

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram**

1. Dr. Pramod Deo, Chairperson
2. Shri R.Krishnamoorthy, Member
3. Shri S.Jayaraman, Member
4. Shri V.S.Verma, Member

**Petition No 139/2008**

**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 Delhi

Vs

1. Kerala State Electricity Board, Thiruvananthapuram
2. Tamilnadu Electricity Board, Chennai

.....Petitioner

.....Respondents

**The following were present**

1. Shri S.K.Mandal, NTPC
2. Shri D.G.Salpekar, NTPC
3. Ms. Alka Saigal, NTPC
4. Shri R.Krishnaswami, TNEB

**ORDER  
(DATE OF HEARING: 17.3.2009)**

This petition has been 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).

2. Govt. of India vide 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).

3. PGCIL filed Petition No. 53/2007 under sub-section (3) of section 17 of the Electricity Act, 2003, 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 by its affidavit dated 25.4.2007, 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.

4. The Commission vide its order dated 17.6.2008 in Petition No. 53/2007 allowed de-capitalisation of Rs.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, as under:

(Rs. in lakh)

	Asset-I		Asset-II	
	2007-08 (1.9.2007 to 31.3.2008)	2008-09	2007-08 (1.9.2007 to 31.3.2008)	2008-09
Depreciation	117.10	200.76	64.28	110.20
Interest on Loan	79.17	108.22	53.23	75.21
Return on Equity	52.27	89.60	44.06	75.54
Advance against Depreciation	422.35	560.84	253.89	368.58
Interest on Working Capital	2.50	27.09	2.17	17.01
O & M Expenses	36.90	65.80	36.91	65.80
<b>Total</b>	<b>710.29</b>	<b>1052.21</b>	<b>454.54</b>	<b>712.34</b>

5. The Commission vide its order dated 17.6.2008 further directed the petitioner to file a separate petition for approval of revised capacity charges for the generating station, after accounting for the capital cost of the switchyard transferred to it. The present petition has been filed by the petitioner in terms of the said order dated 17.6.2008.

6. The annual fixed charges of the generating station for the period 2004-09 was determined by the Commission vide its order dated 9.5.2006 in Petition No. 147/2004, considering the gross block of Rs.118257.12 lakh as on 1.4.2004. (inclusive of FERV and additional capitalization on works, for the period 2001-04) as under:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	5267	5267	5267	5267	5267
Interest on Loan	3257	2777	2280	1773	1328
Return on Equity	4967	4967	4967	4967	4967
Advance against Depreciation	1706	2009	2172	2346	0
Interest on Working Capital	2758	2766	2772	2784	2742
O & M Expenses	2805	2916	3035	3154	3279
<b>Total</b>	<b>20760</b>	<b>20702</b>	<b>20492</b>	<b>20291</b>	<b>17584</b>

7. The Commission vide its order dated 17.6.2008 in Petition No. 53/2007 while allowing de-capitalisation of an amount of Rs.8709.94 lakh from the date of transfer of the asset, that is, 1.9.2007, also allowed adjustment of cumulative depreciation amounting to Rs.2714.58 lakh, as on 31.8.2007, recovered by PGCIL. Thus, the net block of the transferred switchyard was worked out as Rs.5995.36 lakh, as on 1.9.2007.

8. The petitioner has claimed that the capital base of the generating station for the period 1.9.2007 to 31.3.2009 should be revised after considering the gross value of Rs.8709.94 lakh of the transferred switchyard instead of the net value. The petitioner relied upon para 2.8 of the Commission's order dated 21.12.2000 in Petition No. 4/2000 and order dated 28.6.2002 in Petition No. 77/2001, that the capital base shall be reduced to the extent of loan repayment and the tariff should be worked out on the basis of the original cost of the assets.

9. Respondent No.1, KSEB in its reply has submitted that it would be affected by the transfer of ownership of the switchyard, if the reduction in transmission tariff of PGCIL on account of de-capitalization of switchyard and the increase in tariff of the petitioner due to capital addition are not equalized. Respondent No.1 while pointing out that useful life for thermal generating stations and transmission assets being considered by the Commission is 25 years and 35 years respectively, has submitted that tariff would increase as a

result of the said transfer on account of constriction of the useful life for recovery of depreciation.

