

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram:**

1. **Shri Ashok Basu, Chairperson**
2. **Shri K.N.Sinha, Member**
3. **Shri Bhanu Bhushan, Member**
4. **Shri. A.H. Jung, Member**

**Petition No. 64/2005**

**In the matter of**

Approval of transmission charges for 1X500 MW HVDC back to back station at Sasaram with associated AC switchboard at Sasaram & Allahabad and Auxilliary system including 400 kV Sarnath-Allahabad transmission line with associated bays under Eastern-Northern Inter-regional HVDC transmission system for the period from 1.4.2004 to 31.3.2009

**And in the matter of**

Power Grid Corporation of India Limited

....Petitioner

**Vs**

1. Bihar State Electricity Board, Patna
2. West Bengal State Electricity Board, Kolkata
3. Grid Corporation of Orissa, Bhubaneswar
4. Damodar Valley Corporation, Kolkata
5. Power Department, Govt of Sikkim, Gangtok
6. Jharkand State Electricity Board, Ranchi
7. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
8. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
9. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
10. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
11. Himachal Pradesh State Electricity Board, Shimla
12. Punjab State Electricity Board, Patiala
13. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
14. Power Development Department, Govt. of J&K, Srinagar
15. Uttar Pradesh Power Corporation Ltd., Lucknow
16. Delhi Transco Ltd, New Delhi
17. Chandigarh Administration, Chandigarh
18. Uttranchal Power Corporation Ltd, Dehradun
19. Northern Railway, New Delhi

.....Respondents

**The following were present:**

1. Shri S.K. Niranjana, PGCIL
2. Shri U.K. Tyagi, PGCIL
3. Shri C. Kannan, PGCIL
4. Shri P.C. Pankaj, PGCIL
5. Shri M.M. Mondal, PGCIL
6. Shri Prashant Sharma, PGCIL
7. Shri. R.T. Agarwal, PGCIL
8. Shri. T.S.P. Rao, PGCIL
9. Shri. T.P.S. Bawa, PSEB
10. Shri. T.C. Nagalinga, AVVNL
11. Shri. S.N. Joshi, JDVVNL
12. Shri. S.P. Srivastava, UPPCL

**ORDER**  
**(DATE OF HEARING: 23.3.2006)**

The petition has been filed for approval of transmission charges for 1X500 MW HVDC back to back station at Sasaram with associated AC switchboard at Sasaram and Allahabad & Auxilliary system including 400 kV Sarnath-Allahabad transmission line with associated bays under Eastern-Northern Inter-regional HVDC transmission system (transmission assets) 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"). The petitioner has also prayed for the reimbursement of the expenditure incurred in publishing of notices in the news papers and petition filing fee.

2. Investment approval for the transmission assets was initially accorded by Ministry of Power under its letter dated 4.9.1998 at an estimated cost of Rs. 67156.00 lakh, based on 3<sup>rd</sup> quarter of 1997 price level. Subsequently, the scope of the work was changed based on system studies. Techno-economic clearance for the work with the revised scope was issued by the Central

Electricity Authority vide Office Memorandum dated 21.2.2003 at an estimated cost of Rs. 59310.00 lakh including IDC of Rs. 4607.00 lakh. Date of commercial operation of the transmission assets covered in the petition is 1.12.2002

3. The transmission assets cover the following transmission lines namely:

S. No	Name of line	Line Length (Ckt km) (For O&M)
(i)	400 kV D/C Sarnath-Allahabad transmission line	284
(ii)	LILO of 132 kV Dehri-Karamnasa transmission line	5
	<b>Total</b>	<b>289</b>

4. The transmission charges for the period 1.12.2002 to 31.3. 2004 were approved by the Commission vide order dated 24.3.2005 in Petition No. 111/2002 at the capital cost of Rs. 34066.45 lakh as on the date of commercial operation of the transmission assets.

