

**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.77/2004

In the matter of

Approval of transmission charges for the transmission system associated with RAPP-B Project in Northern Region 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. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
3. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
5. Himachal Pradesh State Electricity Board, Shimla
6. Punjab State Electricity Board, Patiala
7. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
8. Power Development Department, Govt. of J&K, Srinagar
9. Uttar Pradesh Power Corporation Ltd., Lucknow
10. Delhi Transmission Corporation Ltd, New Delhi
11. Chief Engineer, Chandigarh Administration, Chandigarh
12. Uttranchal Power Corporation Ltd, Dehradun
13. Northern Railway, New Delhi

.....Respondents

The following were present:

1. Shri P.C. Pankaj, PGCIL
2. Shri U.K. Tyagi, PGCIL
3. Shri C. Kannan, PGCIL
4. Shri M.M.Mandol, PGCIL
5. Shri Anand Mohan, PGCIL
6. Shri B.P.Kundu, PGCIL
7. Shri K.K.Mittal, RVPNL
8. Shri Yeshpal Singh, JdVVNL
9. Shri S.R.G.Sabal, JVVNL
10. Shri R.K.Arora, HPGCL
11. Shri V.K.Gupta, Consultant, PSEB
12. Shri T.P.S.Bawa, PSEB
13. Shri A.K. Tandon, EE, UPPCL
14. Shri Jayant Verma, UPPCL

ORDER
(DATE OF HEARING: 18.8.2005)

The petition has been filed for approval for transmission charges for the transmission system associated with RAPP-B Project (the transmission system) in Northern Region 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 had also prayed that it be permitted to continue the billing of transmission charges on the same basis as charged on 31.3.2004, pending determination of tariff in the present petition. No other specific relief is prayed for.

2. The revised cost estimate for the transmission system was approved by the Board of Directors of the petitioner company in its meeting held on 9.3.2000 at a cost of Rs.11608.00 lakh, including IDC of Rs. 2800.00 lakh. The annual transmission charges from 1.4.2001 to 31.3.2004 were decided by the Commission in its order dated 18.5.2004 in Petition No.50/2002 at a cost of Rs. 11016.60 lakh. The scope of work included in the transmission system and the date of commercial operation of the respective transmission asset are as stated below:

S. No.	Name of the transmission line	Date of commercial operation	Line length in Ckt-km (for O & M)
(i)	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system	1.1.2000	230.30
(ii)	220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end	1.8.2000	87.00
(iii)	220 kV D/C RAPP-B Chittorgarh transmission line with associated bays at Chittorgarh end	1.11.1998	257.66
	Total		574.96

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

(Rs.in lakh)

	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system					220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end					220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	125.06	125.06	125.06	125.06	125.06	60.34	60.34	60.34	60.34	60.34	114.77	114.77	114.77	114.77	114.77
Interest on Loan	126.74	103.33	79.93	56.52	37.29	85.21	74.06	62.14	50.23	39.44	41.92	34.16	26.39	18.62	10.85
Return on Equity	56.80	56.80	56.80	56.80	56.80	65.48	65.48	65.48	65.48	65.48	170.11	170.11	170.11	170.11	170.11
Advance against Depreciation	111.32	111.32	111.32	111.32	50.14	40.73	55.53	55.53	55.53	38.93	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	15.54	15.59	15.67	15.76	14.90	8.43	8.71	8.74	8.77	8.56	14.69	15.04	15.42	15.81	16.25
O & M Expenses	80.40	83.60	87.07	90.36	94.16	47.87	49.78	51.82	53.82	56.04	114.73	119.31	124.22	128.96	134.34
Total	515.87	495.71	475.85	455.82	378.36	308.07	313.91	304.06	294.17	268.79	456.22	453.39	450.91	448.27	446.32

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

(Rs.in lakh)

