

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

**1. Shri K.N. Sinha, Member
2. Shri Bhanu Bhushan, Member**

Petition No. 158/2004

In the matter of

Approval of generation tariff of Bairasiul Hydroelectric Project for the period
1.4.2004 to 31.3.2009

And in the matter of

National Hydroelectric Power Corporation Ltd.

----**Petitioner**

Vs

1. Punjab State Electricity Board, Patiala
2. Delhi Transco Ltd, New Delhi
3. BSES Rajdhani Power Ltd, New Delhi
4. BSES Yamuna Power Ltd, New Delhi
5. North Delhi Power Ltd, Delhi
6. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
7. Himachal Pradesh State Electricity Board, Shimla

...**Respondents**

The following were present:

1. Shri C. Vinod, Engineer, NHPC
2. Shri Ansuman Ray, NHPC
3. Shri Nain Singh, NHPC
4. Er. P. Kumar, Dy Manager, NHPC
5. Shri Prashant Kaul, NHPC
6. Shri A.K. Srivastava, NHPC
7. Shri Jayant Kumar, NHPC
8. Shri L.N. Bhardwaj, NHPC
9. Shri Vijay Ranjan, NHPC
10. Shri S.D. Tripathi, NHPC
11. Shri Naveen Samriya, NHPC
12. Shri R.S. Batra, NHPC
13. Shri T.P.S Bawa, OSD (Comml.), PSEB
14. Shri V.K. Gupta, Consultant, PSEB
15. Shri R.K. Arora, XEN, HPGCL

ORDER
(DATE OF HEARING : 17.11.2005)

This petition has been filed by the petitioner, National Hydroelectric Power Corporation Ltd, (NHPC) a generating company owned or controlled by the Central Government, for approval of tariff in respect of Bairasiul Hydroelectric Project (3 x 66 MW) (hereinafter referred to as “the generating station”) for the period from 1.4.2004 to 31.3.2009 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, (hereinafter referred to as “the 2004 regulations”)

2. The three units of the generating station were commissioned in April 1982.

3. The revised investment approval for the generating station was accorded by Ministry of Power vide its letter dated 14.5.1999, at a cost of Rs.14808 lakh, including IDC of Rs.1387 lakh. Ministry of Power also accorded its approval on 20.5.1999 to the capital investment of Rs.1996 lakh, including IDC of Rs.221 lakh for the renovation and modernization of the generating station. Thus, the total approved cost of the generating station is Rs. 16804 lakh.

4. The tariff for the generating station for the period ending 31.3.2004 was approved by the Commission vide its order dated 1.11.2002 in Petition No 65/2001 based on capital cost of Rs.17866 lakh as on 31.3.2001. Subsequently, vide order dated 3.2.2006 in Petition No 75/2005, the Commission approved additional capital expenditure for the period 2001-04. The details of the additional capitalisation approved are given hereunder :

(Rs. in lakh)

2001-2002	98
2002-2003	51
2003-2004	113
Total	262

5. The details of the fixed charges claimed by the petitioner in the present petition are as hereunder:

(Rs in lakh)

Period	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on loan	306.74	33.30	33.30	33.30	16.65
Interest on Working capital	177.83	169.62	176.42	183.56	190.78
Depreciation	462.90	462.90	462.90	462.90	462.90
Advance Against Depreciation	571.84	0.00	0.00	0.00	0.00
Return on Equity	1118.70	1118.70	1118.70	1118.70	1118.70
O&M expenses	3116.76	3241.43	3371.09	3505.93	3646.17
Total	5754.77	5025.95	5162.41	5304.39	5435.20

6. The details of working capital furnished by the petitioner and its claim for interest thereon are summarised hereunder:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance spares	516.06	547.03	579.85	614.64	651.52
O & M expenses	259.73	270.12	280.92	292.16	303.85
Receivables	959.13	837.66	860.40	884.07	905.87
Total Working Capital	1734.92	1654.81	1721.18	1790.87	1861.23
Interest Rate	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	177.83	169.62	176.42	183.56	190.78

7. The reply to the petition has been filed by the Punjab State Electricity Board. The other respondents have not filed their reply. The petitioner has published notices in accordance with the procedure specified by the Commission. However, no objections or suggestions have been received in response to these notices.

8. There is a general issue regarding treatment of depreciation when it exceeds repayment of loan in a year. The Commission in its order dated 5.5.2006 in Petition No.162/2004 (NTPC Vs UPPCL and Another) has decided that when depreciation recovered in a year is more than the amount of repayment during that year, the entire amount of depreciation is to be considered as repayment of loan for tariff computation. Similar approach has been adopted by the Commission, while approving tariff in respect of the transmission assets of PGCIL, and in the interest of consistency and continuity of approach same methodology has to be followed in the present case also. Accordingly, the decision arrived at in the order dated 5.5.2006 in Petition No.162/2004 will be followed in this case.

CAPITAL COST

9. As per the second proviso to Regulation 33 of the 2004 regulations in case of the generating stations existing up to 31.3.2004, the capital cost admitted by the Commission for determination of tariff prior to 1.4.2004 shall form the basis for determination of tariff.

10. The petitioner has considered the capital expenditure of Rs.18338.16 lakh after accounting for Rs. 472.16 lakh on account additional capitalisation including FERV for the period 1.4.2001 to 31.3.2004 over the capital expenditure of Rs.17866 lakh admitted by the Commission in the order dated 1.11.2002 *ibid.* The details of FERV claimed by the petitioner are as follows:

Year	Amount of FERV (Rs. In lakh)
2001-02	0.37
2002-03	(-) 0.07
2003-04	0.00
Total	0.30

11. The Commission vide its order dated 3.2.2006 in Petition No.75/2005 has decided the opening capital cost for the purpose of tariff for the period 2004-09 as on 1.4.2004 of Rs.18112 lakh after considering the additional capitalisation of Rs 262 lakh for the period 1.4.2001 to 31.3.2004 and also the assets not in use amounting to Rs.15.80 lakh as on 31.3.2004 This has been adopted for the purpose of tariff determination in the present petition. Now we consider the additional capitalisation on account of FERV.

FERV/Extra Rupee Liability during the years 2001-04

12. Regulation 1.13 (a) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2001 provided as under:

- (a) Extra rupee liability towards interest payment and loan repayment actually incurred, in the relevant year shall be admissible; provided it directly arises out of foreign exchange rate variation and is not attributable to Utility or its suppliers or contractors. Every utility shall follow the method as per the Accounting Standard-11 (Eleven) as issued by the Institute of Chartered Accountants of India to calculate the impact of exchange rate variation on loan repayment
- (b) Any foreign exchange rate variation to the extent of the dividend paid out on the permissible equity contributed in foreign currency, subject to the ceiling of permissible return shall be admissible. This

as and when paid, may be spread over the twelve-month period in arrears.