5. The petitioner has claimed the transmission charges as under:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	1060.94	1060.94	1060.94	1060.94	1060.94
Interest on Loan	1362.59	1273.37	1178.32	1071.11	958.16
Return on Equity	253.61	253.61	253.61	253.61	253.61
Advance against Depreciation	0.00	0.00	0.00	0.00	321.09
Interest on Working Capital	114.55	116.51	118.56	120.57	128.29
O & M Expenses	1106.04	1150.45	1196.63	1244.01	1294.17
<b>Total</b>	<b>3897.73</b>	<b>3854.88</b>	<b>3808.06</b>	<b>3750.22</b>	<b>4016.25</b>

6. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:

(Rs. in lakh)

	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	375.80	398.34	422.25	447.58	474.43

O & M expenses	92.17	95.87	99.72	103.67	107.85
Receivables	649.62	642.48	634.68	625.04	669.38
Total	1117.59	1136.70	1156.64	1176.28	1251.66
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	114.55	116.51	118.56	120.57	128.29

7. The replies to the petition have been filed by Punjab State Electricity Board, Patiala, Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur and Uttar Pradesh Power Corporation Ltd., Lucknow. No comments or suggestion have been received from the general public in response to the notices published by the petitioner under section 64 of the Electricity Act, 2003.

**Additional capital Expenditure during the years 2001-04**

8. Regulation 1.10 of the CERC (Terms and Conditions of Tariff) Regulations,2001 provided that tariff revisions during the tariff period on account of capital expenditure within the approved project cost incurred during the tariff period may be entertained by the Commission only if such expenditure exceeds 20% of the approved cost. In all cases, where such expenditure is less than 20%, tariff revision shall be considered in the next tariff period.

9. The petitioner has claimed additional capitalisation of Rs. 711.78 lakh on works during 2002-03 and 2003-04, supported by the auditors certificate dated 20.9.2004. The expenditure incurred is on account of balance payments within the scope of the approved project cost and conforms to prudence check.. Therefore, additional capitalisation as claimed has been approved. The year-wise details of the additional capitalisation approved are as under:

(Rs. In lakh)

S.No	Details	Amount
(a)	Expenditure from the Date of commercial operation to 31.3.2003	224.86

(b)	Expenditure from 1.4.2003 to 31.3.2004	486.92
	<b>Total</b>	<b>711.78</b>

### **CAPITAL COST**

10. As per clause (2) of Regulation 52 of the 2004 regulations in case of the projects existing as on 31.3.2004, the project cost admitted by the Commission for determination of tariff prior to 1.4.2004 shall form the basis for determination of tariff.

11. The petitioner has considered the capital expenditure of Rs. 34066.45 lakh as admitted by the Commission in the order dated 24.3.2005. The petitioner has claimed additional capitalisation of Rs. 711.78 lakh on works and decapitalisation of Rs. 2256.33 lakh during the period 1.12.2002 to 31.3.2004. The petitioner's claim for tariff is based on capital cost of Rs. 32522 lakh.

### **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 further provides 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 has claimed decapitalisation of Rs. 2256.33 lakh for FERV. FERV worked out by the petitioner is in accordance with AS-11 and matches with the calculations furnished. Accordingly, FERV claimed has been considered for the purpose of tariff calculation.

15. Based on the above, gross block of Rs. 32521.90 lakh as claimed has been considered as per the following details:

(Rs. In lakh)	
Cost approved in the order dated 24.3.2005	34066.45
Additional capitalisation on account of works	711.78
FERV for 2003-04	(-)2256.33
Capital cost as on 1.4.2004	32521.90

### **DEBT- EQUITY RATIO**

16. Regulation 54 of the 2004 regulations *inter alia* provides that,-

(1) In case of the existing project, 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.

(2) In case of the transmission system for which investment approval was accorded prior to 1.4.2004 and which is likely to be declared under commercial operation during the period 1.4.2004 to 31.3.2009, debt-equity in the ratio of 70:30 shall be considered:

Provided that where deployment of equity is less than 30%, the actual equity deployed shall be considered for the purpose of determination of tariff.

