined. It is noticed that the Commission during the hearing of the original petition on 25.8.2011 had directed the petitioner to submit additional information on various aspects including the reasons for time overrun of the project from the scheduled date of commercial operation as stated below:

*(a) Reason for taking schedule of commissioning as 42 months from date of environmental clearance in the NTPC Board approval as against CERC timeline of 42 months for the COD of the generating station from the date of investment approval, substantiating the timeline with the details of actual time taken in other stations from the date of investment approval to the actual COD;*

*(b) Detailed reasoning for time over run from the schedule COD;*

(c) Details of implications on the project cost due to time overrun, and also details of price escalation paid between schedule COD and actual COD; and

(d) Details of IDC and FC for the period from schedule COD to actual COD.

11. In response, the petitioner vide its affidavit dated 13.10.2011 had submitted as under:

*"(b)The actual work for the main plant was started in the month of October, 2006 after placement of main plant order. Upon evacuation of soil for foundation for the boiler, it was found that the soil conditions were different from what was envisaged in the original design criterion. During commencement of foundation work, piling for structural/ equipment foundation work could not progress because of soil collapse during pile boring due to which piles could not be cast. The matter was re-examined by the engineering experts and after studies, piling methodology was changed. Considering, the above, a base contract amendment was issued in March, 2007 incorporating changes in piling methodology. Due to this, there was a delay in start of piling work for about 6-7 months during initial period of the project. It is evident from the details of the contract that most of the contracts were awarded in the year 2007 itself after resolution of foundation piling methodology and dispute with civil contractor. Due to this, the implementation schedule was shifted in the beginning of the project."*

12. Subsequently, the petitioner vide its affidavit dated 27.4.2012 had submitted the reasons for the delay in execution of the project as under:

"(a) The Letter of Award dated 08.09.2006 for Main Plant Civil works was placed on M/s Subhash Projects and Marketing Ltd (SPML).

(b) There was a delay of about 6 to 7 months in commencement of civil works for the Main plant due to the problems being faced by the Main Plant Civil Works contractor SPML i.e., collapsing/caving of soil during boring of the piles. It is noteworthy that earlier pile foundations design was similar to that of adjacent Stage-I of the Station where no such problem was encountered.

(a) Due to the above problem encountered after commencement of the civil works and after investment approval/ main plant award, various possibilities were explored at Site and trials were made. Thereafter, it could be envisaged that permanent steel liners would have to be provided for piling work which was envisaged neither in the earlier design nor in the main plant civil work package. This involved extra works such as fabrication and driving of liners up to weathered rock and new methodology for carrying out this work was evolved. The above problem and its resolution also involved re-negotiation of techno-commercial terms with Main Plant Civil Works Contractor. Further, in order to cut down the process time for procurement of 600 mm dia pipes by the contractor, NTPC arranged and supplied the same to the Contractor as free issue material for fabrication of the required liners by the Contractor.

- (c) The above change in works also required mobilization of extra/new equipment by the contractor which also took extra time.
- (d) The petitioner also issued a letter dated 16.3.2007 to the Contractor SMPL regarding amendment to the Main Plant Civil Works package wherein Rs. 4.87 crs. value of extra work towards above was confirmed revising the total contract value.
- (e) Therefore, it is evident that there was a delay of more than six months in the beginning stage itself due to the geological surprise, as submitted by the petitioner in the previous Affidavits mentioned above.
- (f) Due to above delay in starting the civil work various expenditure/ cash outflows which otherwise would have incurred, were deferred accordingly. For example expenditure such as Main Plant package advances etc. were deferred to quarter-IV of 2006-2007 and beyond wherein ₹118 crores was spent in quarter-IV of 2006-2007 only i.e., after about 6 months of investment approval, which would otherwise have incurred much earlier, resulting in higher interest cost.
- (g) After accounting the initial delay in start of civil works due to the aforesaid geological surprise, the unit was synchronized as per investment approval. However, thereafter it had to complete all testing and commissioning activities required before decaling the unit under Commercial operation. The unit could not be declared under commercial operation earlier due to the problems faced in power evacuation for which the petitioner had already made a submission before the Hon'ble Commission."