10. Respondent No.2, TNEB has objected to the claim of the petitioner for revision of the capital cost of the generating station based on the gross value of the transferred assets, on the ground that it does not conform to the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 (hereinafter referred to as "the 2004 regulations").

11. In the past, transfer of assets between public sector utilities was effected on the gross block under the orders of Govt of India, with a measure to add the depreciation recovered on the transferred asset till the date of transfer, to the cumulative depreciation of the generating station, to ensure that the generating station to which the assets was transferred recovered only the net value of the assets after transfer. It is also pertinent to mention that the transfer of transmission assets to PGCIL, on its formation, under the directions of the Central Government, was on the gross block along with adjustment of cumulative depreciation. Accordingly, we consider it appropriate to consider the gross block of the switchyard transferred amounting to Rs.8709.94 lakh, on the date of transfer, that is, 1.9.2007. At the same time, the cumulative depreciation of the generating station has been revised by adjusting the amount of Rs 2714.58 lakh which represent the depreciation recovered by PGCIL up to the date of transfer. This shall ensure recovery of only the net value by the petitioner by way of depreciation in tariff pursuant to the transfer of asset. Further, the cumulative

repayment of the generating station till 1.9.2007 shall also be adjusted upwards by Rs. 2714.58 lakh. This adjustment is required to ensure that the extra loan to be serviced by the respondents gets restricted to the net block of the transferred asset less the equity calculated on the gross block in accordance with the specified debt-equity ratio. The interest of the respondents would thus be safeguarded with the above adjustments. In view of the above, the submission of the respondent No.2 is not acceptable.

12. The depreciation rates applicable for various assets have been laid down by the Commission, for determination of tariff for thermal generating stations. Also, the switchyard of thermal generating station is an AC sub-station and has a useful life corresponding to the useful life of the thermal generating station. Also, an increase in depreciation amount would result in reduction of the amount of Advance Against Depreciation. Hence, the apprehension of Respondent No.1 that there would be an increase in tariff on account of constriction in the useful life for recovery of depreciation, consequent upon transfer of switchyard to the generating station of the petitioner, is unfounded.

### **Capital cost**

13. As stated above, the capital cost of the generating station was Rs.118257.12 lakh as on 1.4.2004 (inclusive of FERV and additional capitalization on works for the period 2001-04), as per order dated 9.5.2006 in Petition No. 147/2004. Considering the gross value of the switchyard as on 31.8.2007, the capital cost works out to Rs.126967.06 lakh, as on the date of

transfer. This has been considered as opening capital cost as on 1.9.2007 for the purposes of revision of tariff for the period from 1.9.2007 to 31.3.2009, as under:

(Rs in lakh)

Year	2004-05	2005-06	2006-07	2007-08 (1.4.2007 to 31.8.2007)	2007-08 (1.9.2007 to 31.3.2008)	2008-09
Capital cost	118257	118257	118257	118257	126967.06	126967.06

### Debt-equity ratio

14. The Commission, vide its order dated 17.6.2008 had considered the normative debt-equity ratio of 70:30 for the purpose of tariff for the period 2004-09, and an amount of Rs.35477 lakh was considered as equity as on 1.4.2004.

15. The petitioner in its affidavit dated 2.4.2009 has stated that no loan has been drawn for takeover of the switchyard, but had drawn on 28.3.2008, SBI-Term Loan-IV amounting to Rs.3800 lakh and had allocated it against the expenditure of the switchyard. The switchyard was originally funded by PGCIL in the debt-equity ratio of 88:12 (Asset-I) and 83:17 (Asset-II). The petitioner has submitted that since it had not taken over the corresponding loans of PGCIL, it should be allowed the debt-equity ratio of 70:30 for the transferred switchyard.