13. Regulation 1.7 of the 2001 regulations, further provided that recovery of foreign exchange rate variation would be done directly by the utilities from the beneficiaries without filing a petition before the Commission. In case of any objections by the beneficiaries to the amounts claimed on these counts, they may file an appropriate petition before the Commission.

14. The petitioner's claim for capitalization of Rs.0.30 lakh on account of FERV, is matching with calculations submitted and is in accordance with AS-11 applicable up to 31.3.2004. The respondents have not objected to the petitioner's claim under this head. The claim has accordingly been admitted for tariff calculations.

15. Based on the above, after adjustment of FERV of Rs 0.30 lakh, the gross block as on 1.4.2004 comes to Rs.18112.37 lakh as per details given hereunder:

(Rs. in lakh)	
Capital cost admitted as on 31.3.2001.	17866.00
Additional Capitalization as approved for the years 2001-2004, deducting assets not in use	246.07
FERV admitted for the tariff period 2001-2004	0.30
Opening capital cost as on 1.4.2004 for the tariff period 2004-2009	18112.37

DEBT-EQUITY RATIO

16. Clause (1) of Regulation 36 of the 2004 regulations *inter alia* provides that in case of the existing generating stations, debt-equity ratio Considered by the

Commission for fixation of tariff for the period ending 31.3.2004 shall be considered for determination of tariff.

17. The petitioner has claimed tariff on the basis of debt and equity of 56.43 : 43.57, as considered and adopted by the Commission in its order dated 1.11.2002 *ibid*. The amount of additional capitalisation as claimed, has been added to the loan and equity as on 1.4.2004, on the same basis.

18. It is noted that the petitioner in Annexure to Form No. 1 in the petition has shown the capital cost, and financing of capital cost as under:

Particulars	Amount (Rs. in lakh)	Percentage
Capital cost as on 31.3.2004	18338.16	100.00%
Equity	7785.00	42.45%
GOI Loan	7581.00	41.34%
LIC Loan	2500.00	13.63%
Internal Resources	472.16	2.57%
Total Funding	18338.16	100.00%

19. Debt and equity allowed to finance the capital expenditure by order dated 1.11.2002 has been considered in the calculation. Additional capitalisation for the years 2001-02 to 2003-04 (taken en block) amounting to Rs. 246.07 lakh and assets not in use amounting to Rs 15.80 lakh as on 1.4.2004 and FERV for the years 2001-02, 2002-03 and 2003-04 (taken en block) amounting to Rs.0.30 lakh have been segregated in such a way, so as to make overall debt-equity ratio close to 70: 30 as the approved debt –equity ratio has not been given by the petitioner. Accordingly, the adjusted debt-equity ratio comes to 57.02 : 42.98. The equity as on 1.4.2004 works out to Rs 7785 lakh.

NORMATIVE CAPACITY INDEX

20. The generating station is operating as purely run-of-river type scheme with pondage to provide minimum of 3 hours of peaking each day. Its annual normative capacity index as per the 2004 regulations shall be taken as 85% for the tariff period 2004-09. There shall be *pro rata* recovery of capacity charge in case the generating station achieves capacity index below the normative levels. At zero capacity index during any month, no capacity charges shall be payable to the generating station.

RETURN ON EQUITY

21. As per clause (iii) of Regulation 38 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 20 @ 14% per annum. Equity invested in foreign currency is to be allowed a return in the same currency and the payment on this account is made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

22. The petitioner has claimed return on equity of Rs.7790.74 lakh after accounting for notional equity on account of additional capital expenditure on works and FERV for the period 1.4.2001 to 31.3.2004.

23. The equity as on 1.4.2004 works out to Rs 7785 lakh and the petitioner's entitlement towards return on equity @ 14% works out to Rs 1089.90 lakh per annum.

INTEREST ON LOAN

24. Clause (i) of regulation 38 of the 2004 regulations *inter alia* provides that,-
- (a) Interest on loan capital shall be computed loan-wise on the loans arrived at in the manner indicated in regulation 20.
 - (b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan as per regulation 20 minus cumulative repayment as admitted by the Commission for the period up to 31.3.2004. The repayment for the period 2004-09 shall be worked out accordingly on normative basis.
 - (c) The generating company shall make every effort to swap the loan as long as it results in net benefit to the long-term transmission customers. The costs associated with such swapping shall be borne by the long-term transmission customers.
 - (d) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefits passed on to the beneficiaries.
 - (e) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.
25. The petitioner has claimed interest on loan in the following manner:
- (i) Gross loan, up to previous year as admitted by the Commission in the petition of previous tariff setting has been adjusted after giving due consideration for notional loan of Rs. 266.42 lakh arising out of

additional capitalisation and taken as the opening balance as on 1.4.2004.

- (ii) Repayment of LIC loan amounting to Rs. 2500.00 lakh has been considered as per due date of repayment.
- (iii) Notional loan arising out of additional capitalisation, amounting to Rs. 266.42 lakh is carried over and shown as repaid in the year 2008-09.
- (iv) As no other loan remains in balance from year 2005-06 and onwards except notional loan arising out of additional capital expenditure, the interest rate of 12.50% of last repaid loan i.e. LIC (repaid fully in 2004-05) has been considered by the petitioner for calculating the interest on notional loan for the period 2005-06 to 2008-09.

26. The petitioner has submitted loan details up to 31.3.2004 for the tariff period 2004-09 on 2.9.2005, 14.11.2005 and 20.12.2005. Accordingly, loan allocation statement as on 1.4.2004 was prepared considering :

- (a) Gross loan up to 31.3.2004, repayment up to 31.3.2004 and outstanding loan as on 31.3.2004 as worked out from the loan allocation statement for the year 2003-04.
- (b) Instalments of various loans for the year 2004-09 as furnished by the petitioner.
- (c) Allocation of the instalments of loan on the basis of outstanding loan as on 31.3.2004.
- (d) Applicable rate of interest as on 1.4.2004.

27. In our calculation, the interest on loan has been worked out as detailed below:

- (i) Details of net outstanding loan as on 31.3.2004, repayment schedule for the period 2004-09, rate of interest as on 1.4.2004, exchange rate as on 31.3.2004 etc. have been taken from the loan allocation statement worked out as above for working out weighted average rate of interest.
- (ii) Gross notional loan and cumulative repayment up to 31.3.2004 have been taken from the order dated 1.11.2002.
- (iii) Notional loan arising out of additional capitalisation and FERV during the years 2001-04 has been considered.
- (iv) Repayment of notional loan arising due to additional capitalisation and FERV during the years 2001-04 has been worked out in proportion to the repayment of actual loan during these years.
- (v) Tariff is worked out considering normative loan and normative repayments. Once the normative loan is arrived at, it is considered for all purposes in the tariff. Normative repayment is worked out by the following formula :

$$\frac{\text{Actual repayment of actual loan during the year}}{\text{Opening balance of actual loan during the year}} \times \text{Opening balance of normative loan during the year}$$

- (vi) Moratorium in repayment of loan is considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation including AAD during the year, then depreciation including AAD during the year is deemed as normative repayment of loan during the year.