Provided further that the Commission may in appropriate case consider equity higher than 30% for the purpose of determination of tariff, where the transmission licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% was in the interest of general public;

(3) In case of the transmission system for which investment approval is accorded on or after 1.4.2004, debt-equity in the ratio of 70:30 shall be considered for the purpose of determination of tariff:

Provided that where deployment of equity is less than 30%, the actual equity deployed shall be considered for the purpose of determination of tariff.

(4) The debt and equity amount arrived at in accordance with above sub-clause (1), (2) or (3), as the case may be, shall be used for calculation of interest on loan, return on equity, advance against depreciation and foreign exchange rate variation.”

17. The petitioner has claimed the following debt-equity ratio for the various components of the Capital expenditure:

On the actual expenditure up to the date of commercial operation as per order dated 24.3.2005	96.54:3.46
On FERV during 2002-03 and 2003-04	96.54:3.46
On additional capital expenditure during 2002-03 and 2003-04	0.00:100.00

18. In our calculation, additional capitalisation (taken en block for the years 2002-03 and 2003-04) amounting to Rs.711.78 lakh has been considered as equity and decapitalisation on account of FERV (taken en block for the years 2002-03 and 2003-04) amounting to Rs. 2256.33 lakh has been adjusted against loan, so as to make over all debt-equity ratio closer to the approved debt-equity ratio of 80:20. Accordingly, the adjusted debt-equity ratio considered for the purpose of tariff calculation is 94.14:5.81. In this manner, equity base of Rs. 1889.55 lakh as on 1.4.2004 has been considered.

### **RETURN ON EQUITY**

19. As per clause (iii) of Regulation 56 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 54 @ 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.

20. The petitioner has claimed return on equity base of Rs. 1811.48 lakh. However, for the reasons given in para 18 above, equity base of Rs. 1889.55 lakh has been considered for tariff determination during 2004-2009. Accordingly,



the petitioner will be entitled to return on equity @ Rs. 264.54 lakh each year during the tariff period.

### **INTEREST ON LOAN**

21. Clause (i) of regulation 56 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 54.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan as per regulation 54 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 transmission licensee 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 of any dispute, any of the parties may approach the Commission with proper application. However, the long term transmission customers shall not withhold any payment ordered by the Commission to the transmission licensee during pendency of any dispute relating to swapping of loan.

(f) 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.

(g) The transmission licensee shall not make any profit on account of swapping of loan and interest on loan.

22. The petitioner has claimed interest on loan in the following manner:

(i) Gross loans, cumulative loan repayment up to previous year as admitted by the Commission in the order dated 24.3.2005 *ibid* has been taken as the opening balance as on 1.4.2004

(ii) On the basis of actual rate of interest on actual average loan, the weighted average rate of interest on loan is worked out for various years.

(iii) Gross loans as admitted by the Commission in the order dated 24.3.2005 *ibid* have been considered as notional loan and the weighted average rate of interest on loan for respective years as per above has been multiplied to arrive at interest on loan.

(iv) Notional loan component of FERV up to 31.3.2001 as per para 16 above have been considered separately and actual applicable rate of interest on foreign loan have been considered to work out the interest on this component.

23. 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, etc. have been taken from the loan reconciliation statement submitted by the petitioner for working out weighted average rate of interest, though the repayment instalment of IRDB-II loan is lesser in the petition than given in the loan reconciliation statement. Further, the petitioner in its affidavit dated 1.9.2005 has submitted that in case of loan from ICICI Bank, the prevailing interest rate of 12.15% per annum payable quarterly has been reset at 7.32% per annum payable quarterly w.e.f. 28.6.2005, the same has been considered in tariff calculation. For the year 2005-06, weighted average rate of interest of ICICI loan on days basis has been considered for tariff calculations. Rate of interest of IBRD-II loan is considered as 2.57% as per loan reconciliation statement mentioned above against 2.62% considered in the petition.

(ii) Gross loan and cumulative repayment up to 31.3.2004 have been taken from the order dated 24.3.2005

(iii) Notional loan arising out of FERV for the years 2002-03 and 2003-04 has been considered.

