

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

1. **Shri D.P. Sinha, Member**
2. **Shri G.S. Rajamani, Member**
3. **Shri K.N. Sinha, Member**

**Petition No.32/2002**

**In the matter of**

Approval of tariff from 1.4.1997 to 31.3.2001 of Auraiya Gas Power Station

**And in the matter of**

National Thermal Power Corporation Ltd.

....Petitioner

Vs

1. Uttar Pradesh Power Corporation Ltd., Lucknow
2. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
3. Delhi Vidyut Board, New Delhi
4. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
5. Punjab State Electricity Board, Patiala
6. Himachal Pradesh State Electricity Board, Shimla
7. Power Development Department, J&K, Srinagar
8. Chief Engineer, Chandigarh Administration, Chandigarh
9. Uttaranchal Power Corporation Ltd., Dehradun       ..... Respondents

**The following were present:**

1. Shri K.K. Garg, GM (Comml), NTPC
2. Shri M.S. Chawla, DGM (Comml), NTPC
3. Shri C. Asokan, Sr. Manager, NTPC
4. Shri B. Dubey, Sr. Law Officer, NTPC
5. Shri D.D. Chopra, Advocate, UPPCL
6. Shri H.C. Verma, EE, UPPCL
7. Shri A.K. Tandon, Sr. A.E, UPPCL
8. Shri T.P.S. Bawa, PSEB,.
9. Shri R.K. Arora, HVPNL
10. Shri V.K. Gupta, SE (ISP), RVPNL
11. Shri S.C. Mehta, XEN (ISP), RVPNL

**ORDER**  
**(DATE OF HEARING 14.3.2002)**

The petitioner has filed this petition for approval of tariff in respect of Auraiya Gas Power Station (Auraiya GPS) for the period from 1.4.1997 to 31.3.2001.

2. Auraiya GPS was declared under commercial operation with effect from 1.12.1990. The Central Government in Ministry of Power accorded its approval for the Revised Cost Estimate for Auraiya GPS at a cost of Rs.665.33 crores, excluding Working Capital Margin of Rs.13.44 crores vide its letter dated 21.10.1994. The tariff for Auraiya GPS was notified by Ministry of Power vide notification dated 30.4.1994, which was subsequently amended vide notifications dated 16.1.1997, 30.11.1998 and 14.5.1999 to account for increase in return on equity from 12% to 16% and additional capitalisation based on audited accounts up to 1996-97. The notification dated 30.4.1994 was valid up to 31.3.1997, but was continued on ad hoc basis beyond 31.3.1997 in view of Clause 6 thereof.

3. The petitioner had filed Petition No. 83/2000 to claim revised fixed charges due to additional capital expenditure and FERV capitalised in respect of Auraiya GPS for the years 1997-98 to 2000-01. The said petition was disposed of vide order dated 2.1.2002, when the Commission directed the petitioner to file fresh petition for determination of tariff for the period from 1.4.1997 to 31.3.2001 based on the terms and conditions notified by Ministry of Power as per the notification dated 30.4.1994. The present petition has been filed in pursuance of these directions of the Commission contained in the order dated 2.1.2002.

## **CAPITAL COST**

4. Ministry of Power in its notification dated 16.1.1997 considered the project cost of Rs.617.23 crores, which included gross block of Rs.572.44 crores and initial spares of Rs.44.79 crores. Ministry of Power had allowed additional capitalisation of Rs.39.443 crores during 1992-93 to 1996-97 and FERV of Rs.13.14 crores. Therefore, the total admitted cost of the project, including the initial spares works out to Rs.669.81 crores as on 31.3.1997 and has been considered as the opening gross block for the purpose of present tariff petition.

5. The petitioner has claimed the amounts as detailed below for additional capitalisation during the period from 1997-98 to 2000-01:

(Rs.in lakhs)

<b>Financial Years</b>	<b>1997-98</b>	<b>1998-99</b>	<b>1999-00</b>	<b>2000-01</b>	<b>Total</b>
1. New works					
(a) Within the scope of RCE	2.3249	0.4244	0.0769	0.0027	2.8289
(b) Not in the scope of RCE	0.2077	1.2668	0.1454	0.5634	2.1833
<b>Total (a+b)</b>	<b>2.5327</b>	<b>1.6912</b>	<b>0.2223</b>	<b>0.5661</b>	<b>5.0122</b>
2. Balance Payments	57.0913	0.00	109.7308	3599.3594	3766.1815
<b>Total (1+2)</b>	<b>59.6240</b>	<b>1.6912</b>	<b>109.9531</b>	<b>3599.9255</b>	<b>3771.1937</b>

6. The petitioner has furnished justification for the following expenditure under the New Works in the respective years:

(Rs.in lakhs)

