

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

1. **Shri Ashok Basu, Chairman,**
2. **Shri K.N.Sinha, Member**
3. **Shri. Bhanu Bhushan, Member**

Petition No.111//2002

In the matter of

Petition for approval of tariff for 1x 500 MW HVDC back-to-back station at Sasaram with associated AC switchyard at Sasaram and Allahabad and Auxiliary System including 400 kV Sarnath Allahabad D/C line with associated bays etc. under Eastern-Northern inter-regional HVDC transmission system for the period from 1.12.2002 to 31.3.2004.

And in the matter of

Power Grid Corporation of India Ltd.

.... Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
2. Himachal Pradesh State Electricity Board, Shimla
3. Punjab State Electricity Board, Patiala
4. Haryana Vidyut Prasaran Nigam Ltd., Panchkula
5. Power Development Department, Govt. of J&K, Jammu
6. Uttar Pradesh Power Corporation Ltd., Lucknow
7. Delhi Vidyut Board, New Delhi
8. Chandigarh Administration, Chandigarh
9. Uttaranchal Power Corporation Ltd., Dehradun
10. Bihar State Electricity Board, Patna
11. West Bengal State Electricity Board, Kolkata
12. Grid Corporation of Orissa Ltd., Bhubaneswar
13. Damodar Valley Corporation, Kolkata
14. Power Dept., Govt. of Sikkim, Gangtok
15. Jharkhand State Electricity Board, Ranchi

.....Respondents

The following were present

1. Shri U.C. Misra, Director, PGCIL
2. Shri Umesh Chandra, ED(Comml.), PGCIL
3. Shri P.C. Pankaj, AGM, PGCIL
4. Shri U.K. Tyagi, DGM, PGCIL
5. Shri D.D. Dhayaseelan, DGM (F&A), PGCIL
6. Shri C. Kannan, Chief Manager (Fin.), PGCIL

7. Shri R.K. Arora, XEN/T, HVPN
8. Shri G.M. Agarwal, SE(ISP), RVPN
9. Shri A.K. Tandon, EE, UPPCL
10. Shri V.K. Singh, BSEB

ORDER
(DATE OF HEARING: 23.3.2004)

In this petition, the petitioner, Power Grid Corporation of India Ltd has sought approval for tariff in respect of 1x 500 MW HVDC back-to-back station at Sasaram with associated AC switchyard at Sasaram & Allahabad and Auxiliary System, including 400 kV Sarnath-Allahabad D/C line with associated bays etc. under Eastern-Northern inter-regional HVDC transmission system for the period 1.12.2002 to 31.3.2004 based on terms and conditions of tariff contained in the Commission's notification dated 26.3.2001, (hereinafter referred to as "the notification dated 26.3.2001").

2. The petitioner was entrusted with the implementation of Eastern-Northern Inter-regional HVDC Transmission System. The administrative approval and expenditure sanction was initially accorded by the Central Government in Ministry of Power vide its letter dated 4.9.1998 at an estimated cost of Rs.67155.00 lakh based on 3rd quarter 1997 price level. As per the investment approval, the project was to be commissioned within 39 months from that date, i.e. by December 2001. Subsequently, there had been a change in the scope of work based on certain system studies. Accordingly, the revised cost estimate for Rs.59310.00 lakh, including IDC of Rs.4607.00 lakh and financing charges of Rs.464.00 lakh was approved. The scope of work included:

(a)	1 x 500 MW HVDC back-to-back substation at Sasaram (new)
(b)	400 kV Biharshariff – Sasaram D/C line – 194 Km.
(c)	400 kV Sasaram – Allahabad D/C line (including LILO at Sarnath) – 218 Km.
(d)	Bay Extension (2 Nos.) at existing Biharshariff (POWEGRID) sub-station
(e)	Bay Extension (2 Nos.) at existing Allahabad (POWERGRID) sub-station
(f)	LILO of 132 kV Dehri-Karamnasa S/C line at Sasaram
(g)	132/33 kV bays alongwith transformers at Sasaram
(h)	Additional work for utilization of 400 kV Biharshariff-Sasaram-Allahabad D/C line for transfer of surplus power from Eastern Region

3. The present petition covers the following assets, declared under commercial operation on 1.12.2002:

- (i) 1x500 MW HVDC back to back sub-station at Sasaram(new);
- (ii) 400 kV Sarnath-Allahabad D/C line;
- (iii) Bay Extension (2Nos.) at existing Allahabad (Powergird) sub-station.;
- (iv) LILO of 132 kV Dehri-Karammnasa S/C line at Sasaram:
- (v) 132/33 kV bays alongwith transformers at Sasaram : and

4. The tariff for the remaining assets has been approved in petition No. 55/2002.

5. The assets noted in para 3 above were declared under commercial operation on 1.12.2002.

6. Based on the above-noted facts, the petitioner has sought approval for transmission charges for the period from 1.12.2002 to 31.3.2004 as under based on capital cost of Rs.35704.10 lakh:

(Rs. in lakh)

Transmission Tariff	2002-2003	2003-2004
Interest on Loan	576.11	1689.21
Interest on Working Capital	34.41	112.15
Depreciation	371.39	1167.54
Advance against Depreciation	0.00	0.00
Return on Equity	70.22	456.28
O & M Expenses	314.74	1000.88
Total	1366.87	4426.06

7. In addition, the petitioner has prayed for approval of other charges like Foreign Exchange Rate Variation, Income Tax, Incentive, Development Surcharge, late payment surcharge, other statutory taxes, levies, cess, filing fee, etc in terms of the notification dated 26.3.2001.