13. It is observed that the main reason for rejection of the submissions of the petitioner as regards the delay in execution of the project in our order dated 3.5.2012 is that the petitioner was responsible for not undertaking the preliminary work of testing the soil condition prior to the placement of award for main plant civil works. The petitioner has submitted that it had placed on record the problems faced in the main plant civil works namely collapsing, caving of soil during boring of the piles which had resulted in a delay of 6 to 7 months in regard to commencement of various works. It has also submitted that the Commission had not inquired into the aspect whether there was any soil testing prior to the placement of order for construction of the project and if any inquiry had been made, the petitioner would have placed on record that all standard procedures in regard to soil testing was undertaken in the project before placement of order. It is noticed from records that no specific details relating to the preliminary works undertaken for soil



testing prior to the placement of order for construction had been called for from the petitioner after scrutiny of the additional information submitted by the petitioner through various affidavits. It is also noticed that though the additional information filed by the petitioner vide affidavit dated 27.4.2012 as regards the soil investigation was *prima facie* considered in our order dated 3.5.2012, the details submitted thereunder appear to have been overlooked and was not considered on merits. Having overlooked the said details on merits, we are of the considered view that the order dated 3.5.2012 suffers from infirmity and the same is required to be reviewed. We order accordingly. Consequently, the submissions contained in affidavit dated 27.4.2012 as quoted in paragraph 12 above have been considered on merits. From the detailed submissions made by the petitioner it is clear that the petitioner had undertaken soil investigation as per relevant standards prior to its construction and as such the collapsing/piling of soil can be considered as geological surprise. Therefore, we are of the view that the delay in execution of the project is not attributable to the petitioner. Accordingly, the findings relating to cost overrun and the computation of IDC in paragraphs 18 to 25 of our order dated 3.5.2012 stand revised and the IDC for an amount of ₹7487.09 lakh has been allowed to be capitalized for the purpose of determination of tariff.

14. Based on the above discussions, the capital cost as on 21.3.2011 for the purpose of tariff allowed in para 25 of our order dated 3.5.2012 is revised as under:

<i>(₹ in lakh)</i>	
<b>As on 21.3.2011</b>	
Gross block	<b>233709.97</b>
Less: Un-discharged liabilities included	17689.96
Capital cost on cash basis	<b>216020.01</b>
Add: Notional IDC	0.00
Less: FERV gain charged to P&L account	(-) 141.61
<b>Capital cost</b>	<b>215878.40</b>

15. The capital cost considered for the period 2009-14 in paragraph 30 of the order dated 3.5.2012 stands revised as under:

	(₹ in lakh)			
	2010-11 (21.3.2011 to 31.3.2011)	2011-12	2012-13	2013-14
Opening capital cost	215878.40	218823.27	233765.66	251229.43
Add: Projected Additional capital Expenditure	2944.87	14942.39	17463.77	7272.68
<b>Closing capital cost</b>	<b>218823.27</b>	<b>233765.66</b>	<b>251229.43</b>	<b>258502.11</b>
<b>Average capital cost</b>	<b>217350.84</b>	<b>226294.47</b>	<b>242497.55</b>	<b>254865.77</b>

### Return on Equity

16. Return on Equity in paragraph 35 of the order dated 3.5.2012 is revised as under:

	(₹ in lakh)			
	2010-11 (21.3.2011 to 31.3.2011)	2011-12	2012-13	2013-14
Normative Equity -Opening	64763.52	65646.98	70129.70	75368.83
Add: Addition to equity on account of Projected Additional capital expenditure	883.46	4482.72	5239.13	2181.80
<b>Normative Equity - Closing</b>	<b>65646.98</b>	<b>70129.70</b>	<b>75368.83</b>	<b>77550.63</b>
Average Equity	65205.25	67888.34	72749.26	76459.73
<b>Return on Equity @ 23.481%</b>	<b>15310.85</b>	<b>15940.86</b>	<b>17082.25</b>	<b>17953.51</b>

### Interest On loan

17. Sub-clause (a) of paragraph 38 of the order dated 3.5.2012 stands revised as under:

(a) The gross normative loan corresponding to 70% of the admitted capital cost works out to ₹151114.88 lakh as on 21.3.2011.