	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system					220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end					220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	58.98	62.51	66.27	70.24	74.46	26.93	28.55	30.26	32.08	34.00	57.76	61.23	64.90	68.79	72.92
O & M expenses	6.70	6.97	7.26	7.53	7.85	3.99	4.15	4.32	4.48	4.67	9.56	9.94	10.35	10.75	11.19
Receivables	85.98	82.62	79.31	75.97	63.06	51.34	52.32	50.68	49.03	44.80	76.04	75.56	75.15	74.71	74.39
Total	151.65	152.10	152.83	153.74	145.36	82.27	85.01	85.26	85.59	83.47	143.36	146.73	150.40	154.25	158.50
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	15.54	15.59	15.67	15.76	14.90	8.43	8.71	8.74	8.77	8.56	14.69	15.04	15.42	15.81	16.25

5. The replies to the petition have been filed by Punjab State Electricity Board, Jaipur Vidyut Vitran Nigam Ltd, Jodhpur Vidyut Vitran Nigam Ltd and Ajmer Vidyut Vitran Nigam Ltd.

CAPITAL COST

6. As per clause (2) of Regulation 52 of the 2004 regulations in case of the projects existing up to 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.

7. The petitioner has considered the capital expenditure admitted by the Commission in the order dated 18.5.2004 *ibid*. The petitioner has not claimed additional capitalisation on works. The petitioner has considered additional capitalisation on account of FERV. The capital expenditure and FERV considered by the petitioner for tariff purpose is given hereunder:

(Rs.in lakh)

Name of the Element	Admitted capital cost	FERV for the period 1.4.2001 to 31.3.2004	Capital expenditure
(i) 220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system	4624.50	(-)17.60	4606.89
(ii) 220 KV S/C RAPP B-Anta transmission line with associated bays at Anta end	2181.05	(-)10.07	2170.97
(iii) 220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end	4211.05	0.00	4211.05
Total	11016.60	(-)27.66	10988.94

Extra Rupee Liability during the years 2001-04:

8. 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

9. Regulation 1.7 of the 2001 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.

10. As no objections are raised by the beneficiaries to petitioner's claim for decapitalization on account of FERV and also, FERV worked out is matching with calculations submitted by the petitioner, the claim has accordingly been considered for tariff calculations.

11. Based on the above, gross block as claimed by the petitioner has been considered for the purpose of tariff for each of the element.

DEBT- EQUITY RATIO

12. 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.”

13. The petitioner has claimed tariff based on debt-equity ratio as considered by the Commission in its order dated 18.5.2004 *ibid*. Based on this, the debt-equity considered by the petitioner for different assets for the purpose of determination of tariff in the present petition is indicated below:

Name of the Element	Debt-equity ratio
(i) 220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system	91.19:8.81
(ii) 220 KV S/C RAPP B-Anta transmission line with associated bays at Anta end	78.46:21.54
(iii) 220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end	71.15:28.85

14. The petitioner has stated in the petition that the approved debt-equity ratio is 80:20. Therefore, in order bring debt and equity as close to the approved debt-equity ratio as possible, the decapitalization on account of FERV in case of 220 kV S/C RAPP B-Udaipur transmission line etc. has been treated as loan and in case of 220 kV S/C RAPP-Anta transmission line, it has been treated as equity. Therefore, debt-

equity ratio and notional equity considered for the purpose of tariff in each case is as under:

Name of the Element	Debt-equity ratio considered	Notional equity on account of FERV	Equity in previous tariff
(i) 220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system	91.19:8.81	407.26	407.26
(ii) 220 KV S/C RAPP B-Anta transmission line with associated bays at Anta end	78.82:21.18	459.80	469.88
(iii) 220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end	71.15:28.85	1215.05	1215.05

RETURN ON EQUITY

15. 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.

16. The petitioner has claimed return on the basis of previous tariff setting along with notional reduction in equity on account of FERV. The same methodology has been followed for working out the return on equity. Thus, the return on equity each year during the tariff period is given hereunder:

Name of the Element	(Rs. in lakh)	
	Notional equity	Return on Equity
(i) 220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system	407.26	57.02
(ii) 220 KV S/C RAPP B-Anta transmission line with associated bays at Anta end	459.80	64.37
(iii) 220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end	1215.05	170.11

INTEREST ON LOAN

17. As per clause (i) of Regulation 56 of the 2004 regulations, interest on loan capital is to be computed loan wise on the loans arrived at in the manner indicated in regulation 54. Further, the loan outstanding as on 1.4.2004 is worked out as the gross loan as per regulation 54 minus cumulative repayment as admitted by the

Commission up to 31.3.2004. The repayment for the period 2004-09 needs to be worked out on normative basis.