8. The petitioner has claimed interest on working capital as per the details given below:

(Rs in lakh)

	2002-03	2003-04
Maintenance Spares	176.24	198.43
O & M expenses	78.69	83.41
Receivables	683.44	737.68
Total	938.37	1019.52
Rate of Interest	11.00%	11.00%
Interest (Annual)	103.22	112.15
Interest (Pro rata)	34.41	

CAPITAL COST

9. As laid down in the notification dated 26.3.2001, the project cost as approved by CEA or an appropriate independent agency, other than Board of Directors of the generating company, as the case may be, shall be the basis for computation of tariff.

10. As noted above, the original investment approval for the Eastern – Northern inter-regional HVDC Transmission System was accorded by the Central Govt. in Ministry of Power vide letter dated 4th September 1998 at an estimated cost of Rs 67156.00 lakh at 3rd quarter 1997 price level. Subsequently, scope of work was changed based on the system studies. The techno-economic clearance for the project with revised scope was issued by CEA vide office memorandum dated 21.2.2003 at an estimated cost of Rs.59310.00 lakh, including IDC of Rs.4607.00 lakh and financing charges of Rs.464.00 lakh (Fourth quarter, 2001 price level). According to the petitioner the apportioned approved cost of the assets covered under the present petition is Rs. 41076.00 lakh.

11. As per the auditor's certificate dated 20.9.2004 furnished by the petitioner, the estimated completion cost of the part of the project covered in the present petition is Rs 35704.10 lakh. Based on the audited expenditure details submitted by the petitioner, the gross block, including IDC of Rs 2704.78 lakh (indicated in the Auditor's certificate), is worked out as under:

Expenditure up to date of commercial operation (30.11.2002):	Rs.34066.45 lakh
Gross block on date of commercial operation	:Rs.34066.45 lakh
Expenditure from date of commercial operation to 31.3.2003	:Rs.224.86 lakh
Gross block as on 31.3.2003	:Rs.34291.31 lakh
Expenditure from 1.4.2003 to 31.3.2004	:Rs.486.92 lakh
Gross block as on 31.3.2004	:Rs.34778.23 lakh
Balance anticipated expenditure	:Rs.925.87 lakh
Total Estimated completion cost	:Rs.35704.10 lakh

(The above includes initial spares for Rs 827.72 lakh)

12. There is no cost over-run for the assets covered in this petition.

13. It is noticed that as on 1.12.2002, the date of commercial operation, the petitioner has incurred a total expenditure of Rs.34066.45 lakh.

TIME OVER-RUN

14. The scheduled date of commissioning of the transmission assets was December 2001. These assets have, however, been declared under commercial operation on 1.12.2002. Thus, there is a delay of about 11 months in the commissioning. The petitioner has explained that HVDC portion of the transmission assets was to be financed through World Bank loan and the execution was to be through international competitive bidding. The petitioner is stated to have invited technical bids during August 1998 in anticipation of the Government approval. However, because of imposition of economic sanctions, the loan through the World Bank did not materialize. It is further stated that the notification for waiver of customs duty was not issued simultaneously with sanction for the project accorded by the Central Government. In view of this, the process of evaluation of international competitive bids got delayed. The notification was issued by Ministry of Finance on 8.6.1999 for waiver of customs duty. In this manner, there occurred a delay of about 10 months. The petitioner has further explained that

for easy operation of the project, deemed export status was notified on 28.7.1999 after a delay of about 10 months from the date of investment approval. The petitioner has also referred to certain law and order problems in the State of Bihar through which the transmission line traverses, as another reason for the time over-run. BSEB in its reply has stated that all the necessary formalities were completed by July 1999. Therefore, the petitioner still had more than 2 years time at its disposal and could complete the transmission assets by December 2001.

15. We have considered the rival submissions. We are satisfied that delay in execution of the transmission assets is not on account of any fault of the petitioner. It is also noted that the estimated completion cost of Rs.35704.10 lakh is still within the approved apportioned cost of Rs.41076.00 lakh. On these considerations, we have not taken into consideration the delay of about 11 months for the purpose of computation of tariff.

16. The tariff is being computed based on the gross block of Rs. 34066.45 lakh as on the date of commercial operation.

ADDITIONAL CAPITALISATION

17. The notification dated 26.3.2001 provides 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.

18. The petitioner has claimed tariff by considering additional capital expenditure on works for the period after 1.12.2002 in the petition. As the additional capital expenditure does not exceed 20% of the approved capital cost, the question of considering additional capitalisation on works at this stage does not arise. Similarly, the anticipated capital expenditure has also been left out of consideration for the purpose of present tariff petition. Thus, the capital cost of Rs.34066.45 lakh as on the date of commercial operation has been considered for tariff computation.