- (vii) Weighted average rate of interest on actual loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.
- (viii) LIC loan amounting to Rs. 2500.00 lakh has been refinanced by the petitioner with Dena Bank loan on 4.11.2004. As this loan is refinanced after 1.4.2004, it has not been considered while determining the tariff.

28. The computations of interest on notional loan by applying weighted average interest rate are appended hereinbelow:

COMPUTATION OF INTEREST ON LOAN

(Rs. in lakh)

Interest on Loan	Upto 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
Gross loan -opening	10081.00	-	-	-	-	-
Addition due to Additional Capitalisation	246.07	-	-	-	-	-
Addition due to FERV	0.30	-	-	-	-	-
Gross Normative Loan	10327.37	10327.37	10327.37	10327.37	10327.37	10327.37
Cumulative Repayment upto Previous Year		7581.00	10327.37	10327.37	10327.37	10327.37
Net Loan-Opening		2746.37	0.00	0.00	0.00	0.00
Repayment during the year		2746.37	0.00	0.00	0.00	0.00
Net Loan-Closing		0.00	0.00	0.00	0.00	0.00
Average Net Loan		1373.18	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan		12.5000%	0.0000%	0.0000%	0.0000%	0.0000%
Interest on loan		171.65	0.00	0.00	0.00	0.00

DEPRECIATION

29. Sub-clause (a) of clause (ii) of Regulation 38 of the 2004 regulations provides for computation of depreciation in the following manner, namely:

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset.
- (ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset

shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.

- (iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
- (iv) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

30. The petitioner has claimed the depreciation at the weighted average rate of depreciation on the capital expenditure.

31. The capital cost considered for working out the weighted average rate of depreciation for 2001-04 tariff is as was given by the petitioner. As the admitted capital cost as on 1.4.2001 differs with the former cost, head-wise weights have proportionately been reduced to the admitted capital cost level as on 1.4.2001 to keep consistency in weighted average depreciation rate. Further, head-wise separation of additional capital expenditure, FERV is done and added to the capital cost of 1.4.2001 to arrive at the capital cost as on 31.3.2004. On the basis of this cost, the individual head-wise weights of depreciation have been determined for calculation of weighted average rate of depreciation as on 31.3.2004.

32. The Commission vide order dated 3.2.2006 has approved deletion/decapitalisation of the assets worth Rs. 36.56 lakh from the capital cost, as also 'Assets not in use' as declared by the petitioner, as on 1.4.2004 amounting to Rs.15.80 lakh. Against these deletions/decapitalisation and assets not in use, cumulative depreciation amounting to Rs. 21.63 lakh has been deducted on pro rata basis from cumulative depreciation/AAD recovered as on 31.3.2004, for determination of tariff in the present petition.

33. The gross depreciable value of the asset, is $0.9 \times (\text{Rs. } 18112.37 \text{ lakh} - \text{Rs. } 148.22 \text{ lakh}) = \text{Rs. } 16167.73 \text{ lakh}$. Cumulative depreciation and AAD recovered in tariff up to 31.3.2004 is Rs.7461.39 lakh. Remaining depreciable value as on 1.4.2004 is thus Rs.8706.35 lakh.

34. The entire loan gets repaid during 2005-06. Therefore, depreciation for the years 2005-06 to 2008-09 has been spread over to the balance useful life of the generating station. The balance useful life of the generating station works out to 16.1 years as on 1.4.2005.

35. Accordingly, for the period 1.4.2004 to 31.3.2005, the depreciation works out to Rs. 455.89 lakh by applying the rate of depreciation of 2.5170% as shown below and from 1.4.2005 to 31.3.2009 depreciation works out to Rs. 476.62 lakh each year by spreading the remaining depreciation over the balance useful life of the generating station:

(Rs. in lakh)

Details of Depreciation		Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
As per order dated 1.11.2002		17866.00	-	-	-	-	-
Addition during 2001-04 due to Additional Capitalisation		246.07	-	-	-	-	-
Addition during 2001-04 due to FERV		0.30	-	-	-	-	-
Gross Block as on 31.3.2004		18112.37	18112.37	18112.37	18112.37	18112.37	18112.37
Depreciation							
Rate of Depreciation	2.5170%						
Depreciable Value	90%		16167.73	16167.73	16167.73	16167.73	16167.73
Balance Useful life of the asset	17.10		17.1	16.1	15.1	14.1	13.1
Remaining Depreciable Value			8706.35	7673.61	7196.99	6720.37	6243.75
Depreciation			455.89	476.62	476.62	476.62	476.62

ADVANCE AGAINST DEPRECIATION

36. As per sub-clause (b) of clause (ii) of Regulation 56 of the 2004 regulations, in addition to allowable depreciation, the transmission licensee is entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 56 (i) subject to a ceiling of 1/10th of loan amount as per regulation 54 minus depreciation as per schedule

37. It is provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year. It is further provided that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

38. The petitioner has claimed Advance Against Depreciation in the following manner, namely:

- (i) 1/10th of gross loan is worked out from the Gross Notional Loan admitted by the Commission in the order dated 1.11.2002 along with addition of additional capital expenditure in gross notional loan worked out by division of decapitalisation into notional loan and equity.
- (ii) Repayment of notional loan during the year 2008-09 has been considered.
- (iii) Depreciation as claimed in the petition.
- (iv) Cumulative depreciation up to 2003-04 as per the previous tariff order dated 1.11.2002 has been considered

39. In our calculations, Advance Against Depreciation has been worked in accordance with the following methodology, namely:

- (i) 1/10th of gross loan is worked out from the gross notional loan.
- (ii) Repayment of notional loan during the year as per para 28 above has been considered.
- (iii) Depreciation is worked out as per para 35 above.
- (iv) Cumulative depreciation up to 31.3.2004 has been worked out considering cumulative depreciation/AAD up to 31.3.2004, as per the order dated 1.11.2002 and depreciation recovered on the additional capitalization on account of FERV.
- (v) Cumulative depreciation for calculation of AAD is worked out considering depreciation up to the year of calculation, excluding AAD of the year of calculation.