16. The net gross block of the switchyard after adjustment of the cumulative depreciation works out to Rs 5995.36 lakh. After reduction of the net value from the actual loan of Rs.3800 lakh drawn by the petitioner, the balance amount of Rs.2195.36 lakh has been considered as additional equity in the books of account of the petitioner. In terms of sub-clause (c) of clause (1) of Regulation 20

of the 2004 regulations, equity has been restricted to the actual equity employed by the petitioner. Accordingly, additional notional loan and equity of the generating station as on 1.9.2007, on account of the transfer of asset, works out as under:

(Rs in lakh)

Notional Loan	6514.58
Notional Equity	2195.36

### Return on equity

17. Return on equity has been worked out @14% per annum on the normative equity after accounting for transfer of assets as under:

(Rs in lakh)

Period	2007-08		2008-09
	1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
Equity	35477	37672	37672
Return on Equity	<b>2076</b>	<b>3069</b>	<b>5274</b>

### Target Availability

18. The target availability of the generating station considered for the period 1.4.2004 to 31.3.2009 is 80 %.

### Interest on loan

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

- (a) The outstanding normative loan of Rs.31050 lakh as on 1.4.2007 as per tariff order dated 9.5.2006 has been considered. Normative repayment of loan during the period 1.4.2007 to 31.8.2007 has been worked out based



on actual loans considered in order dated 9.5.2006. Actual loans have been bifurcated based on terms and conditions of loan.

- (b) The outstanding normative loan on 1.9.2007 works out to Rs.31030 lakh after addition of notional loan and considering the cumulative depreciation of Rs.2714.58 lakh on the transferred assets, as repayment.
- (c) Normative repayment of loan considered is equal to the admissible depreciation for the year or normative repayment, whichever is higher. This is however, subject to the final decision of the Hon'ble Supreme Court in Civil Appeal No.5434/2007 and other related appeals preferred by the Commission.
- (d) Weighted average interest rate has been worked out based on loans as considered in order dated 9.5.2006 along with loan of Rs.3800 lakh taken for the transferred asset in the year 2008-09.

20. Interest on loan has been computed as under:

Period	2007-08		2008-09
	1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
Gross Opening Loan	82780	89295	89295
Cumulative Repayment of Loan upto previous year	51730	58264	63614
Net Loan Opening after addition	31050	31030	25680
Repayment of loan during the year	3819	5350	5655
Net Loan Closing	27230	25680	20025
Average Loan	29140	28355	22852
Weighted Average Rate of Interest on Loan	6.5203%	6.8300%	7.1446%
Interest on Loan	<b>794</b>	<b>1127</b>	<b>1633</b>

## Depreciation

21. Depreciation based on the weighted average rate of depreciation of 4.45% as admitted in order dated 9.5.2006 has been considered for revision of tariff.

The necessary calculations of depreciation are as under:

(Rs in lakh)

Period	2007-08		2008-09
	1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
Depreciation @ 4.45%			
90% Depreciable Value	102596	110435	110435
Balance Depreciable Value	52495	56515	48450
Depreciation	<b>2202</b>	<b>3291</b>	<b>5655</b>

## Advance against depreciation

22. Advance Against Depreciation has been worked out after accounting for the cost of the transferred asset in terms of sub-clause (b) of clause (1) of Regulation 21 of the 2004 regulations. Therefore, the petitioner's entitlement to Advance Against Depreciation is as under:

(Rs in lakh)

Advance against Depreciation	2007-08		2008-09
	1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
1/10th of Gross loan(s)	8278	8929	8929
Repayment of the loan	3819	5350	5655
Minimum of the above	3819	5350	5655
Depreciation during the year	2202	3291	5655
(A) Difference	1617	2059	0
Cumulative repayment of the loan	58264	63614	69270
Cumulative Depreciation	52303	57211	67641
(B) Difference	5961	6403	1629
Advance against Depreciation Minimum of (A) and (B)	<b>1617</b>	<b>2059</b>	<b>0</b>

## **O&M Expenses**

23. The petitioner has submitted that that the transfer of switchyard from PGCIL has resulted in additional expenditure towards operation and maintenance of the additional equipment and a further under recovery of O&M expenses. The petitioner has therefore prayed that it be allowed additional O&M expenses in accordance with Regulation 56 of the 2004 regulations.

