CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

Petition No.139/2008

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: 12.10.2011

IN THE MATTER OF

Revision of order dated 30.12.2009 in the light of the judgment of the Appellate Tribunal for Electricity dated 13.6.2007 in Appeal Nos.139 to 142 etc., of 2006, 10, 11 and 23 of 2007 and judgment dated 1.9.2010 in Appeal No. 58/2010

AND

IN THE MATTER OF

Approval of revised capacity charges in respect of Rajiv Gandhi Combined Cycle Power Project (RGCCPP) situated at Kayamkulam after accounting for the capital cost of switchyard transferred to NTPC from Power Grid Corporation of India Ltd.

AND

IN THE MATTER OF

NTPC Ltd, New DelhiPetitioner

- 1. Kerala State Electricity Board, Thiruvanthapuram
- 2. TamilNadu Electricity Board, ChennaiRespondents

ORDER

This petition was filed by the petitioner, NTPC for approval of revised capacity charges in respect of Rajiv Gandhi Combined Cycle Power Project, (hereinafter referred to as "the generating station") situated at Kayamkulam, after accounting for the capital cost of switchyard transferred from Power Grid Corporation of India Ltd (PGCIL). Government of India vide its letter No. 5/22/99-Th-2 dated 31.8.2000 approved the transfer of ownership and control of switchyard forming part of the Kayamkulam Transmission System (the transmission system) and associated with the generating

station, from PGCIL, to the petitioner. The assets included in the transmission system are:

- (a) 220 kV D/C Kayamkulam–Edmon transmission line alongwith associated bays (Asset-I); and
- (b) 220 kV D/C Kayamkulam-Pallom transmission line alongwith associated bays (Asset-II).
- 2. PGCIL filed Petition No. 53/2007 seeking approval of the Commission for transfer of ownership of switchyard to the petitioner and for adjustment of the transmission charges after de-capitalization on account of the said transfer. The effective date of transfer of switchyard was 1.9.2007. The petitioner who was a respondent in Petition No.53/2007 sought 'in principle' approval to approach the Commission for revision of capacity charges of the generating station from the date of transfer and to approve the provisional billing of the additional capacity charges of the generating station, subject to adjustment after final determination of the revised capacity charges. The Commission vide its order dated 14.6.2007 accorded in-principle approval for transfer of ownership of switch yard associated with the generating station. Subsequently, the Commission vide its order dated 17.6.2008 in Petition No. 53/2007 allowed de-capitalization of ₹8709.94 lakh on account of cost of the switchyard and determined the revised transmission charges for the years 2007-08 and 2008-09 for PGCIL. By the same order, the Commission permitted the petitioner to recover provisional charges on account of switchyard transfer from PGCIL with effect from 1.9.2007. Based on the liberty granted by the Commission, the petitioner had filed the instant petition for revision of capacity charges in respect of the generating station for the period from 1.9.2007 to 31.3.2009 on account of transfer of switchyard associated with the generating station by PGCIL.
- 3. The Commission vide its order dated 9.6.2009 approved the tariff of the generating station, considering the capital cost of ₹118257.12 lakh for the period from

1.4.2004 to 31.8.2007 and ₹126967.06 lakh for the period from 1.9.2007 to 31.3.2009. Subsequently, the tariff of the generating station was revised by orders dated 23.12.2009 and 30.12.2009 in Review Petition Nos.172/2009 and 175/2009 respectively (in Petition No. 139/2008) on account of rectification of certain ministerial errors contained in calculations corresponding to order dated 9.6.2009. The annual fixed charges approved by the Commission in order dated 30.12.2009 is as under:

					.)	
	2004-05	2005-06	2006-07	2007-08		2008-09
				1.4.2007	1.9.2007	
				to	to	
				31.8.2007	31.3.2008	
Interest on loan	3257.02	2776.54	2279.51	795.33	1148.88	1705.40
Interest on Working	2757.98	2765.79	2771.53	1174.63	1624.89	2760.73
Capital						
Depreciation	5267.39	5267.39	5267.39	2201.94	3291.22	5655.34
Advance Against	1705.65	2009.09	2171.75	1547.67	1110.92	0.00
Depreciation						
Return on Equity	4966.80	4966.80	4966.80	2076.28	3069.38	5274.15
O & M Expenses	2804.72	2916.19	3034.86	1318.27	1835.24	3279.37
Total	20759.56	20701.79	20491.83	9114.13	12080.53	18674.99