40. Based on the above, the petitioner is entitled to Advance Against Depreciation only during 2004-05 as shown hereunder:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
1/10 th of Gross Loan(s)	1032.74	1032.74	1032.74	1032.74	1032.74
Repayment of the Loan	2746.37	0.00	0.00	0.00	0.00
Minimum of the above	1032.74	0.00	0.00	0.00	0.00
Depreciation during the year	455.89	476.62	476.62	476.62	476.62
(A) Difference	576.84	(-476.62)	(-476.62)	(-476.62)	(-476.62)
Cumulative Repayment of the Loan	10327.37	10327.37	10327.37	10327.37	10327.37
Cumulative Depreciation/ Advance against Depreciation	7917.28	8970.74	9447.37	9923.99	10400.61
(B) Difference	2410.09	1356.62	880.00	403.38	(-73.24)
Advance against Depreciation	576.84	0.00	0.00	0.00	0.00
Minimum of (A) and (B)					

O&M EXPENSES

41. According to clause (iv) of Regulation 38 of the 2004 regulations, O&M expenses including insurance for the existing generating stations which have been in operation for 5 years or more in the base year of 2003-04 shall be derived on the basis of actual O&M expenses for the years 1998-99 to 2002-03, based on the audited balance sheets, excluding abnormal O&M expenses, if any, after prudence check by the Commission. The average of such normalized O&M expenses after prudence check, for the years 1998-99 to 2002-03 considered as O&M expenses for the year 2001-02 are to be escalated @ 4% per annum to arrive at the O&M expenses for the base year 2003-04. Further, the base O&M expenses for the year 2003-04 are further escalated at the rate of 4% per annum to arrive at permissible O&M expenses for the relevant year of tariff period.

42. The year-wise break-up of actual O&M expenses for the years 1998-99 to 2002-03 furnished by the petitioner based on which O&M expenses for the period 2004-05 to 2008-09 have been claimed are as follows:

(Rs. in lakh)

S.No	Item	1998-99	1999-00	2000-01	2001-02	2002-03
1	Consumption of Stores and Spares	131.5	207.8	79.5	225.8	50.8
2	Repair and Maintenance	200.1	488.8	778.1	705.0	540.0
3	Insurance	82.1	90.6	91.6	92.7	93.1
4	Security	125.0	195.1	150.3	153.0	158.9
5	Administrative Expenses					
	Rent	0	1.0	1.0	2.3	1.3
	Electricity Charges	7.4	5.1	10.9	11.7	8.5
	Traveling and conveyance	23.7	25.1	19.5	28.2	42.8
	Telephone, telex and postage	6.6	7.7	6.0	9.0	9.7
	Advertising	8.1	2.7	4.9	2.7	2.2
	Entertainment	0	0	0.03	0.1	0.05
	Other Misc. Expenses	16.5	66.1	47.3	14.1	46.8
	Sub-total (Administrative Expenses)	62.4	107.9	89.8	68.2	111.3
6	Employee Cost					
	Salaries, wages and allowances	1255.7	939.4	1551.7	1926.3	1858.7
	Staff welfare expenses	237.7	199.2	242.6	260.7	336.0
	Productivity linked incentive	0	0	27.8	40.8	35.0
7	Corporate office expenses allocation	19.5	15.2	22.4	21.2	69.6
8	Total (1 to 7)	2114.1	2244.2	3033.9	3493.8	3253.3
	LESS: Recoveries	12.5	12.1	20.0	23.8	30.0
9	Net Expenses	2101.6	2232.1	3013.9	3470.0	3223.3
10	Less abnormal O&M expenses					
	(a) Siltation	11.1	180.9	190.99	213.3	50.5
	(b) Overstaffing	22.5	-	-	-	-
	Total O & M Expenses	2068.1	2051.2	2822.9	3256.7	3173.0

43. The petitioner has furnished the following details of the employees:

Executives	74	69	61	69	63
Non-Executives	747	740	579	623	616
Total	821	809	640	692	679

44. Based on the methodology specified in the 2004 regulations, the petitioner has claimed the following O&M expenses for the tariff period 2004-09.

(Rs. in lakh)

Year	O&M
2004-05	3129
2005-06	32.4
2006-07	3384
2007-08	3519
2008-09	3660

45. Major contribution towards O&M expenses are on account of :

- (a) Consumption of stores and spares
- (b) Repairs & maintenance
- (c) Insurance
- (d) Security
- (e) Employees cost

46. The petitioner has furnished reasons wherever O&M expenses during a year exceed the expenses for the previous year. During the hearing of the petition held on 17.11.2005, it was noticed that in case of repairs and maintenance, works and consumption of stores and spares, there were fluctuations in expenditure during certain years. The petitioner had explained that consumption of stores and spares had increased with normal wear and tear of the machinery. It was observed that the reasons furnished by the petitioner regarding higher O&M expenses were either inadequate or unsatisfactory. The petitioner was directed to furnish additional details of O&M expenses claimed under the above categories for the years 1998-99 to 2002-03.

47. It was further noted that in Petition No. 75/2005, regarding additional capitalization of expenditure for the generating station for the period 2001-04, the petitioner had claimed sums of Rs. 166.8 lakh and Rs. 8.20 lakh on account of capitalization of spares during the years 2002-03 and 2003-04 respectively. In its order dated 3.2.2006 in Petition No. 75/2005, the Commission had disallowed the additional capital expenditure claimed on account of capitalization of spares during the years 2002-03 and 2003-04. However, actual amount of spares consumed for the purpose of Repairs &

Maintenance during the years 2002-03 and 2003-04 are to be considered under “O&M expenses” of the generating station. The petitioner has submitted a list of spares amounting to Rs.50.84 lakh actually consumed during the year 2002-03.

48. Further, according to the information given by the petitioner in the previous tariff period, insurance expenses were on account of corporate policy of providing insurance coverage to all fixed assets of the generating station. Since the expenses on insurance coverage appeared to be of high order, the petitioner was directed to furnish details of the terms and conditions of insurance coverage, including the exigencies for insurance of various assets.

49. It was also noted that during the year 1998-99, expenses on salaries, wages and allowances including welfare expenses and productivity-linked incentive were about Rs 1493.4 lakh. These expenses had gone down to Rs 1138.6 lakh in the year 1999-00 and again increased to Rs1822.1 lakh during 2000-01 and Rs 2227.8 lakh in 2002-03. The petitioner was directed to clarify the reasons for the same.

50. The petitioner subsequently furnished the requisite details vide affidavit dated 12.12.2005 and further clarifications dated 17.4.2006.

51. O&M expenses claimed by the petitioner with reference to the table under para 44 given above, are discussed in the following paragraphs :

Consumption of Stores & Spares and Repairs & Maintenance

52. The expenditure stated to have been incurred by the petitioner under the heads "Consumption of Stores & Spares and Repairs & Maintenance " in respect of the generating station during the years 1998-99 to 2002-03 is as follows:

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03
Consumption of Stores & Spares	131.5	207.8	79.5	225.8	50.84
Repairs & Maintenance	200.1	488.9	778.1	705.0	540.0

53. The petitioner has clarified that by virtue of their very nature, these expenses are liable to be erratic because of the fact that some of routine expenses are of regular nature whereas others shall be as per actual repairs and maintenance requirement based on planning of repair and maintenance works varying from year to year.