(iv) Repayment of notional loan arising due to decapitalisation on account of FERV has been worked out by the following formula:

$$\frac{\text{Actual repayment of actual loan during each year}}{\text{Opening balance of actual loan during corresponding year}} \times (\text{Opening balance} + \text{Addition of normative loan during corresponding Yr.})$$

(v) Tariff has been worked out considering normative loan and normative repayments. Normative repayment is worked out by the following formula:

$$\text{Actual repayment of actual loan during the year}$$

----- X Opening balance of normative  
 loan during the year  
 Opening balance of actual loan during the year

- (vi) Moratorium in repayment of loan has been considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation during that year, depreciation during the year is deemed to be normative repayment of loan during the year.
- (vii) Weighted average rate of interest on actual loan worked out has been applied on the average loan during the year to arrive at the interest on loan.
- (viii) PNB-I, Corporation Bank, Bank of India Foreign Currency Loan and IRBD-II loans carry the floating rates of interest. In these cases, rates of interest as applicable on 1.4.2004 have been considered in the calculation subject to mutual settlement between the parties in case of any change or resetting of the interest rate during the tariff period.

24. Based on the above, the year-wise details of interest worked out are given hereunder:

(Rs. in lakh)

Details of loan	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
Gross loan as per order dated 24.3.2005	32888.68					
Addition due to additional capitalisation	0.00					
Addition due to FERV	(-)2256.33					
Gross Normative Loan	30632.35	30632.35	30632.35	30632.35	30632.35	30632.35
Cumulative Repayment up to Previous Year		591.98	1652.91	2713.85	4318.28	6801.48
Net Loan-Opening		30040.37	28979.43	27918.50	26314.07	23830.87
Repayment during the year		1060.94	1060.94	1604.43	2483.20	2570.73
Net Loan-Closing		28979.43	27918.50	26314.07	23830.87	21260.14
Average Loan		29509.90	28448.96	27116.28	25072.47	22545.50
Weighted Average Rate of		4.5615%	4.2491%	4.0564%	3.9357%	3.8249%

Interest on Loan						
<b>Interest</b>		<b>1346.09</b>	<b>1208.83</b>	<b>1099.94</b>	<b>986.77</b>	<b>862.35</b>

## **DEPRECIATION**

25. Sub-clause (a) of clause (ii) of Regulation 56 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.

26. Depreciation has been worked out based on capital cost of Rs. 32408.79 lakh, which excludes the cost of the land of Rs. 113. 11 lakh. The depreciable

value of the asset is 0.9X(Rs. 32521.90 lakh – Rs. 113.11 lakh) = Rs. 29167.91 lakh. Depreciation recovered in tariff up to 31.3.2004 is Rs. 1436.24 lakh including depreciation of Rs. 43.60 lakh adjusted against decapitalisation on account of FERV. The remaining depreciable value as on 1.4.2004 is Rs. 27731.67 lakh.

27. Depreciation for the period 1.4.2004 to 31.3.2009 works out as shown below:

(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 24.3.2005		34066.45					
Addition during 2001-04 due to Additional Capitalisation		711.78					
Addition during 2001-04 due to FERV		-2256.33					
Gross Block as on 31.3.2004		32521.90					
Rate of Depreciation	3.2622%						
Depreciable Value	90%		29167.91	29167.91	29167.91	29167.91	29167.91
Balance Useful life of the asset			-	-	-	-	-
Remaining Depreciable Value			27731.67	26670.73	25609.80	24548.86	22366.43
<b>Depreciation</b>			<b>1060.94</b>	<b>1060.94</b>	<b>1060.94</b>	<b>1060.94</b>	<b>1060.94</b>

### **ADVANCE AGAINST DEPRECIATION**

28. 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.

29. 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.

30. The petitioner has claimed Advance against depreciation in the following manner:

- (i) 1/10th of gross loan is worked out from the gross notional loan admitted by the Commission in the order dated 24.3.2005 along with notional loan worked out on account of FERV.
- (ii) Cumulative loan as well as repayment of notional loan during the year has been considered.
- (iii) Depreciation as claimed in the petition.
- (iv) In addition to cumulative depreciation upto 2003-04 (excluding Advance Against Depreciation), depreciation on FERV for the period ending 31.3.2004 2001-04 has been added by the petitioner to arrive at total cumulative depreciation amount as on 31.3.2004.