Background

- 4. The petitioner filed Petition No.147/2004 for determination of tariff of the generating station for the period 2004-09 and the Commission by its order dated 9.5.2006 determined the tariff of the generating station for the said period. Aggrieved by the said order, the petitioner filed Appeal No.144/2006 before the Tribunal. Similar appeals [Appeal Nos.139 to 142 etc of 2006, 10, 11 and 23/2007 (NTPC-v-CERC & ors)] were also filed by the petitioner challenging the various orders of the Commission determining tariff for other generating stations of the petitioner during the period 2004-09. Appeal No.216/2006 was 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 of tariff by the Commission.
- 5. Against the judgment dated 13.6.2007, the Commission has filed Civil Appeals before the Hon'ble Supreme Court (C.A. Nos. 5434/2007 to 5452/2007 and 5622/2007)

including Civil Appeal No. 5439/2007 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 interim order of stay of the operation of the order dated 13.6.2007 of the 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. During the pendency of the above Civil Appeals, the petitioner filed the present petition (Petition No.139/2008) for revision of capacity charges in respect of the generating station for the period from 1.9.2007 to 31.3.2009 for revision of tariff of the generating station on account of transfer of switchyard associated with the generating station by PGCIL, which was disposed of by order dated 30.12.2009 as stated above.
- 8. While so, the petitioner in its petitions filed before the Commission for revision of annual fixed charges for 2004-09 on account of additional capital expenditure incurred during 2004-09 in respect of its other generating stations, claimed the annual fixed charges in terms of the judgment of the Tribunal dated 13.6.2007. However, the Commission, keeping in view the spirit of the interim order of the Hon'ble Supreme

Court dated 10.12.2007 and since tariff for 2004-09 was a composite package, deferred the claim of the petitioner for annual fixed charges in terms of the judgment of the Tribunal dated 13.6.2007, till the final disposal of the said Civil Appeals by the Hon'ble Supreme Court.

- 9. Thereafter, in an appeal [Appeal No.92/2010 (NTPC-v-CERC & ors)] filed by the petitioner before the Tribunal against the order of the Commission pertaining to one of its generating station namely, Talcher TPS, Stage-II, the Tribunal by its judgment dated 4.2.2011 observed that pendency of the Civil appeals filed by the Commission before the Hon'ble Supreme Court (against the judgment of the Tribunal dated 13.6.2007) was not a ground to ignore the orders of the Tribunal. Against this order the Commission has filed Civil Appeal before the Hon'ble Supreme Court. Keeping in view the observations of the Tribunal in Appeal No. 92/2010 and considering the fact that the tariff for 2004-09 was a composite package, the tariff for other generating stations of the petitioner for 2004-09 were revised by the Commission by its various orders, after considering the issues raised by the petitioner in terms of the judgment of the Tribunal dated 13.6.2007. Accordingly, we propose to revise the tariff in respect of this generating station also.
- 10. In the above background, we now proceed to revise the annual fixed charges of the generating station for 2004-09 through this order, after considering the issues claimed by the petitioner in terms of the judgment of the Tribunal dated 13.6.2007, subject to the final outcome of the Civil Appeals pending before the Hon'ble Supreme Court

Normative FERV

11. The Commission vide its order dated 9.5.2006 in Petition No.147/2004 had allowed FERV for the period 2001-04, on actual basis amounting to ₹4718.00 lakh. However, the FERV for the period 2001-04 allowed on actual basis is revised on

normative basis, based on the order dated 7.1.2008 in Petition No. 22/1999 passed on account of the change repayment methodology resulting in changes in normative loan in terms of the judgment of the Tribunal dated 14/11/2006 in Appeal No.96/2005. The same is allowed to be included in the capital cost as on 1.4.2004. The necessary calculations are as under:

				(₹ in lakh)
	2001-02	2002-03	2003-04	Total
Net opening loan (actual) considered in order dated 07.01.2008 – A	73356.43	71599.33	66603.19	
Net opening loan (normative) as approved vide order dated 07.01.2008 - B	75477.57	73669.66	68529.06	
Actual FERV allowed vide order dated 09.05.2006 -C	1688	3526	(-) 496	4718.00
FERV allowable on normative basis (D = C x B ÷ A)	1736.68	3627.61	(-) 510.21	4854.07