54. The nature of repair and maintenance (R&M) expenses covered are- R&M of plant & machinery, R&M of office buildings, staff colonies, PH building, vehicles like buses, trucks, cars, R&M of roads & bridges, electrical installations, water supply, furniture & fixture, computer, barrage etc. The quantum of these variations shall further depend upon the number of generating units taken on major capital maintenance, quantity and type of spares consumed for replacement of damaged components during the year, special repairs of civil structures, if any, like spillway, silt excluder gallery, intake area, HRT, hydro mechanical equipments i.e. radial & penstock gates etc. of the power plant to be undertaken during the year as per site requirement; frequency of specified repair and maintenance cycles of each components; besides other repair &

maintenance works such as white washing, painting of residential and non-residential buildings and other civil works to be taken as per pre-determined cycles (whose expenses may not be incurred every year).

55. Apart from above, sometime replacement of any major component like lower ring, top cover, turbine shaft, bearing pads etc may shoot up the quantum of expenditure incurred in a particular year. Therefore, such increase/ decrease in O&M expenses are very common and normal feature as per yearly requirements and cannot be considered abnormal.

56. Higher expenditure in consumption of stores and spares during the years 1999-00 and 2000-01 has been attributed due to following works:

1999-00: Replacement of turbine shaft of main GPM for 79 lakh, Dozer spares for Rs 7 lakh, DG spares, bushes, bolts etc, for Rs 10 lakh, electrical maintenance spares for Rs12 lakh and turbine oil replacement for Rs 12 lakh.

2000-01: Because of replacement of Lower ring for Rs. 65 lakh, top cover of turbine Rs. 70 lakh and thrust bearing collars for Rs 30 lakh.

57. Higher expenditure on repair and maintenance during the year 1999-00 has been attributed due to following works:

1999-00: Because of repairs carried out on guide vanes of turbine, runner, thrust bearing disc, LGB pads, UGB bush diversion tunnel, Baira dam, Bhaledh weir roads and buildings (Rs.

206 lakh) and replacement of lubricants (Rs 80 lakh) and re-insulation of old pole wires (Rs 13 lakh)

2000-01: Expenditure on repair of 2 nos runners (Rs229lakh), rehabilitation of stay ring and stay vanes (Rs 23 lakh), replacement of lubricants (Rs 20 lakh), repair of roads (Rs 26.35 lakh) and rewiring of 68 nos staff quarters (Rs 11 lakh).

2001-02: Expenditure on repair of runner(Rs 126 lakh),repair of one set of turbine top cover & bottom ring (Rs 20 lakh),repair of stay ring and valves of unit II (Rs 7 lakh),material for repair and maintenance works (Rs 83 lakh),rehabilitation of stay ring and stay vanes of unit II, repair of guide vanes by welding (Rs 20 lakh), repair and maintenance of PH building, administration building, residential and other building (Rs 83 lakh)

58. The justification provided by the petitioner is found to be satisfactory and hence expenditure on repair and maintenance works and consumption of stores and spares, has been allowed for calculation of O&M for the tariff period 2004-09.

Insurance coverage

59. Expenditure on account of Insurance coverage submitted by the petitioner is as follows:

(Rs. in lakh)					
Year	1998-99	1999-00	2000-01	2001-02	2002-03
Insurance	82.1	90.6	91.6	92.7	93.1

60. The petitioner vide affidavit dated 12.12.2005 has submitted that as per its policy, it was to establish a self-insurance reserve/fund in respect of O.M. projects by transferring on year to year basis an amount equal to 0.5% of the gross block of the assets. This reserve/fund is to be utilized for losses of assets due to fire, storm, cyclones, earthquake, landslides, terrorist activities (added in May, 2002), floods (added in September, 2005), but not for the routine wear and tear, repair and maintenance etc, accidents or breakdown of machinery or shortage of inventory or insurance of human life. According to the petitioner, it was also decided that losses of nature mentioned above shall be assessed by a Committee to be constituted for the purpose by its CMD and actual losses based on accepted recommendations of the Committee shall be reimbursed from the fund.

61. The reasons for insurance coverage and nature assets covered as submitted by the petitioner are satisfactory. Further, the annual expenditure incurred on insurance coverage (around Rs. 90 lakh) is around 0.5% of the capital cost of the generating station admitted by the Commission as on 1.4.2001. Hence expenses towards insurance coverage have been allowed.

Security

62. Expenditure on account of security claimed by the petitioner is as follows:

	(Rs. in lakh)				
Year	1998-99	1999-00	2000-01	2001-02	2002-03
Security expenses	125.0	195.1	150.3	153.0	158.9

63. The petitioner has submitted that the generating station has hired the security from CISF and the state police. The security charges are being paid to CISF and the state police on the basis of bills raised by them. Security expenses were comparatively higher in the year 1999-00, due to increase in salary arrears paid on implementation of the fifth pay commission report. The arrears were for the period prior to 1998-99. To balance out the effect of higher expenses in 1999-00, average of other four years expenses is considered as expenses on security during 1999-00, which works out to Rs 146.8 lakh. Thus an amount of Rs 48.3 lakh is not considered towards normalisation in the year 1990-00.

64. On consideration of the facts above, the security expenses of the generating station considered are as follows :

(Rs. in lakh)					
Year	1998-99	1999-00	2000-01	2001-02	2002-03
Security expenses	125.0	146.8	150.3	153.0	158.9

Administrative expenses

65. The details of administrative expenses incurred are as below:

(Rs. in lakh)					
Administrative Expenses	1998-99	1999-00	2000-01	2001-02	2002-03
Rent	0	1.0	1.0	2.3	1.3
Electricity Charges	7.4	5.1	10.9	11.7	8.5
Traveling and conveyance	23.7	25.1	19.5	28.2	42.8
Telephone, telex and postage	6.6	7.7	6.0	9.0	9.7
Advertising	8.1	2.7	4.9	2.7	2.2
Entertainment	0	0	0.03	0.1	0.05
Other Misc. expenses	16.5	66.1	47.3	14.1	46.8
Total (Administrative Expenses)	62.4	107.9	89.8	68.2	111.3

66. There is no significant variation in the expenses like rent, electricity charges, traveling charges, telephone, telex & postage entertainment etc. The “other miscellaneous expenses” include - printing & stationery, loss on sale of assets, consultancy charges, income tax on consultant, books & journals, legal expenses, departmental meetings, environment & ecology. The “other miscellaneous expenses” includes adjustment of Rs. 56 lakh in the year 1999-00 on account of capitalisation not allowed by the Commission in its order dated 1.11.2002 in Petition No.65/2001. These expenses are being claimed by the petitioner under O & M Expenses. Further, expenses on account of material written off due to loss of stores etc and silver jubilee celebrations should be borne by the company and not to be charged on the beneficiaries. Hence the following expenses have not been considered for normalization:

(Rs. in lakh)					
Year	1998-99	1999-00	2000-01	2001-02	2002-03
(i) Material written off	0.20	0.58	3.75	0.22	14.85
(ii) Silver jubilee celebration expenses	-	-	1.55	-	-
Total	0.20	0.58	5.30	0.22	14.85

67. Thus, the following administrative expenses during the period 1998-99 to 2002-03 have been considered for calculation of O&M cost:

(Rs. in lakh)					
Year	1998-99	1999-00	2000-01	2001-02	2002-03
Total Administrative Expenses claimed	62.40	107.95	89.77	68.20	111.33
Total Administrative expenses allowed	62.20	107.37	84.47	67.98	96.48

Employees cost

68. The expenses on account of employees cost forms major part of the total O&M expenses, the average employee cost being about 67% of the total

average O&M cost during 1998-99 to 2002-03. The comparative figures of other generating stations of the petitioner have been tabulated below:

Project	Average Employee Cost (Rs. in Crore)	Average Total O&M Cost (Rs. in Crore)	% age of Avg. Employee cost to Total avg. O&M cost during 1998-99 to 2002-03
Bairasiul	17.82	26.64	67%
Tanakpur	11.32	19.68	58%
Chamera-I	28.25	56.19	50%
Loktak	23.22	27.82	83%
Salal	42.77	64.74	66%
Uri	10.67	44.27	24%

69. The table below gives the ratio of employees/ MW of installed capacity in case of the petitioner's generating stations. In case of Baira Siul HEP the ratio is quite high compared to other projects of the petitioner having similar configuration :

Project	Capacity (MW)	Number of employees as on 2002-03	Employee per MW
Bairasiul	198	679	3.4
Tanakpur	94.2	479	5
Chamera-I	540	750	1.4
Loktak	105	844	8
Salal	690	1153	1.7
Uri	480	342	0.7

70. The employee cost comprises -

- (a) Salaries, wages & allowances- which apart from Salaries & wages and include honorarium, leave encashment, provident fund contribution, compensation under statutory provision, gratuity and provision on a/c of gratuity made on actuarial valuation basis every year , VRS and also arrear of wage revision of employees.
- (b) Staff welfare expenses- include LTC, medical reimbursement, liveries & uniform, ex-gratia, grants & subsidies to sports &

canteen, new year gifts, project school & hospital expenses, transport expenses etc.

- (c) Productivity-linked incentive- These are paid as per policy of the petitioner company.

71. Year- wise break up of employees cost is as below:

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03
Salaries, wages and allowances	1255.7	939.4	1551.7	1926.3	1858.7
Staff welfare expenses	237.7	199.2	242.6	260.7	336.0
Productivity linked incentive	0	0	27.8	40.8	34.9
Total	1493.4	1138.6	1822.1	2227.8	2229.6

72. The employee cost has increased by about 60% in the year 2000-01 compared to the year 1999-00, which has further increased to 22% in the year 2001-02 compared to the year 2000-01. As explained by the petitioner, this is for the reasons that provision of Rs. 615 lakh was made against wage revision of employees, VRS payments of Rs 150 lakh and 122 lakh respectively, in the years 2000-01 and 2001-02, increase in grants for sports and aid to nursery school, increase in expenditure towards training, increase in liveries and uniform for workers

73. On prudence check, the following expenses have been excluded from consideration towards O&M expenses :

-

(Rs. in lakh)

Year	1998-99	1999-00	2000-01	2001-02	2002-03
Ex-gratia	10.3	-	-	-	-
New year gifts	-	-	1.0	1.7	2.1
VRS	-	21.3	149.6	122.5	67.9
Productivity linked incentive	-	-	27.8	40.8	35.0
Total	10.3	21.3	178.4	165.0	105.0

74. The reasons for not considering the above expenses for normalisation are that

- (a) Ex-gratia is an incentive and should be paid out of profit of the company.
- (b) The expenses on new year gifts should be borne by the petitioner company out of its profits and not loaded to the beneficiaries.
- (c) VRS expenses cannot be allowed as they are not of regular nature, particularly when the petitioner has not indicated the likely pattern of expenses on this account during the period 2004-09.
- (d) The expenses on account of productivity-linked Incentive (under section 31 A of Payment of Bonus Act), included under the category staff welfare expenses, are not allowed for tariff purpose for the reason that expenses incurred under this head are on account of incentive paid to the employees for maintaining high availability of the generating station to achieve higher generation from the generating station, for which incentive payment is made separately to the generating station and claimed in the bill of the beneficiaries.

75. The petitioner while justifying the reasons for higher employee cost of the generating station has submitted following clarification vide affidavit dated 12.12.2005:

“NHPC inherited a large workforce at the time of taking over of the project from Central Govt., however, NHPC already considering the impact of high O&M strength has made consistent and vigorous efforts over the years through

all possible means to bring down the staff strength at a reasonable level. The O&M staff strength at Baira Siul HEP was 3908 in the year 1982, which has now been brought down to the level of 679 in the year 2002-03 and further to the level of 628 in the year 2004-05.”

76. Keeping in view the efforts being made by the petitioner to reduce the staff strength each year we have accepted the employee strength claimed by the petitioner. Thus, the employees cost considered for normalization for the reasons explained above shall work out as follows:

Year	(Rs. in lakh)				
	1998-99	1999-00	2000-01	2001-02	2002-03
Employees cost claimed	1493.4	1138.6	1822.1	2227.8	2229.6
Expenses not considered	10.3	21.3	178.4	165.0	105.0
Total Employee Cost considered	1483.1	1117.3	1643.7	2062.8	2124.6

Corporate Office expenses

77. The petitioner has submitted that the as per its policy, the Corporate Office expenses allocated to the running generating stations are taken @ 1% of sale of energy for the year excluding taxes and duties and in case of construction projects @ 5% of the project expenditure during the year. Year-wise details of total Corporate Office expenses incurred, its apportionment to the running generating stations, construction projects and other activities of the petitioner and proportionate corporate expenses charged to the generating station are given hereunder:

Corporate Office expenses	(Rs. in lakh)				
	1998- 99	1999- 00	2000-01	2001-02	2002-03
Total expenses	4523	4401	6206	7276	8676
Running stations	1336	1217	1276	1310	1282
Const. stations	3020	2432	3781	5665	7261
Other activities	167	752	1148	301	133
Charged to Baira siul HEP	19.58	15.25	22.41	21.22	69.63