18. 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 petition No. 20/2002 have 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 petition No. 20/2002 have been considered as notional loan and the weighted average rate of interest on loan for the year 2004-05 as per above has been applied to arrive at interest on loan.

(iv) In addition to above, in case of assets (i)& (ii), Notional loan component of FERV up to 31.3.2001 as well as per para 3 as above have been considered separately and actual applicable rate of interest on Foreign Loan have been considered to workout the interest on this component.

19. The petitioner has submitted loan details up to 31.3.2004 with reference to tariff period 2004-09 vide letter dated 31.8.2005, based on which, loan allocation approved for the period 2003-04 was reset for the instalments for 2004-09 along with asset-wise allocation . 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 as per the loan allocation considered, for working out weighted average rate of interest. 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 on quarterly basis has been reset at 7.32% per annum payable quarterly w.e.f.

28.6.2005. This has been considered in tariff calculation. In case of year 2005-06, weighted average rate of interest of ICICI loan on days basis has been considered for tariff calculations.

20. PNB I, Corporation Bank and Bank of India Foreign currency loans carry floating rate of interest and rate of interest as applicable as on 1.4.2004 has been considered in the calculation, subject to mutual settlement between the parties in case of any change/resetting of the interest rate during the tariff period.

21. Notional loan arising out of FERV has been worked out as per para 14 above and added to the loan as per previous tariff setting to arrive at total notional loan. Repayment of notional loan arising due to FERV up to 31.3.2004 has been considered in proportion to repayment up to 31.3.2004 of actual loan. Repayment for the year 2001-02 to 2003-04 of the notional loan component of FERV has been considered in proportion to total actual loan repaid during 2001-04. The repayment for the year 2004-05 to 2008-09 of the total notional loan has been worked out as per the following formula:

Maximum of depreciation or [Notional net loan at the beginning of the year x (actual repayment of the respective loan / actual net respective loan at the beginning of the year)].

22. 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.

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

Details of loan	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system						220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end						220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end					
	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on loan																		
Gross Loan as on 1.4.2001	4217.24						1711.17						2996.00					
Addition due to Additional Capitalisation	0.00						0.00						0.00					
Addition due to FERV	(-)17.60						0.00						0.00					
Gross Normative Loan	4199.64	4199.64	4199.64	4199.64	4199.64	4199.64	1711.17	1711.17	1711.17	1711.17	1711.17	1711.17	2996.00	2996.00	2996.00	2996.00	2996.00	2996.00
Cumulative Repayment up to Previous Year		2609.08	2846.08	3083.08	3320.08	3557.08		745.50	847.44	964.30	1081.17	1198.04		2558.57	2673.33	2788.10	2902.87	2996.00
Net Loan-Opening		1590.56	1353.56	1116.56	879.56	642.56		965.67	863.73	746.86	630.00	513.13		437.43	322.67	207.90	93.13	0.00
Repayment during the year		237.00	237.00	237.00	237.00	175.65		101.94	116.87	116.87	116.87	100.12		114.77	114.77	114.77	93.13	0.00
Net Loan-Closing		1353.56	1116.56	879.56	642.56	466.91		863.73	746.86	630.00	513.13	413.01		322.67	207.90	93.13	0.00	0.00
Average Loan		1472.06	1235.06	998.06	761.06	554.74		914.70	805.30	688.43	571.56	463.07		380.05	265.28	150.52	46.57	0.00
Weighted Average Rate of Interest on Loan		8.63%	8.39%	8.03%	7.45%	6.74%		9.40%	8.77%	8.42%	8.17%	7.89%		10.51%	10.60%	10.76%	11.06%	11.86%
Interest		127.06	103.60	80.13	56.67	37.39		85.95	70.60	57.99	46.69	36.53		39.93	28.13	16.20	5.15	0.00

DEPRECIATION

24. 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.