Capital Cost

12. The Commission in its order dated 5.3.2004 in Petition No.22/1999, while determining the tariff of the generating station for the period 1.4.2001 to 31.3.2004, had considered capital cost of ₹112530.99 lakh as on 1.4.2001. Subsequently, by order dated 4.4.2005 in Petition No.141/2004, the Commission had admitted additional capital expenditure of ₹1008.13 lakh for the period 2001-04 and accordingly, admitted the capital cost of ₹113539.12 lakh as on 31.3.2004. However, considering the normative FERV of ₹4854.07 lakh for the period 2001-04, the admitted capital cost as on 1.4.2004 works out to ₹118393.19 lakh. Further, considering the gross value of the switchyard (amounting to ₹8709.94 lakh) the capital cost works out to ₹127103.13 lakh as on the date of transfer i.e. 1.9.2007. The opening capital cost considered for the respective years of the period 2004-09 is as under:

				(₹in lakh)				
	2004-05	2005-06	2006-07	2007-08		2008-09		
				1.4.2007 to	1.9.2007 to			
				31.8.2007	31.3.2008			
Opening	118393.19	118393.19	118393.19	118393.19	127103.13	127103.13		
Capital cost								

Debt-Equity ratio

13. The debt-equity ratio of 70:30 as considered in order dated 9.5.2006 in Petition No.147/2004 has been retained for the purpose of revision of tariff. Accordingly, the normative equity and gross normative loan as on 1.4.2004, works out to ₹35517.96 lakh and ₹82875.24 lakh, respectively. Further, additional normative equity and normative loan amounting to ₹2195.36 lakh and ₹6514.58 lakh corresponding to Switchyard (transferred) as considered in order dated 9.6.2009 has been retained for revision of tariff.

Return on Equity

14. In line with Regulation 20 of the 2004 regulations, the return on equity has been worked out @ 14% per annum on the normative equity. Based on this, the return on equity is revised as under:

(₹in lakh)

	2004-05	2005-06	2006-07	200	7-08	2008-09
				1.4.2007	1.9.2007	
				to	to	
				31.8.2007	31.3.2008	
Equity -Opening	35517.96	35517.96	35517.96	35517.96	37713.32	37713.32
considered now						
Addition of Equity	35517.96	35517.96	35517.96	35517.96	37713.32	37713.32
due to admitted						
additional capital						
expenditure						
Equity-Closing	4972.51	4972.51	4972.51	4972.51	5279.86	5279.86
Average equity	35517.96	35517.96	35517.96	35517.96	37713.32	37713.32
Return on Equity @	4972.51	4972.51	4972.51	4972.51	5279.86	5279.86
14%						

Interest on loan

15. Adjustment of repayment corresponding to de-capitalization of assets: In the original petitions filed by the petitioner for the period 2004-09 in respect of its various generating stations, the petitioner has sought adjustment in cumulative repayment on account of de-capitalization of assets in such a manner that the net loan opening prior to de-cap does not undergo a change. The Tribunal by its judgment dated 13.6.2007 has decided as under:

"When asset is not in use it is only logical that the capital base for the purpose of tariff is also proportionately reduced. It follows therefore that the appellant will not earn any depreciation, return on equity and O&M charges. However, despite the de-capitalization, the appellant is required to pay interest on loan. Whereas 10% salvage value of the decapitalized asset should be non-tariff revenue, the interest on loan has to be borne by the beneficiaries. If the salvage value is more than 10%, amount realized above 10% should be counted as additional revenue. If salvage value is less than 10%, it will be counted as loss in the revenue.

Therefore, in this view of the matter, the cumulative repayment of the loan proportionate to those assets de-capitalized required to be reduced. The CERC shall act accordingly".

- 16. In terms of the above decision of the Tribunal, the cumulative repayment adjustment has been worked out proportionate to assets de-capitalized such that the net opening loan prior to de-capitalisation and after de-capitalisation do not change.
- 17. Interest on loan has been re-worked out as mentioned below:
 - (a) The gross normative loan as on 1.4.2004 is ₹82875.24 lakh. Further, taking in to account the additional normative loan of ₹.6514.58 lakh corresponding to switchyard (transferred), the gross normative loan as on 1.9.2007 works out to ₹89389.82 lakh.
 - (b) Cumulative repayment of loan amounting to ₹29791.54 lakh up to 31.3.2004, has been considered corresponding to order dated 7.1.2008 in Petition No. 22/1999. However, considering the cumulative repayment adjustment amounting to ₹2.06 lakh as on 1.4.2004 (based on directions of the Tribunal as stated above) corresponding to de-capitalization of assets (amounting to ₹2.94 lakh) for the period up to 31.3.2004, the cumulative repayment as on 1.4.2004 is revised to ₹29789.48 lakh. Further, as considered in order dated 9.6.2009, cumulative repayment as on 1.9.2007 has been increased by Rs.2714.58 lakh (cumulative depreciation pertaining to switchyard).
 - (c) Accordingly, net opening loan as on 1.4.2004 works out to ₹53085.76 lakh.
 - (d) Annual repayment of actual loan has been used to calculate normative repayment of loan. Normative repayment has been worked out as per formula below:

Normative repayment = Actual Repayment x Normative Loan
Actual Loan

- (a) Weighted average rate of interest as considered in order dated 30.12.2009 has been retained for the purpose of calculating interest on loan.
- 18. Interest on loan has been computed as under:

						(₹ in lakh)
	2004-05	2005-06	2006-07	200	7-08	2008-09
				1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
Gross Opening loan – considered now	82875.24	82875.24	82875.24	82875.24	89389.82	89389.82
Cumulative Repayment of Loan upto previous year	29789.48	36808.45	44132.87	51621.02	58109.92	62537.52
Net Loan Opening	53085.76	46066.78	38742.37	31254.22	31279.90	26852.30
Addition of loan due to approved additional capital expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Repayment of loan (Normative)	7018.98	7324.41	7488.15	3774.32	4427.60	4434.18
Net Loan Closing	46066.78	38742.37	31254.22	27479.90	26852.30	22418.11
Average Loan	49576.27	42404.58	34998.29	29367.06	29066.10	24635.20
Weighted Average Rate of Interest on Loan	6.6130%	6.5909%	6.5561%	6.5212%	6.8311%	7.1445%
Interest on Loan	3278.48	2794.83	2294.53	1915.09	1985.54	1760.05

Depreciation

19. In its judgment dated 13.6.2007, the Tribunal has observed as under:

"In a regulatory cost plus regime all costs have to be reimbursed. Depreciation amount up to 90% being a cost has to be allowed over the life of the plant. If due to underperformance in a particular year the appellant is not able to recover full depreciation allowed in that year and if this denial is forever, it will tantamount to a penalty. In a contract between the appellant and the beneficiaries, only levy of liquidated damages can be permitted. It will, therefore, be enough deterrent for the appellant if the depreciation is not allowed during the year of underperformance. However, the same cannot be denied forever and, therefore, it will be only fair to allow the unpaid portion of the depreciation after the plant has lived its designated useful life. In this view of the matter the CERC needs to examine this aspect as per the aforesaid."

- 20. Based on above directions of the Tribunal, no adjustment has been made to the cumulative depreciation at this stage. The un-recovered depreciation would be allowed in tariff after the designated useful life of the generating station, as directed by the Tribunal.
- 21. The cost of land in the present case is ₹4261.71 lakh. The gross depreciable value of the asset, excluding land is 0.9 X (₹118393.19 lakh minus ₹4261.71 lakh) = ₹102718.34 lakh as on 1.4.2004. Cumulative depreciation and Advance Against Depreciation (AAD) recovered in tariff up to 31.3.2004 is ₹28021.36 lakh as per order dated 7.1.2008. Further, after addition of depreciation recovered / to be recovered

amounting to ₹431.01 lakh up to 31.3.2004, corresponding to normative FERV for 2001-04, along with reduction of cumulative depreciation amounting to ₹1.56 lakh due to de-capitalization up to 31.3.2004, the cumulative depreciation and AAD recovered in tariff works out to ₹.28450.80 lakh up to 31.3.2004. Weighted average rate of depreciation of 4.4542% as considered in order dated 30.12.2009 has been retained for the purpose of tariff revision. Further, the depreciation recovered amounting to ₹2714.58 lakh corresponding to the Switchyard transferred has been added to arrive at cumulative depreciation as on 1.9.2007. The necessary calculations of depreciation are as under:

						(₹in lakh)
	2004-05	2005-06	2006-07		2007-08	2008-09
				1.4.2007 to	1.9.2007 to	
				31.8.2007	31.3.2008	
Capital cost	118393.19	118393.19	118393.19	118393.19	127103.13	127103.13
Depreciable Value	102718.34	102718.34	102718.34	102718.34	110557.28	110557.28
Balance	74267.53	67248.56	59924.14	52435.99	53786.04	49358.43
depreciable value						
Depreciation	5273.45	5273.45	5273.45	2204.47	3294.75	5661.40
recovered (pro-						
rata)						
Depreciation	5273.45	5273.45	5273.45	5273.45	5661.40	5661.40
recovered						
(annualised)						