78. The petitioner's balance sheets indicate that amounts of Rs. 0.94 lakh during the year 1999-00 and Rs. 0.25 lakh during 2000-01 were paid towards donation. Although it is appreciable for the benefit of society or for the social cause, donation cannot be directly attributed to the business of power generation. Accordingly donation cannot be passed on to the beneficiaries. Therefore, donation amounts have not been considered in the Corporate Office expenses for tariff purpose. Further, ex-gratia has also not been considered because it is an incentive and should be borne out of profit of the petitioner company. After excluding proportionate expenses on account of ex-gratia and donation paid by the petitioner, the following Corporate Office expenses have been considered towards O&M expenses of the generating station for the period 1998-99 to 2002-03:

(Rs. in lakh)

Year	1998- 99	1999- 00	2000- 01	2001-02	2002-03
As claimed	19.58	15.25	22.41	21.22	69.63
Less Donations	0.00	0.94	0.25	0.00	0.00
Less ex-gratia	0.26	0.17	0.23	0.17	0.66
As considered	19.32	14.14	21.93	21.05	68.97

O&M expenses considered during 1998-99 to 2002-03

79. Based on the above discussion and after prudence check, the following O&M expenses have been considered for the period 1998-99 to 2002-03 for calculation of O&M expenses for the tariff period 2004-09.

(Rs. in lakh)

Year	1998- 99	1999- 00	2000- 01	2001-02	2002-03	Average Base on 2000-01
Consumption of Stores & Spares	131.5	207.8	79.5	225.8	50.84	-
Repairs & Maintenance	200.1	488.9	778.1	705.0	540.0	-
Insurance	82.1	90.6	91.6	92.7	93.1	-

Security	125.0	146.8	150.3	153.0	158.9	-
Administrative Expenses	62.20	107.37	84.47	67.98	96.48	-
Employee Cost	1483.1	1117.3	1643.7	2062.8	2124.6	-
Corporate expenses	19.32	14.14	21.93	21.05	68.97	-
LESS: Recovered	12.5	12.1	20.0	23.8	30.0	-
Less abnormal O&M expenses						-
a) Siltation	11.1	180.9	190.99	213.3	50.5	
b) Overstaffing	22.5	-	-	-	-	
Total O&M expenses allowed	2057	1980	2639	3091	3087	2571
Total O&M claimed	2068.1	2051.2	2822.9	3256.7	3173.0	2674

80. Accordingly, the year-wise O&M expenses for the generating station work are as follows:

(Rs. in lakh)					
Year	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses	3008	3128	3253	3383	3518

INTEREST ON WORKING CAPITAL

81. In accordance with clause (v) of Regulation 38 of the 2004 regulations, working capital in case of hydro generating stations shall cover:

- (i) Operation and Maintenance expenses for one month;
- (ii) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and
- (iii) Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.

82. Under the 2004 regulations, the rate of interest on working capital shall be on a normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

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

(a) **Maintenance Spares:** Historical cost of the generating station (1.4.1982) has been furnished by the petitioner as Rs. 14321 lakh. Based on the methodology in the 2004 regulations, the cost of maintenance spares for calculating working capital has been calculated to work out the cost of maintenance spares for the period 2004-09. Year wise details are as follows:

(Rs. in lakh)					
Year	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance spares	516.06	547.03	579.85	614.64	651.52

(b) **O&M Expenses:** O&M expenses for working capital have been worked out for 1 month of O&M expenses approved above are considered in working capital of the respective year.

(c) **Receivables:** The receivables have been worked out on the basis of two months of fixed and variable charges.

84. The average SBI PLR of 10.25% as on 1.4.2004 has been considered as the rate of interest on working capital during the tariff period 2004-05 to 2008-09.

85. The necessary details in support of calculation of interest on working capital are appended below:

Calculation of Interest on Working Capital

(Rs. in lakh)

	2004-2005	2005-2006	2006-07	2007-2008	2008-09
Spares	516.06	547.03	579.85	614.64	651.52
O & M expenses	250.67	260.67	271.08	281.92	293.17
Receivables	912.40	810.06	832.00	854.84	878.57
Total Working Capital	1679.13	1617.75	1682.94	1751.40	1823.25
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest on Working Capital	172.11	165.82	172.50	179.52	186.88

ANNUAL FIXED CHARGES

86. A summary sheet showing the capital cost and other related details is annexed to this order. The annual fixed charges for the period 1.4.2004 to 31.3.2009 allowed in this order are summed up as below:

(Rs. in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	455.89	476.62	476.62	476.62	476.62
Interest on Loan	171.65	0.00	0.00	0.00	0.00
Return on Equity	1089.90	1089.90	1089.90	1089.90	1089.90
Advance Against Depreciation	576.84	0.00	0.00	0.00	0.00
Interest on Working Capital	172.11	165.82	172.50	179.52	186.88
O & M Expenses	3008.00	3128.00	3253.00	3383.00	3618.00
TOTAL	5474.40	4860.34	4992.02	5129.04	5271.41

PRIMARY ENERGY RATE

87. As per Regulation 39 of the 2004 regulations, rate of primary energy for all hydroelectric generating stations, except for pump storage generating stations, shall be equal to the lowest variable charges of the central sector thermal power generating stations of the concerned region. The primary energy charge is computed based on the primary energy charge and saleable scheduled primary energy. In case the primary energy rate recoverable by applying the above

primary energy rate exceeds the Annual Fixed Charges of a generating station, the primary energy rate for such generating station is to be calculated by the following formula:

$$\text{Primary energy rate} = \frac{\text{Annual Fixed Charges}}{\text{Saleable Primary energy}}$$

88. The lowest variable charges of the Central Sector Thermal generating stations of Northern Region are found to be varying from month to month. The petitioner has calculated the primary energy rate of the generating station for the first year of tariff period, namely 2004-05 as average of preceding 12 months' (i.e. April 2003 to March 2004) lowest variable charges of the Central Sector Thermal generating stations of Northern Region. Based on this methodology, the lowest variable charge for the year 2003-04 has been worked out at 69.47 paise/kWh. This rate has also been agreed by the respondents in 115th Commercial Committee meeting of NREB held in September 2004. Accordingly, this has been considered as the primary energy rate for Northern Region for the year 2004-05.