31. In our calculations, Advance Against Depreciation has been worked as detailed below:

- (i) 1/10th of gross loan has been worked out from the gross notional loan as per para 24 above.
- (ii) Repayment of notional loan during the year has been considered as per para 24 above.

- (iii) Depreciation has been worked out as per para 27 above.
- (iv) Cumulative depreciation upto 31.3.2004 has been worked out considering cumulative depreciation/AAD upto 2003-04 as per the order dated 24.3.2005 and depreciation recovered on FERV.

32. Based on the above, Advance Against Depreciation has been worked out as per the details given below:

(Rs. In lakh)

<b>Advance against Depreciation Up to 31.3.2004</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
1/10th of Gross Loan(s)	3063.23	3063.23	3063.23	3063.23	3063.23
Repayment of the Loan	1060.94	1060.94	1604.43	2483.20	2570.73
Minimum of the above	1060.94	1060.94	1604.43	2483.20	2570.73
Depreciation during the year	1060.94	1060.94	1060.94	1060.94	1060.94
(A) Difference	0.00	0.00	543.49	1422.27	1509.80
Cumulative Repayment of the Loan	1652.91	2713.85	4318.28	6801.48	9372.21
Cumulative Depreciation/ Advance against Depreciation	2497.18	3558.11	4619.05	5679.99	7862.41
(B) Difference	-844.26	-844.26	-300.77	1121.49	1509.80
<b>Advance against Depreciation Minimum of (A) and (B)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>1121.49</b>	<b>1509.80</b>

### OPERATION & MAINTENANCE EXPENSES

33. In accordance with clause (iv) of Regulation 56 the 2004 regulations, the following norms are prescribed for O & M expenses:

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs in lakh per ckt-km)	0.227	0.236	0.246	0.255	0.266
O&M expenses (Rs in lakh per bay)	28.12	29.25	30.42	31.63	32.90

34. In respect of the transmission assets covered in the present petition total line length is 289 ckt kms and there are 37 bays. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

(Rs. in lakh)

	Year
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	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses for 289 ckt.km line length	65.60	68.20	71.09	73.70	76.87
O&M expenses for 37 bays	1040.44	1082.25	1125.54	1170.31	1217.30
<b>Total</b>	<b>1106.04</b>	<b>1150.45</b>	<b>1196.63</b>	<b>1244.01</b>	<b>1294.17</b>

35. The petitioner has submitted that the wage revision of its employees is due with effect from 1.1.2007. Therefore, according to the petitioner, O & M expenses should be subject to revision on account of revision of employee cost from that date. In the alternative, it has been prayed that the increase in employee cost due to wage revision be allowed as per actuals for extra cost to be incurred consequent to wage revision. We are not expressing any view, as this issue does not arise for consideration at this stage. The petitioner may approach for a relief in this regard at an appropriate stage in accordance with law.

### **INTEREST ON WORKING CAPITAL**

36. The components of the working capital and the interest thereon are discussed hereunder:

(i) **Maintenance spares**

Regulation 56(v)(1)(b) of the 2004 regulations provides for maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation. Historical cost of Rs. 34066.45 lakh as on 1.12.2002 has been considered for the purpose of the present petition and maintenance spares have been worked out

accordingly by escalating 1% of the historical cost @ 6% per annum. The value of maintenance spares as on 1.4.2004 works out to Rs. 368.33 lakh.

**(ii) O & M expenses**

Regulation 56(v)(1)(a) of the 2004 regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of O&M expenses of the respective year as claimed in the petition. This has been considered in the working capital.