25. As the entire loan for the 220 kV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh-end gets repaid during 2007-08, the depreciation for 2008-09 has been worked out by spreading the balance depreciable value (Rs. 512.35 lakh as on 1.4.2008) over the remaining useful life of the transmission line (25 years as on 1.4.2008), and it comes to Rs. 91.11 lakh for the year 2008.09. The weighted average life of the transmission system works out to 34 years, against the actual life of 25 years up to 31.3.2008. Accordingly, balance useful life has been taken as 9 years.

26. The calculations in support of depreciation allowed are appended below:

(Rs.in lakh)

	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system					220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end					220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Gross depreciable value	4606.89					2170.97					4211.05				
Rate of Depreciation	2.71%					2.78%					2.73%				
Remaining depreciable value	3134.20	2897.20	266.20	2423.20	2186.20	1577.34	1475.40	1358.53	1241.67	1124.80	2736.87	2622.10	2507.33	2392.57	2277.80
Depreciation	125.06	125.06	125.06	125.06	125.06	60.34	60.34	60.34	60.34	60.34	114.77	114.77	114.77	114.77	91.11

ADVANCE AGAINST DEPRECIATION

27. 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

28. 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.

29. In addition to Cumulative depreciation up to 2003-04 (excluding Advance Against Depreciation) as per last tariff setting, depreciation on FERV for the period 2001-04 has been added to arrive at total cumulative depreciation amount as on 31.03.2004.

30. In the calculation, the Advance Against depreciation has been worked out as under:

- (i) 1/10th of gross loan is worked out from the gross notional loan along with notional loan worked out by division of FERV into notional loan and equity.
- (ii) Cumulative loan as well as repayment of notional loan during the year has been considered.
- (iii) Depreciation as worked out as per para 26 above.
- (iv) In addition to cumulative depreciation up to 2003-04 (including Advance Against Depreciation), depreciation on FERV for the period 2001-04 has been added to arrive at total cumulative depreciation amount as on 31.03.2004.

31. The details of Advance Against Depreciation allowed for each element are given hereunder:

	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system						220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end						220 kV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end					
	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09	Up to 31.3.2004	2004-05	2005-06	2006-07	2007-08	2008-09	Up to 31.3.2004	2004-05	2005-06	2006-07		
Advance against Depreciation																		
1/10th of Gross Loan(s)		419.96	419.96	419.96	419.96	419.96		171.12	171.12	171.12	171.12	171.12		299.60	299.60	299.60	299.60	299.60
Repayment of the Loan		237.00	237.00	237.00	237.00	175.65		101.94	116.87	116.87	116.87	100.12		114.77	114.77	114.77	93.13	0.00
Minimum of the above		237.00	237.00	237.00	237.00	175.65		101.94	116.87	116.87	116.87	100.12		114.77	114.77	114.77	93.13	0.00
Depreciation during the year		125.06	125.06	125.06	125.06	125.06		60.34	60.34	60.34	60.34	60.34		114.77	114.77	114.77	114.77	91.11
(A) Difference		111.94	111.94	111.94	111.94	50.58		41.60	56.53	56.53	56.53	39.78		0.00	0.00	0.00	0.00	0.00
Cumulative Repayment of the Loan		2846.08	3083.08	3320.08	3557.08	3732.72		847.44	964.30	1081.17	1198.04	1298.16		2673.33	2788.10	2902.87	2996.00	2996.00
Cumulative Depreciation/ Advance against Depreciation	1012.00	1249.00	1486.00	1723.00	1960.00	2135.65	376.54	478.47	595.34	712.21	829.07	929.19	1053.08	1167.84	1282.61	1397.38	1512.14	1603.26
(B) Difference		1597.08	1597.08	1597.08	1597.08	1597.08		368.96	368.96	368.96	368.96	368.96		1505.49	1505.49	1505.49	1483.86	1392.74
Advance against Depreciation Minimum of (A) and (B)		111.94	111.94	111.94	111.94	50.58		41.60	56.53	56.53	56.53	39.78		0.00	0.00	0.00	0.00	0.00