Advance Against Depreciation

22. The petitioner's entitlement to Advance Against Depreciation is worked out as under:

					(₹ i	in lakh)
	2004-05	2005-06	2006-07		2007-08	2008-09
				1.4.2007 to	1.9.2007 to	
				31.8.2007	31.3.2008	
1/10th of Gross	8287.52	8287.52	8287.52	8287.52	8938.98	8938.98
Loan(s)						
Repayment of the	7018.98	7324.41	7488.15	3774.32	4427.60	4434.18
Loan during the						
year / period						
Minimum of the	7018.98	7324.41	7488.15	3774.32	4427.60	4434.18
above						
Depreciation during	5273.45	5273.45	5273.45	2204.47	3294.75	5661.40
the year/period						
(A) Difference	1745.53	2050.97	2214.70	1569.85	1132.85	0.00
Cumulative	36808.45	44132.87	51621.02	55395.34	62537.52	66971.70
Repayment of loan						

at the end of year / period						
Cumulative	33724.25	40743.23	48067.64	52486.82	60065.99	66860.25
Depreciation / AAD						
(B) Difference	3084.20	3389.64	3553.38	2908.52	2471.53	111.45
Advance Against	1745.53	2050.97	2214.70	1569.85	1132.85	0.00
Depreciation						
[Minimum of (A)						
and (B)]						
Advance Against	1745.53	2050.97	2214.70	3755.32	1946.59	0.00
Depreciation						
(annualised)						

O&M expenses

23. O&M Expenses approved vide order dated 30.12.2009 remain unchanged.

Interest on Working capital

24. For the purpose of calculation of working capital the operating parameters including the price of fuel components as considered in the order dated 30.12.2009 have been kept unchanged. The additional capital expenditure allowed after the date of commercial operation has been considered while arriving at the maintenance spares for the purpose of calculating interest on working capital. The "receivables" component of the working capital has been revised for the reason of revision of return on equity, interest on loan, maintenance spares. 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
				1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
Fuel Cost - 1 month	6268.11	6268.11	6268.11	6285.29	6285.29	6268.11
Liquid Fuel Cost	3134.06	3134.06	3134.06	3142.64	3142.64	3134.06
(Naptha) - 1/2 months						
O & M expenses	233.73	243.02	252.90	262.79	262.79	273.28
Maintenance spares	1475.28	1563.80	1657.63	1844.18	1844.18	1952.22
Receivables	16012.03	16002.41	15967.27	16223.08	16046.24	15665.94
Total Working Capital	27123.21	27211.40	27279.97	27757.99	27581.14	27293.61
Rate of Interest	10.2500%	10.2500%	10.2500%	10.2500%	10.2500%	10.2500%
Total Interest on	2780.13	2789.17	2796.20	2845.19	2827.07	2797.60
Working capital (annualized)						

25. The revised annual fixed charges for the period from 1.4.2004 to 31.3.2009 are summarized as stated overleaf:



(₹in lakh)

	2004-05	2005-06	2006-07	2007-08		2008-09
				1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
Interest on loan	3278.48	2794.83	2294.53	1915.09	1985.54	1760.05
Interest on Working Capital	2780.13	2789.17	2796.20	2845.19	2827.07	2797.60
Depreciation	5273.45	5273.45	5273.45	5273.45	5661.40	5661.40
Advance Against Depreciation	1745.53	2050.97	2214.70	3755.32	1946.59	0.00
Return on Equity	4972.51	4972.51	4972.51	4972.51	5279.86	5279.86
O & M Expenses	2804.72	2916.19	3034.86	3153.52	3153.52	3279.37
Total	20854.82	20797.12	20586.25	21915.07	20853.99	18778.28

- 26. The target availability of 80% considered by the Commission in the order dated 9.6.2009/30.12.2009 remains unchanged. Similarly other parameters viz. specific fuel consumption Auxiliary Power consumption and Station Heat rate etc considered in the order dated 9.6.2009/30.12.2009 have been retained for the purpose of calculation of the revised fixed charges.
- 27. The annual fixed charges determined in this order are subject to the outcome of Civil Appeals as stated above, pending before the Hon'ble Supreme Court.
- 28. The petitioner shall claim the difference in respect of the tariff determined by order dated 30.12.2009 and the tariff determined by this order, from the beneficiaries in three equal monthly installments.

Sd/- Sd/- Sd/- Sd/- Sd/- (M.DEENA DAYALAN) (V.S.VERMA) (S.JAYARAMAN) (DR.PRAMOD DEO) MEMBER MEMBER CHAIRPERSON