**(iii) Receivables**

As per Regulation 56(v)(1)(c) of the 2004 regulations, receivables will be equivalent to two months average billing calculated on target availability level. The petitioner has claimed the receivables on the basis of 2 months' transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

**(iv) Rate of interest on working capital**

As per Regulation 56(v)(2) of the 2004 regulations, rate of interest on working capital shall be on 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 project or part thereof (as the case may be) is declared under commercial operation, whichever is later. The interest on working capital is payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from any outside agency. The petitioner has claimed interest on working capital @

10.25% based on SBI PLR as on 1.4.2004, which is in accordance with the 2004 regulations and has been allowed.

37. The necessary computations in support of interest on working capital are appended hereinbelow.

(Rs. in lakh)

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Maintenance Spares	368.33	390.43	413.85	438.68	465.00
O & M expenses	92.17	95.87	99.72	103.67	107.85
Receivables	648.55	633.25	623.09	802.60	856.38
<b>Total</b>	<b>1109.04</b>	<b>1119.55</b>	<b>1136.66</b>	<b>1344.95</b>	<b>1429.23</b>
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
<b>Interest</b>	<b>113.68</b>	<b>114.75</b>	<b>116.51</b>	<b>137.86</b>	<b>146.50</b>

### **TRANSMISSION CHARGES**

38. A summary sheet showing basic details of capital cost and other related aspects is annexed to this order. The transmission charges being allowed for the transmission system are summarised below.

(Rs. in lakh)

	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>
Depreciation	1060.94	1060.94	1060.94	1060.94	1060.94
Interest on Loan	1346.09	1208.83	1099.94	986.77	862.35
Return on Equity	264.54	264.54	264.54	264.54	264.54
Advance against Depreciation	0.00	0.00	0.00	1121.49	1509.80
Interest on Working Capital	113.68	114.75	116.51	137.86	146.50
O & M Expenses	1106.04	1150.45	1196.63	1244.01	1294.17
<b>Total</b>	<b>3891.28</b>	<b>3799.51</b>	<b>3738.55</b>	<b>4815.60</b>	<b>5138.29</b>

### **IMPACT OF ADDITIONAL CAPITALISATION**

39. In the petitions filed by NTPC for approval of revised fixed charges for additional capitalization for the period 1.4.2001 to 31.3.2004, the Commission has decided that additional capital expenditure be added to the gross block as on 1.4.2001 to arrive at the 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

NTPC 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 1<sup>st</sup> April of the financial year following the financial year to which additional capital expenditure relates.

40. In the instant case, additional capitalization amounting to Rs. 711.78 lakh during the years 2002-03 and 2003-04 has been considered for tariff calculation. As per the Commission's order mentioned above, return on equity and interest on loan on this additional capitalization are payable from 1<sup>st</sup> April of the following year. The petitioner is entitled to recover an additional amount of Rs. 35.98 lakh from the respondents on account of return on additional equity. The impact of additional capitalisation is as per details given below:

(Rs. In lakh)

	2001-02	2002-03	2003-04	Total
Period		0.33	1.00	
<b>Additional Capitalisation</b>		224.86	486.92	711.78
<b>Financing of Additional Capitalisation</b>				
Notional Loan		0.00	0.00	0.00
Notional Equity		224.86	486.92	711.78
<b>Total</b>		<b>224.86</b>	<b>486.92</b>	<b>711.78</b>
<b>Effective Additional Capitalisation</b>				
Opening Loan Balance		0.00	0.00	
Addition of Loan		0.00	0.00	0.00
Repayment of Loan		0.00	0.00	0.00
Closing Loan Balance		0.00	0.00	
Effective Loan		0.00	0.00	
Weighted Average Rate of Interest on Loan		5.2570%	5.1875%	
Effective Equity		0.00	224.86	
Interest on Loan		0.00	0.00	0.00
Return on Equity (16%)		0.00	35.98	35.98
<b>Impact of Additional Capitalisation</b>		0.00	35.98	35.98

41. The petitioner has vide its affidavit dated 8.9.2005 intimated that it has incurred an expenditure of Rs. 2,76,631/= on publication of notices in the newspapers and sought approval for the reimbursement of this expenditure. The petitioner shall claim reimbursement of the said expenditure directly from the respondents in one installment in the ratio applicable for sharing of transmission charges. 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.