89. The details in support of primary energy rate arrived at during 2003-04 are given in the following table:

VARIABLE CHARGES OF THE CENTRAL SECTOR THERMAL POWER STATIONS OF NORTHERN REGION FOR THE YEAR 2003-04 FOR COMPUTATION OF PRIMARY ENERGY RATE OF BAIRA SIUL H.E.STATION												
STATION	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV	DEC	JAN	FEB	MAR.
SINGRAULI	68.53	68.28	71.05	70.79	72.23	71.48	74.77	75.79	75.84	75.84	74.87	76.72
RIHAND	67.06	71.37	68.89	68.41	68.33	65.17	65.98	63.53	78.99	80.57	73.03	73.26
FGUPTS	100.7	101.86	102.88	102.02	104.41	105.98	104.69	108.9	112.17	105.89	110.21	108.51
NCTPS	155.27	154.77	152.05	148.69	148.8	142.65	153.48	146.8	146.13	141.43	145.34	141.39
ANTA GPS	97.13	100.24	114.38	113.56	111.89	110.29	137.92	143.4	144.66	166.67	179.26	153.31
AURAIYA GPS	128.26	101.38	114.35	127.36	143.01	146.62	147.9	140.44	154.8	166.96	200.45	95.53
DADRI GAS	110.64	111.64	161.33	104.35	165.12	171.85	202.17	197.37	95.38	94.41	94.41	94.41
FGUPTS-II	100.64	101.72	102.18	101.46	102.86	104.46	102.85	106.63	110.26	103.89	108.15	106.54
Lowest of the month	67.06	68.28	68.89	68.41	68.33	65.17	65.98	63.53	75.84	75.84	73.03	73.26
Average Lowest Rate for the year (P/Kwh) = (67.06 + 68.28+68.89 +68.41+ 68.33+65.17+65.98+63.53+75.84+75.84+73.03+73.26) = 833.62/12 = 69.47												

90. The primary energy rates for the remaining years of the tariff period shall be determined on the basis considered above, by the petitioner, in consultation with the beneficiary States. No petition for this purpose is required to be filed. However, in case the parties are unable to agree to primary energy rate, any one of them may approach the Commission for a decision by filing an appropriate petition.

Design Energy

91. The quantum of energy generated in excess of the design energy at the generating station on annual basis is the secondary energy. For the computation of monthly secondary energy and the secondary energy charge, month-wise details of design energy are indicated in the following table:

Month	Design Energy (MU)
April	97.85
May	106.00
June	92.80
July	109.24
August	115.08
September	59.86
October	35.39
November	25.22
December	22.21
January	23.81
February	29.43
March	62.39
Total	779.28

92. The rate of secondary energy shall be the same as rate of primary energy.

Impact of additional capitalization for the years 2001-04

93. The Commission has decided that additional capital expenditure for the period 1.4.2001 to 31.3.2004 be added to the gross block as on 1.4.2001 to arrive at gross block as on 1.4.2004 for the purpose of fixation of tariff for the period 2004-05 to 2008-09. The Commission has further ordered that the

petitioner would be entitled to earn return on equity @ 16% on equity portion of additional capitalization approved and interest on loan at the rate as applicable during 2001-02 to 2003-04. The return on equity and interest on loan are payable on additional capitalization from 1st April of the financial year following the financial year to which additional capital expenditure relates.

94. Based on the above principles, the petitioner shall be entitled to repay the following amounts the respondents through tariff on account of return on equity and interest on loan on decreased equity and debt for de-capitalisation on works:

(Rs. in lakh)

CALCULATION OF IMPACT OF ADDITIONAL CAPITALISATION DURING THE YEAR 2001-04					
		2001-02	2002-03	2003-04	Total
Additional Capitalisation		98.07	50.60	113.20	261.88
Financing of Additional Capitalisation					
Notional Loan		98.07	50.60	113.20	261.88
Notional Equity		0.00	0.00	0.00	0.00
Total		98.07	50.60	113.20	261.88
Effective Additional Capitalisation					
Opening Loan Balance		0.00	98.07	148.67	
Addition of Loan		98.07	50.60	113.20	261.88
Repayment of Loan		0.00	0.00	0.00	0.00
Closing Loan Balance		98.07	148.67	261.88	
Effective Loan			98.07	148.67	
Weighted Average Rate of Interest on Loan		12.48%	12.48%	12.48%	
Effective Equity		-	0.00	0.00	
Interest on Loan		-	12.24	18.55	30.79
Return on Equity	16%	-	0.00	0.00	0.00
Impact of Additional Capitalisation		-	12.24	18.55	30.79

95. The petitioner has sought reimbursement of filing fee of Rs.25 lakh paid. A final view on reimbursement of filing fee is yet to be taken by the Commission for which views of the stakeholder have been called for. The view taken on consideration of the comments received shall apply in the present case as regards reimbursement of filing fee.

96. In addition to the charges approved above, the petitioner is entitled to recover other charges also like incentive, claim for reimbursement of Income-tax, other taxes, cess levied by a statutory authority, and other charges in accordance with the 2004 regulations, as applicable.

97. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's interim directions. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

98. This order disposes of Petition No.158 /2004.

Sd/-
(BHANU BHUSHAN)
MEMBER

Sd/-
(K.N. SINHA)
MEMBER

New Delhi dated the 9th May 2006

Summary Sheet			
Name of the Company:		NHPC	
Name of the Project		BAIRASIUL HEP	
Actual DOCO:		01.04.1982	
Petition No.:		158/2004	
Tarrif setting Period:		2004-09	
(Rs.in lakh)			
1	Admitted Capital Cost as on 1.4.2004 for Calculation of Debt and Equity¹		17866.00
2	Additional Capitalisation(works)		246.07
	2001-02	98.07	
	2002-03	50.60	
	2003-04	113.20	
	Assets not in use as on 1.4.2004	-15.80	
	Total	246.07	
3	Additional Capitalisation(FERV)		0.30
	2001-02	0.37	
	2002-03	-0.07	
	2003-04	0.00	
	Total	0.30	
4	Total Capital Cost as on 1.4.2004 (2+3+4)		18112.37
5	Means of Finance¹ :		
	Debt	57.02%	10327.37
	Equity	42.98%	7785.00
	Total	100.00%	18112.37
6	Gross Loan as on 1.4.2004		10327.37
7	Cumulative Repayment upto 31.3.2009 :		10327.37
	Repaid upto 31.3.2004	7581.00	
	1. 4.2001 to 31. 3.2004 (ACE & FERV)	0.00	
	1. 4.2004 to 31. 3.2009	2746.37	
	Total	10327.37	
8	Balance Loan to be repaid beyond 31.3.2009 :		0.00
9	Depreciation recovered upto 31.3.2009 :		10400.61
		Dep	AAD
	Recovered upto 31.3.2004	7483.00	0.00
	1.4.2001 to 31.3.2004 (ACE & FERV) / Assets not in use as on 1.4.2004 / Deletions	-21.61	0.00
	1.4.2004 to 31.3.2009	2362.38	576.84
	Total		10400.61
10	Balance Depreciation to be recovered beyond 31.3.2009 :		5767.12
	Capital cost for the purpose of Depreciation		17866.00
	ACE + FERV		246.37
	Capital cost as on 1.4.2004		18112.37
	Less: Land Cost		148.22
			17964.15
	90% of Capital Cost as above		16167.73
	Cum. Depreciation to be recovered upto 31.3.2009		10400.61
	Balance Depreciation to be recovered beyond 31.3.2009		5767.12