24. The second respondent, TNEB has objected to the claim of the petitioner and has submitted that the normative O&M expenses specified by the Commission for the tariff period 2004-09 includes the expenses for switchyard maintenance. It has also prayed that the petitioner be directed to refund the excess amount recovered up to the date of acquisition of the switchyard in addition to the provisional O&M expenses allowed by the Commission by order dated 17.6.2008.

25. The normative O&M expenses were finalized by the Commission through the transparent process of hearing the views of all the stakeholders and were based on the data furnished by the concerned utilities for different components of O&M. Further, an escalation of 4% per year was inbuilt in the normative O&M expenses specified by the Commission. The norms pertaining to O&M expenses for combined cycle gas-based generating stations were specified by the Commission considering a capital cost of Rs.3 crore/MW and these norms were without exception. As a result of switchyard cost being included in the capital cost

of the generating stations, we feel that there is no justification to allow additional O&M expenses on account of transfer of switchyard to the petitioner. In view of this, the O&M expenses allowed in order dated 9.5.2006 *ibid* have been considered.

### Interest on Working capital

26. For the purpose of calculation of working capital, the operating parameters including the price of fuel components as considered in the order dated 9.5.2006 *ibid* have been kept unchanged. The “receivables” component of the working capital has been revised for the reason of revision of return on equity, interest on loan, etc. The necessary details in support of calculation of interest on working capital are as under:

(Rs in lakh)

	2007-08		2008-09
	1.4.2007 to 31.8.2007	1.9.2007 to 31.3.2008	
Fuel Cost	2627	3658	6268
Naptha stock	1314	1829	3134
O & M expenses	110	153	273
Spares	635	884	1610
Receivables- 2 months	6786	9486	15636
<b>Total Working Capital</b>	11471	16010	26922
Rate of Interest	10.25%	10.25%	10.25%
Interest on Working Capital	<b>1176</b>	<b>1641</b>	<b>2759</b>

### Revised Fixed Charges

27. The revised fixed charges for the years 2007-08 and 208-09 allowed in this order are summed up as below:

(Rs in lakh)

<b>Annual Fixed Charges</b>	<b>2007-08</b>		<b>2008-09</b>
	<b>1.4.2007 to 31.8.2007</b>	<b>1.9.2007 to 31.3.2008</b>	
Depreciation	2202	3291	5655
Interest on Loan	794	1127	1633
Return on Equity	2076	3069	5274
Advance against Depreciation	1617	2059	0
Interest on working capital	1176	1641	2759
O & M Expenses	1318	1835	3279
<b>Total</b>	<b>9184</b>	<b>13023</b>	<b>18601</b>

28. Respondent No.1 has submitted that the liability on account of additional charges in the form of stamp duty and registration charges should not be passed on to the beneficiaries by including the same in the capital cost of the switchyard transferred. The question of allowing stamp duty and registration charges in the capital cost has not been considered at this stage as the petitioner has not made any claim on that account. The matter may be considered as and when such claim is made.

29. The difference between the tariff approved by order dated 17.6.2008 *ibid* (para 4 above refers) provisionally and the final tariff approved now shall be settled by the parties by 31.7.2009.

30. In addition to the above, other charges like income tax, cess levied by statutory authority, other taxes shall also be adjusted accordingly.

31. This order disposes of Petition. No 139/2008.

**Sd/-**                      **Sd/-**                      **Sd/-**                      **Sd/-**  
**(V.S.VERMA)**    **(S.JAYARAMAN)**    **(R.KRISHNAMOORTHY)**    **(DR. PRAMOD DEO)**  
**MEMBER**                      **MEMBER**                      **MEMBER**                      **CHAIRPERSON**

New Delhi dated the 9<sup>th</sup> day of June, 2009