OPERATION & MAINTENANCE EXPENSES

32. 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

33. The petitioner has claimed O & M expenses for 574.96(230.3+87.00+257.66) ckt- km of line length and 4 bays (2 at Chittorgarh, 1 at Udaipur and 1 at Anta Sub-stations), which has been allowed. Accordingly, the petitioner's entitlement to O & M expenses has been worked out as given hereunder:

(Rs. in lakh)

	220 kV S/C RAPP B-Udaipu transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system					220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end					220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses for line length	52.28	54.34	56.65	58.73	61.26	19.75	20.53	21.40	22.19	23.14	58.49	60.81	63.38	65.70	68.54
O&M expenses for bays	28.12	29.25	30.42	31.63	32.90	28.12	29.25	30.42	31.63	32.90	56.24	58.50	60.84	63.26	65.80
TOTAL	80.40	83.60	87.07	90.36	94.16	47.87	49.78	51.82	53.82	56.04	114.73	119.31	124.22	128.96	134.34

34. 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

35. 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. In the present case, element wise capital expenditure on the date of commercial operation which has been considered as the historical cost 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 necessary details are given hereunder:

Name of the Element	Date of Commercial Operation	Capital Expenditure (Rs. in lakh) on the date of commercial operation	Escalated spares Cost (Rs. in lakh)
(i) 220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system	1.1.2000	4603.40	58.99
(ii) 220 KV S/C RAPP B-Anta transmission line with associated bays at Anta end	1.8.2000	2174.46	26.93
(iii) 220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end	1.11.1998	4211.05	57.76

(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 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis 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.

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

(Rs.in lakh)

	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system					220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end					220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Maintenance Spares	58.99	62.53	66.28	70.26	74.47	26.93	28.55	30.26	32.08	34.00	57.76	61.23	64.90	68.80	72.92
O & M expenses	6.70	6.97	7.26	7.53	7.85	3.99	4.15	4.32	4.49	4.67	9.56	9.94	10.35	10.75	11.20
Receivables	86.17	82.80	79.48	76.14	63.19	51.43	51.71	49.95	48.41	44.26	75.70	74.54	73.42	72.43	68.53
Total	151.86	152.30	153.02	153.92	145.51	82.35	84.41	84.53	84.97	82.93	143.02	145.71	148.67	151.97	152.65
Rate of Interest %	10.25	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%
Interest	15.57	15.61	15.68	15.78	14.91	8.44	8.65	8.66	8.71	8.50	14.66	14.94	15.24	15.58	15.65

TRANSMISSION CHARGES

37. 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 summarized below.

(Rs.in lakh)

	220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system					220 kV S/C RAPP B-Anta transmission line with associated bays at Anta end					220 KV D/C RAPP-B – Chittorgarh transmission line with associated bays at Chittorgarh end				
	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09	2004-05	2005-06	2006-07	2007-08	2008-09
Depreciation	125.06	125.06	125.06	125.06	125.06	60.34	60.34	60.34	60.34	60.34	114.77	114.77	114.77	114.77	91.11
Interest on Loan	127.06	103.60	80.13	56.67	37.39	85.95	70.60	57.99	46.69	36.53	39.93	28.13	16.20	5.15	0.00
Return on Equity	57.02	57.02	57.02	57.02	57.02	64.37	64.37	64.37	64.37	64.37	170.11	170.11	170.11	170.11	170.11
Advance against Depreciation	111.94	111.94	111.94	111.94	50.58	41.60	56.53	56.53	56.53	39.78	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	15.57	15.61	15.68	15.78	14.91	8.44	8.65	8.66	8.71	8.50	14.66	14.94	15.24	15.58	15.65
O & M Expenses	80.40	83.60	87.07	90.36	94.16	47.87	49.78	51.82	53.82	56.04	114.73	119.31	124.22	128.96	134.34
Total	517.05	496.83	476.90	456.82	379.13	308.57	310.27	299.72	290.46	265.57	454.20	447.25	440.53	434.56	411.21

38. 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 Northern Region and shall be shared by the regional beneficiaries in accordance with the 2004 regulations.

39. 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.