(b) xxxxx

18. Accordingly, interest on loan is reworked as under:

	(₹ in lakh)			
	2010-11 (21.3.2011 to 31.3.2011)	2011-12	2012-13	2013-14
Gross Opening Loan	151114.88	153176.29	163635.97	175860.60
Cumulative Repayment of Loan	0.00	349.85	12436.05	25387.65
Net Loan Opening	151114.88	152826.45	151199.91	150472.95
Addition of loan due to projected Additional capital expenditure	2061.41	10459.67	12224.64	5090.88

Repayment of loan (Normative)	349.85	12086.21	12951.60	13612.18
Net Loan Closing	152826.45	151199.91	150472.95	141951.66
Average Loan	151970.66	152013.18	150836.43	146212.30
Weighted Average Rate of Interest on Loan	9.1275%	9.1315%	9.1192%	9.0978%
<b>Interest on Loan</b>	<b>13871.18</b>	<b>13881.02</b>	<b>13755.03</b>	<b>13302.13</b>

### Depreciation

19. Depreciation worked out in paragraph 41 of the order dated 3.5.2012 is revised as under:

	(₹ in lakh)			
	2010-11 (21.3.2011 to 31.3.2011)	2011-12	2012-13	2013-14
Opening capital cost	215878.40	218823.27	233765.66	251229.43
Add: Projected Additional capital expenditure	2944.87	14942.39	17463.77	7272.68
Closing capital cost	218823.27	233765.66	251229.43	258502.11
Average capital cost	217350.84	226294.47	242497.55	254865.77
Rate of depreciation	5.3409%	5.3409%	5.3409%	5.3409%
Depreciation for the period	349.85	12086.21	12951.60	13612.18
<b>Depreciation (annualised)</b>	<b>11608.53</b>	<b>12086.21</b>	<b>12951.60</b>	<b>13612.18</b>

### Interest on Working Capital

20. On account of the above changes, the receivable component of the working capital as worked out in paragraph 54 of the order dated 3.5.2012 is revised as under:

	(₹ in lakh)			
	2010-11 (21.3.2011 to 31.3.2011)	2011-12	2012-13	2013-14
Variable Charges -2 months	4749.68	4762.70	4749.68	4749.68
Fixed Charges - 2 months	8533.84	8793.83	9184.70	9444.91
<b>Total</b>	<b>13283.52</b>	<b>13556.53</b>	<b>13934.38</b>	<b>14194.59</b>

21. Accordingly, the interest on working capital is revised as under:

	(₹ in lakh)			
	2010-11 (21.3.2011 to 31.3.2011)	2011-12	2012-13	2013-14
Cost of coal for 1.1/2 months	3562.26	3572.02	3562.26	3562.26
Cost of secondary fuel oil for 2 months	241.46	242.12	241.46	241.46
O&M Expenses	572.50	605.42	640.00	676.67
Spares	1374.00	1453.00	1536.00	1624.00
Receivables	13283.52	13556.53	13934.38	14194.59
<b>Total working capital</b>	<b>19033.74</b>	<b>19429.09</b>	<b>19914.10</b>	<b>20298.98</b>
Rate of interest	11.0000%	11.0000%	11.0000%	11.0000%
<b>Interest on working capital</b>	<b>2093.71</b>	<b>2137.20</b>	<b>2190.55</b>	<b>2232.89</b>

## **Annual Fixed Charges**

22. The annual fixed charges approved by order dated 3.5.2012 is revised as under:

	(₹ in lakh)			
	2010-11 (21.3.2011 to 31.3.2011)	2011-12	2012-13	2013-14
Return on Equity	15310.85	15940.86	17082.25	17953.51
Interest on Loan	13871.18	13881.02	13755.03	13302.13
Depreciation	11608.53	12086.21	12951.60	13612.18
Interest on Working Capital	2093.71	2137.20	2190.55	2,232.89
O&M Expenses	6870.00	7265.00	7680.00	8120.00
Cost of secondary fuel oil	1448.75	1452.72	1448.75	1448.75
<b>Total</b>	<b>51203.02</b>	<b>52763.00</b>	<b>55108.19</b>	<b>56669.45</b>

**Notes:** 1) All figures are on annualized basis. (2) All the figures under each head have been rounded. The figure in total column in each year is also rounded off to two decimal places. Because of rounding of each figure the total may not be arithmetic sum of individual figures in columns.

23. The difference in respect of the tariff determined by order dated 3.5.2012 and the tariff determined by this order shall be recovered from the beneficiaries in six equal monthly installments, in terms of the proviso to Regulation 5(3) of the 2009 Tariff Regulations.

24. Except the above, all other terms contained in the order dated 3.5.2012 remains unchanged.

25. Review Petition No. 16/2012 is disposed of as above.

Sd/-  
[V. S. Verma]  
Member

Sd/-  
[S. Jayaraman]  
Member

Sd/-  
[Dr. Pramod Deo]  
Chairperson