<b>Financial Years</b>	<b>1997-98</b>	<b>1998-99</b>	<b>1999-00</b>	<b>2000-01</b>	<b>Total</b>
New works					
(a) Within the scope of RCE	2.3249	0.4244	0.0769	0.0027	2.8289
(b) Not in the scope of RCE	0.2077	1.2668	0.1454	0.5634	2.1833
<b>Total (a+b)</b>	<b>2.5327</b>	<b>1.6912</b>	<b>0.2223</b>	<b>0.5661</b>	<b>5.0122</b>

7. The following methodology has been adopted for allowing or disallowing the claim of the petitioner:

**New Works:**

(a) Any work within the scope of approved project cost, but undertaken after the date of commercial operation has been allowed.

(b) The expenditure incurred for the replacement of existing equipment/facility due to technology becoming obsolete or the equipment having outlived its utility in the normal course of operation, has been allowed for capitalisation.

(c) The expenditure on the works undertaken on purchase of additional equipment/facility which is giving benefit exclusively to the petitioner without any apparent benefit to the beneficiaries has not been allowed, unless it is found that expenditure was necessary for the benefit of the employees for giving necessary facilities at the remote location of the power project.

(d) Any mandatory expenditure arising out of statutory obligation due to change of law, etc., has been allowed.

**Balance Payments:**

(a) Pertaining to works undertaken or order placed before the date of commercial operation which are presumed to be within the scope of approved project cost have been allowed.

(b) Pertaining to works undertaken or order placed after the date of commercial operation which might have been admitted by the Central Government in the previous tariff period have been allowed.

(c) Pertaining to works undertaken or order placed after the date of commercial operation which has been claimed as new works in the relevant years in the tariff period under consideration and allowed by the Commission, the balance payments in subsequent years pertaining to these new works have also been allowed.

(d) Other balance payments not falling in above categories have been disallowed.

8. During the financial year 2000-01, the petitioner has sought capitalisation of spares to the extent of Rs.32.77 crores as new works. It has been clarified by the petitioner that the capitalisation of spares is in accordance with the revised accounting standard, which became mandatory with effect from 1.4.1999. As per the present practice, only initial spares up to a certain amount, say 5% of the project cost are allowed to be capitalised. We would like to point out that maintaining accounts as per accounting standard is one thing and treating any expenditure to be eligible for tariff computation is another. The expenditure on spares subsequent to the date of commercial operation is to be accounted for as a part of O&M expenses in so far as tariff computation is concerned. Therefore, we do not allow the capitalisation of spares purchased after the date of commercial operation for tariff purpose. However, the petitioner should maintain a separate account for the yearly consumption of

spares so that the same could be accounted for in the actual O&M for the respective years for the purpose of tariff.

9. Based on above discussion and the criteria outlined in para 8 above, we allow the year-wise additional capitalisation as given below:

(Rs.in lakhs)					
Financial Years	1997-98	1998-99	1999-00	2000-01	Total
1. New works					
(a) Within the scope of RCE	2.3249	0.4244	0.0769	0.0027	2.8289
(b) Not in the scope of RCE	0.0064	0.2803	0.0631	0.0917	0.4414
<b>Total (a+b)</b>	<b>2.3313</b>	<b>0.7046</b>	<b>0.1400</b>	<b>0.0944</b>	<b>3.2703</b>
2. Balance Payments	57.0913	0.00	109.7308	322.6551	489.4772
<b>Total (1+2)</b>	<b>59.4226</b>	<b>0.7046</b>	<b>109.8708</b>	<b>322.7495</b>	<b>492.7475</b>

10. The petitioner's claim for additional capitalisation on account of FERV has also been considered. The petitioner has claimed FERV as per the details given below:

(Rs. in lakhs)

1997-1998	564
1998-1999	2822
1999-2000	3221
2000-2001	(-)1990

11. FERV claimed is on account of IBJ-I and IBJ-II loan. IBJ-I loan was partly re-financed by SBI, Toyko loan and IBJ-II loan was partly re-financed by Sumi-tomo-I & III loan, SBI-NY-II and ING (PGCIL). However, for the purposes of working out the FERV and interest on loan, we have considered only the repayment against the original IBJ-I loan and IBJ-II loan. FERV for the years 1997-98 to 2000-2001 has

been worked out accordingly. However, the claim on account of FERV has been restricted to the amount capitalised and claimed in the petition.

