

**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.36/2002**

**In the matter of**

Approval of tariff from 1.4.1997 to 31.3.2001 of Anta 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 Anta Gas Power Station (Anta GPS) for the period from 1.4.1997 to 31.3.2001.

2. Anta GPS was declared under commercial operation with effect from 1.8.1990. The Central Government in Ministry of Power accorded its approval for the Revised Cost Estimate for Anta GPS at a cost of Rs.409.40 crores, excluding Working Capital Margin of Rs.8.57 crores vide its letter dated 1.11.1994. The tariff for Anta 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 and FERV 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. 82/2000 to claim revised fixed charges due to additional capital expenditure and FERV capitalised in respect of Anta 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.372.91 crores, which included gross block of Rs.344.66 crores and initial spares of Rs.28.25 crores. Ministry of Power had allowed additional capitalisation of Rs.23.26 crores during 1992-93 to 1996-97 and FERV of Rs.11.11 crores. Therefore, the total admitted cost of the project, including the initial spares works out to Rs.407.28 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	0.29	1.53	12.20	6.58	20.60
(b) Not in the scope of RCE	206.39	82.42	415.75	1669.35	2373.91
Total (a+b)	206.68	83.95	427.95	1675.93	2394.51
2. Balance Payments	(-)14.44	24.64	(-)0.83	(-)24.16	(-)14.79
Total (1+2)	192.24	108.59	427.12	1651.77	2379.72

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	0.29	1.53	12.20	6.58	20.60
(b) Not in the scope of RCE	197.22	91.30	392.55	1694.97	2376.04
<b>Total (a+b)</b>	<b>197.51</b>	<b>92.83</b>	<b>404.75</b>	<b>1701.55</b>	<b>2396.64</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.18.034 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	0.00	0.00	0.00	6.58	6.58
(b) Not in the scope of RCE	23.88	12.16	220.88	(-)166.11	90.81
<b>Total (a+b)</b>	<b>23.88</b>	<b>12.16</b>	<b>220.88</b>	<b>(-)159.53</b>	<b>97.39</b>
2. Balance Payments	(-)28.59	24.64	(-)0.83	(-)26.69	(-)31.47
<b>Total (1+2)</b>	<b>(-)4.71</b>	<b>36.80</b>	<b>220.05</b>	<b>(-)186.22</b>	<b>65.92</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	531
1998-1999	2618
1999-2000	2957
2000-2001	(-)1733

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	531	2618	2957	(-)1733

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	40728	41255	43909	47087
(ii)	Additions during the year due to				
(a)	Additional capitalisation	(-)5	37	220	(-)186
(b)	FERV	531	2618	2957	(-)1733
(iii)	Closing Capital Cost as on 31 <sup>st</sup> March of the year	41255	43909	47087	45167

### **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	2460
1998-99(1.4.1998 to 31.10.1998)	2555
1998-99 (1.11.1998 to 31.3.1999)	3407
1999-2000	3640
2000-2001	3690

\* 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.372.91 crores, including initial spares of Rs.28.25 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	1200	1318	1398	1384



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	20364	20627		21955	23543
Cumulative repayments of Loans upto previous year	2944	4144		5462	6860
Net loan-Opening	17420	16483		16493	16683
Increase/Decrease due to FERV	266	1309		1479	(-)867
Increase/Decrease due to Additional Capitalisation	(-)2	18		110	(-)93
<b>Total</b>	<b>17683</b>	<b>17811</b>		<b>18081</b>	<b>15724</b>
Repayments of Loans during the year	1200	1318		1398	1384
Net loan-Closing	16483	16493		16683	14340
Average Net Loan	16952	16488		16588	15511
Rate of Interest on Loan	7.41%	6.34%		5.85%	5.67%
<b>Interest on loan*</b>	<b>1256</b>	<b>1045</b>		<b>970</b>	<b>879</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 @ 7.92% 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	40728	7.92%	3226
1998-99(1.4.1998 to 31.10.1998)	41255	7.92%	3267
1998-99 (1.11.1998 to 31.3.1999)			3267
1999-2000	43909	7.92%	3478
2000-2001	47087	7.92%	3729

\*\*\* 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.1509 lakhs, including water charges for the year 1996-97 as per the audited balance sheet in respect of Anta 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	1659
1998-99(1.4.1998 to 31.10.1998)	1825
1998-99 (1.11.1998 to 31.3.1999)	1825
1999-2000	2008
2000-2001	2209

@ 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 31.2.2001, 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 Anta 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	1231	1231	1231	1231	1231
Cost of Nathpa (Fuel oil) stock	45	45	45	45	45
O&M expenses	138	152	152	167	184
Spares	177	177	177	177	177
Receivables	4021	4028	4176	4262	4328
<b>Total</b>	<b>5611</b>	<b>5632</b>	<b>5780</b>	<b>5881</b>	<b>5964</b>

23. Ministry of Power in its notification dated 30.4.1994 had considered the working capital margin of Rs.8.60 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	749
1998-99(1.4.1998 to 31.10.1998)	699
1998-99 (1.11.1998 to 31.3.1999)	736
1999-2000	697
2000-2001	680

@@ 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	1256	1045	1045	970	879
2	Interest on Working Capital	749	699	736	697	680
3	Depreciation	3226	3267	3267	3478	3729
4	Return on Equity	2460	2555	3407	3640	3690
5	O&M Expenses	1659	1825	1825	2008	2209
	<b>Total</b>	<b>9350</b>	<b>9391</b>	<b>10280</b>	<b>10793</b>	<b>11187</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 Anta 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. 36/2002.

**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