42. In addition to the transmission charges, the petitioner shall be entitled to other charges like income-tax, incentive, surcharge and other cess and taxes in accordance with the 2004 regulations. These transmission charges shall be included in the regional transmission tariff for Eastern and Northern Regions and shall be shared by the regional beneficiaries in accordance with the 2004 regulations.

43. 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.

44. This order disposes of Petition No.64/2005.

**Sd/-  
(A.H. JUNG)  
MEMBER**

**Sd/-  
(BHANU BHUSHAN)  
MEMBER**

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

**Sd/-  
(ASHOK BASU)  
CHAIRPERSON**

**New Delhi dated the 9<sup>th</sup> May 2006**

Summary Sheet			
<b>Name of the Company:</b> <b>Name of the Element:</b>		<b>PGCIL</b> 1x500 MW HVDC back to back station at Sasaram with associated AC switchyard at Sasaram & Allahabad & Auxiliary System including 400 kV Sarnath -Allahabad line with associated bays etc.under Eastern-Northern inter-regional HVDC Transmission System 1.12.2002	
<b>Actual Date of commercial operation</b>			
<b>Petition No.:</b>		<b>64/2005</b>	
<b>Tarrif setting Period:</b>		<b>2004-09</b>	
(Rs.in lakh)			
<b>1</b>	<b>Capital Cost of the Project</b>	<b>34066.45</b>	
<b>2</b>	<b>Admitted Capital Cost as on 1.4.2004 for Calculation of Debt and Equity</b>	<b>34066.45</b>	
<b>3</b>	<b>Additional Capitalisation(works)</b>	<b>711.78</b>	
	2001-02		
	2002-03	224.86	
	2003-04	486.92	
	Total		711.78
<b>4</b>	<b>Additional Capitalisation(FERV)</b>	<b>(-)2256.33</b>	
	2001-02		
	2002-03	(-)400.66	
	2003-04	(-)1855.67	
	Total		(-)2256.33
<b>5</b>	<b>Total Capital Cost as on 1.4.2004(2+3+4)</b>	<b>32521.90</b>	
<b>6</b>	<b>Means of Finance :</b>		
	Debt	94.19%	30632.35
	Equity	5.81%	1889.55
	Total	100.00%	32521.90
<b>7</b>	<b>Gross Loan as on 1.4.2004</b>	<b>30632.35</b>	
<b>8</b>	<b>Cumulative Repayment upto 31.3.2009 :</b>	<b>9372.21</b>	
	Repaid upto 31.3.2004		635.58
	1.4.2001 to 31.3.2004 (ACE & FERV)		-43.60
	1.4.2004 to 31.3.2009		8780.23
	Total		9372.21
<b>9</b>	<b>Balance Loan to be repaid beyond 31.3.2009 :</b>	<b>21260.14</b>	
<b>10</b>	<b>Depreciation recovered upto 31.3.2009 :</b>	<b>9372.21</b>	
		<b>Dep</b>	<b>AAD</b>
	Recovered upto 31.3.2004	1481.76	0.00
	1.4.2001 to 31.3.2004 (ACE & FERV)	(-)45.52	0.00
	1.4.2004 to 31.3.2009	5304.68	2631.29
	Total		9372.21
<b>11</b>	<b>Balance Depreciation to be recovered beyond 31.3.2009 :</b>	<b>19795.70</b>	
	<b>Capital cost for the purpose of Depreciation</b>		<b>34066.45</b>
	<b>ACE + FERV</b>		<b>(-)1544.55</b>
	<b>Capital cost as 1.4.2004</b>		<b>32521.90</b>
	<b>Less: Land Cost</b>		<b>113.11</b>
			<b>32408.79</b>
	<b>90% of Capital Cost as above</b>		<b>29167.91</b>
	<b>Cum. Depreciation to be recovered upto 31.3.2009</b>		<b>9372.21</b>
	<b>Balance Depreciation to be recovered beyond 31.3.2009</b>		<b>19795.70</b>