Accordingly, we allow FERV as under:

(Rs. In lakhs)

Year	1997-98	1998-99	1999-2000	2000-01
FERV	564	2822	3221	(-)1990

12. In view of the above, the capital cost allowed for the purpose of tariff is as under:

		(Rs. in lakhs)			
		1997-98	1998-99	1999-2000	2000-01
(i)	Opening Capital cost as on 1 <sup>st</sup> April	66981	67605	70427	73758
(ii)	Additions during the year due to				
(a)	Additional capitalisation	59	1	110	323
(b)	FERV	564	2822	3221	(-)1990
(iii)	Closing Capital Cost as on 31 <sup>st</sup> March of the year	67605	70427	73758	72091

### **DEBT-EQUITY RATIO**

13. Ministry of Power in its notification dated 30.4.1994 had considered the normative debt-equity ratio of 50:50. This debt-equity ratio was followed by Ministry of Power in its notification dated 14.5.1999 while allowing additional capitalisation up to 1996-97. For the purpose of calculation of fixed charges in this petition, same debt-equity ratio has been adopted by us.

### **RETURN ON EQUITY (ROE)**

14. ROE of 12% per annum for the period from 1.4.1997 to 31.10.1998 and thereafter, ROE @ 16% per annum has been allowed as provided in the notification

issued by Ministry of Power. The charges payable by the respondents on account of return on equity works out as under:

	(Rs. in lakhs)*
1997-98	4038
1998-99(1.4.1998 to 31.10.1998)	4141
1998-99 (1.11.1998 to 31.3.1999)	5521
1999-2000	5767
2000-2001	5834

\* The amount relates to the whole year. For part of the year, pro-rata payments shall be made.

### **INTEREST ON LOAN**

15. The Central Government while notifying tariff on 30.4.1994 as amended vide notification dated 16.1.1997, considered the total cost of Rs.617.23 crores, including initial spares of Rs.44.79 crores. This total cost had been divided into normative debt and equity in the ratio of 50:50.

16. The annual repayment amount from the year 1997-98 to 2000-01 has been worked out as follows :

= Annual repayment during the year x normative loan at the beginning of the year/Actual loan at the beginning of the year.

17. The amount of annual repayment for calculation of interest on loan is considered as worked out by the above formula, or as given in the petition, whichever is higher. Accordingly, the annual repayment considered for the calculation of interest on loan, is as follows :

	(Rs. In lakhs)			
Year	1997-98	1998-99	1999-2000	2000-01
Repayment	1767	1811	1895	1891



18. The charges payable by the respondents to the petitioner on account of interest on loan are computed hereinbelow :

(Rs. in lakhs)

Particulars	1997-98	1998-99		1999-2000	2000-01
		From 1.4.98 to 31.10.98	From 1.11.98 to 31.3.99		
Loan					
Gross loan-Opening	33491	33802		35214	36879
Cumulative repayments of Loans upto previous year	4050	5817		7628	9523
Net loan-Opening	29441	27985		27586	27356
Increase/Decrease due to FERV	282	1411		1611	-995
Increase/Decrease due to Additional Capitalisation	30	0		55	161
<b>Total</b>	<b>29752</b>	<b>29397</b>		<b>29251</b>	<b>26523</b>
Repayments of Loans during the year	1767	1811		1895	1891
Net loan-Closing	27985	27586		27356	24632
Average Net Loan	28713	27786		27471	25994
Rate of Interest on Loan	8.93%	7.96%		7.31%	7.01%
<b>Interest on loan*</b>	<b>2564</b>	<b>2212</b>		<b>2008</b>	<b>1822</b>

\* The amount reflects the payment for the whole year. For part of the year, pro-rata payments shall be made.

### **DEPRECIATION**

19. The details of depreciation amount as furnished in the petition up to 31.3.1992 as per the accounts maintained have been taken into account. Depreciation recovered in tariff from 1.4.1992 to 31.3.1997 as notified by Ministry of Power has also been taken into account. Ministry of Power had allowed depreciation @ 8.12% and the same rate has been followed for the purpose of calculation of depreciation from 1.4.1997 to 31.3.2001. The year-wise amount of depreciation to be recovered from the respondents in tariff are detailed below:

	Asset Value	Rate	(Rs. in lakhs) Depreciation***
1997-98	66981	8.12%	5439
1998-99(1.4.1998 to 31.10.1998)	67605	8.12%	5490
1998-99 (1.11.1998 to 31.3.1999)			5490
1999-2000	70427	8.12%	5719
2000-2001	73758	8.12%	5989

\*\*\* The figures relate to full year. For part of the year pro-rata payment shall be made.

### **O&M EXPENSES**

20. Keeping in view the methodology adopted by the Ministry of Power for various stations of NTPC, the actual O&M expenses of Rs.2213 lakhs, including water charges for the year 1996-97 as per the audited balance sheet in respect of Auraiya GPS has been taken as the base and an escalation factor of 10% per annum has been applied to work out O&M expenses for the year 1997-98 to 2000-01. In the light of the above, water charges have not been considered separately. Based on this methodology, the charges payable by the beneficiaries on account of O&M are as under:

	(Rs. in lakhs) @
1997-98	2435
1998-99(1.4.1998 to 31.10.1998)	2679
1998-99 (1.11.1998 to 31.3.1999)	2679
1999-2000	2947
2000-2001	3242

@ The amount relates to full year. For part of the year, pro-rata payments shall be made.