40. This order disposes of Petition No.77/2004.

Sd-/
(A.H. JUNG)
MEMBER

sd-/
(BHANU BHUSHAN)
MEMBER

sd-/
(K.N.SINHA)
MEMBER

sd-/
(ASHOK BASU)
CHAIRPERSON

New Delhi dated the 13th January 2006

SUMMARY SHEET

Name of the Element:		220 kV S/C RAPP B-Udaipur transmission line with associated bays at Udaipur end and LILO of 220 kV D/C RAPP A-Kota line at RAPP-B including PLCC system				220 kV S/C RAPP-B _Anta transmission line with associated bays at Anta end				220 KV D/C RAPP-B - Chittorgarh transmission line with associated bays at Chittorgarh end			
Actual DOCO:		01.01.2000				01.08.2000				01.11.98			
Tariff setting Period:		2004-09				2004-09				2004-09			
(Rs.in lacs)													
1	Capital Cost of the Project	4624.50				2181.05				4211.05			
2	Cumulative depreciation recovered as on 31.03.97	0.00				0.00				0.00			
3	Net Fixed Assets as on 1.4.1997	4624.50				2181.05				4211.05			
4	Admitted Capital Cost as on 01.04.2004 for Calculation of Debt and Equity	4624.50				2181.05				4211.05			
5	Additional Capitalisation(works)	0.00				0.00				0.00			
	For the year 2001-02	0.00				0.00				0.00			
	For the year 2002-03	0.00				0.00				0.00			
	For the year 2003-04	0.00				0.00				0.00			
	Total	0.00				0.00				0.00			
6	Additional Capitalisation(FERV)	-17.60				-10.07				0.00			
	For the year 2001-02	14.25				8.15				0.00			
	For the year 2002-03	-7.74				-4.43				0.00			
	For the year 2003-04	-24.11				-13.80				0.00			
	Total	-17.6				-10.07				0.00			
7	Total Capital Cost as on 01.04.2004(2+3+4)	4606.89				2170.97				4211.05			
8	Means of Finance :												
	Debt	91.16%	4199.64		78.82%	1711.17		71.15%	2996.00				
	Equity	8.84%	407.26		21.18%	459.80		28.85%	1215.05				
	Total	100.00%	4606.89		100.00%	2170.97		100.00%	4211.05				
9	Gross Loan as on 01.04.2004	4199.64				1711.17				2996.00			
	Cumulative Repayment up to 31.3.2009 :	3732.72				1298.16				2996.00			
	Repaid up to 31.03.2004	2609.08				745.50				2558.57			
	From 01.04.01 to 31.03.2004 (ACE & FERV)	0.00				0.00				0.00			
	From 01.04.2004 to 31.03.2009	1123.64				552.66				437.43			
	Total	3732.7226	3732.72		1298.16		1298.16		2996.00				
10	Balance Loan to be repaid beyond 31.03.2009 :	466.91				413.01				0.00			
11	Depreciation recovered up to 31.03.09 :	2135.65				929.19				1603.26			
		Dep	AAAD	Total	Dep	AAAD	Total	Dep	AAAD	Total			
	Recovered up to 31.03.2004	698.49	313.19	1011.68	265.19	111.16	376.35	918.18	134.90	1053.08			
	From 01.04.01 to 31.03.2004 (ACE & FERV)	0.32	0.00	0.32	0.19	0.00	0.19	0.00	0.00	0.00			
	From 01.04.2004 to 31.03.2009	625.32	498.33	1123.64	301.69	250.97	552.66	550.18	0.00	550.18			
	Total	2135.6471		2135.65			929.19			1603.26			
12	Balance Depreciation to be recovered beyond 31.03.2009 :	2010.56				1024.68				2186.69			
	Capital cost for the purpose of Depreciation	4624.50				2181.05				4211.05			
	ACE + FERV	-17.60				-10.07				0.00			
	Capital cost as 01.04.2004	4606.89				2170.97				4211.05			
	Less: Land Cost	0				0.00				0.00			
		4606.89				2170.97				4211.05			
	90% of Capital Cost as above	4146.2				1953.87				3789.95			
	Cum. Depreciation to be recovered upto 31.03.09	2135.65				929.19				1603.26			
	Balance	2010.56				1024.68				2186.69			