## **INTEREST ON WORKING CAPITAL**

21. Working capital has been calculated considering the following elements:

(a) Fuel Cost and Naptha stock: In line with the practice followed by Gol, Naptha stock as given in the audited balance sheet for the year 1996-97 in the inventory schedule as "fuel oil" has been considered for computing the working capital. The petitioner has furnished the GCV of fuels vide affidavit dated 8.10.2002 since the Variable Charge is not being revised and the order is for Revised Fixed charges for the period 1.4.1997 to 31.3.2001, the fuel cost as considered by the Central Government in its notification dated 30.4.1994 has been taken into account.

(b) O&M Expenses: O&M expenses for working capital has been considered for 1 month of the respective year.

(c) Spares: The actual spares for the year 1996-97 as per the audited balance sheet of Auraiya GPS have been considered in the working for the years 1997-98 to 2000-01.

(d) Receivables: Receivables have been worked out on the basis of two months of fixed and variable charges. In view of the position explained in sub-para (a) above, variable charges component of the receivables in the working capital have been estimated on the basis of variable charge in the previous tariff period. The fixed charge component of the receivables are based on the calculations for the current tariff period.

22. Based on the above, the details of working capital considered are as given hereunder :

### WORKING CAPITAL

(Rs. in lakhs)

	1997-98	1998-99		1999-2000	2000-01
		1.4.98 to 31.10.98	1.11.98 to 31.3.1999		
Fuel cost	1992	1992	1992	1992	1992
Cost of Nathpa (Fuel oil) stock	119	119	119	119	119
O&M expenses	203	223	223	246	270
Spares	483	483	483	483	483
Receivables	6608	6602	6841	6919	6987
<b>Total</b>	<b>9404</b>	<b>9418</b>	<b>9657</b>	<b>9758</b>	<b>9850</b>

23. Ministry of Power in its notification dated 30.4.1994 had considered the working capital margin of Rs.13.44 crores. This has been followed for the purpose of calculating working capital for the years 1997-98 to 2000-01. The average SBI PLR of the respective year has been considered as the rate of interest on working capital. The rate of interest adopted during the years 1997-98, 1998-99, 1999-2000 and 2000-01 is 14%, 13%, 12% and 11.5% respectively against rate of interest of 14.21% claimed in the petition. Based on the above methodology, the year-wise details of interest on working capital payable by the respondents to the petitioner are as under:

(Rs. in lakhs) @@

1997-98	1269
1998-99(1.4.1998 to 31.10.1998)	1184
1998-99 (1.11.1998 to 31.3.1999)	1242
1999-2000	1167
2000-2001	1133

@@ The amount relates to the whole year. For part of the year, prorata payments shall be made.

24. Annual fixed charges for the period 1.4.1997 to 31.3.2001 are allowed as below:

(Rs. in lakhs)						
	Particulars	1997-98	1998-99		1999-2000	2000-01
			1.4.1998 to 31.10.1998	1.11.1998 to 31.3.1999		
1	Interest on Loan	2564	2212	2212	2008	1822
2	Interest on Working Capital	1269	1184	1242	1167	1133
3	Depreciation	5439	5490	5490	5719	5989
4	Return on Equity	4038	4141	5521	5767	5834
5	O&M Expenses	2435	2679	2679	2947	3242
	<b>Total</b>	<b>15745</b>	<b>15706</b>	<b>17144</b>	<b>17608</b>	<b>18020</b>

The payments for part of the year shall be made on pro-rata basis.

25. The fixed charges decided by us in the preceding para shall be shared by the respondents in the ratio of energy drawn from Auraiya GPS during the relevant period. The petitioner has already recovered fixed charges from the respondents in view of continuation of tariff notification dated 30.4.1994 on ad-hoc basis beyond 31.3.1997. The amount already recovered shall be adjusted against the fixed charges decided by us through this order.

26. The petitioner has not indicated energy charges payable in the respective year and it has been stated that it is not required as the tariff is for the past period and recalculation will have no effect because operational norms remain unchanged. The respondents also did not raise the issue during the pleadings.

27. This order disposes of Petition No. 32/2002.

**Sd/-**  
**(K.N. SINHA)**  
**MEMBER**

**Sd/-**  
**(G.S. RAJAMANI)**  
**MEMBER**

**Sd/-**  
**(D.P. SINHA)**  
**MEMBER**

New Delhi dated the 1<sup>st</sup> November, 2002