SOURCES OF FINANCING. DEBT – EQUITY RATIO

19. As per Para 4.3 of the notification dated 26.3.2001, capital expenditure of the transmission system shall be financed as per approved financial package set out in the techno-economic clearance of CEA or as approved by an appropriate independent agency, as the case may be. As per TEC of CEA, the complete transmission system is to be funded in the debt-equity ratio of 79.56:20.44. However, debt-equity or financial package for the components covered in the present petition are not given separately. Debt and equity on the date of commercial operation of the transmission assets were in the ratio of 96.47:3.53. Due to minor difference in exchange rate, the loan amount on the date of commercial operation have been re-calculated and based on this debt-equity ratio works out to 96.54:3.46. Since this debt-equity ratio is favourable to the respondents, it has been considered for determination of tariff in the present petition. Based on this ratio, a total loan of Rs.32888.68 lakh and equity of Rs.1177.77 lakh, as on the date of commercial operation are being considered.

INTEREST ON LOAN

20. As provided in the notification dated 26.3.2001, interest on loan capital is to be computed on the outstanding loans, duly taking into account the schedule of repayment, as per financial package approved by CEA or any independent agency. In keeping with this provision, while calculating Interest on loan, closing balance of the notional loan as on 31.3.2001 has been taken as opening balance of the loan as on 1.4.2001.

21. The interest on loan has been worked out by considering the gross amount of loan, repayments for the years 2002-03 and 2003-04 and rates of interest as per the loan details submitted by the petitioner under affidavit dated 16.2.2005. The petitioner has considered exchange rate as on 4.12.2002 in case of BOI (FC) and IBRD-II loans, though the assets were declared under commercial operation on 1.12.2002. In our calculations, exchange rate as on 2.12.2002 has been considered, since 1.12.2002, the date of commercial operation, was a closed holiday.

22. The details of calculation of interest on loan are as given below:

Calculation of Interest on Loan

(Rs. in lakh)

Details of Loan	2002-03	2003-04
No.of days in the Year	365	366
ICICI		
Gross Loan -Opening	1377.00	1377.00
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	1377.00	1377.00

Repayment during the year	0.00	137.70
Net Loan-Closing	1377.00	1239.30
Rate of Interest	12.15%	12.15%
Interest	55.46	154.64
Repayment Schedule	10 Annual Instalments from 29.06.2003	
Bond-VII		
Gross Loan -Opening	107.00	107.00
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	107.00	107.00
Repayment during the year	0.00	21.40
Net Loan-Closing	107.00	85.60
Rate of Interest	13.64%	13.64%
Interest	4.84	12.67
Repayment Schedule	5 Annual Instalments from 04.08.2003	
Corp. Bank		
Gross Loan -Opening	53.00	53.00
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	53.00	53.00
Repayment during the year-	0.00	2.65
Net Loan-Closing	53.00	50.35
Rate of Interest	11.00%	11.00%
Interest	1.93	5.81
Repayment Schedule	20 Half yearly Instalments from 10.03.2004	
PNB-I		
Gross Loan -Opening	107.00	107.00
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	107.00	107.00
Repayment during the year	0.00	10.70
Net Loan-Closing	107.00	96.30
Rate of Interest	8.91%	8.91%
Interest	3.16	9.53
Repayment Schedule	10 Annual Instalments from 30.03.2004	
Bond-IX		
Gross Loan -Opening	4493.00	4493.00
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	4493.00	4493.00
Repayment during the year	0.00	449.30
Net Loan-Closing	4493.00	4043.70
Rate of Interest	12.25%	12.25%
Interest	182.46	516.86
Repayment Schedule	10 Annual Instalments from 22.08.2003	

Bond-X		
Gross Loan -Opening	1053.00	1053.00
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	1053.00	1053.00
Repayment during the year	0.00	0.00
Net Loan-Closing	1053.00	1053.00
Rate of Interest	10.90%	10.90%
Interest	38.05	114.78
Repayment Schedule	12 Annual Instalments from 21.06.2004	
Bond XIII (Option-II) (Refinancing of SBI-II from Bond XIII- Option-II on 31.10.2002)		
Gross Loan -Opening	83.00	83.00
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	83.00	83.00
Repayment during the year	0.00	13.83
Net Loan-Closing	83.00	69.17
Rate of Interest	7.85%	7.85%
Interest	2.16	5.79
Repayment Schedule	Bond XIII -Option-II (6 Annual Instalments from 31.07.2003)	
BOI (Foreign Currency Loan)		
Gross Loan -Opening	1860.51	1860.51
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	1860.51	1860.51
Repayment during the year- 10 th June	0.00	0.00
	1860.51	1860.51
Repayment during the year- 10 th December	0.00	0.00
Net Loan-Closing	1860.51	1860.51
Rate of Interest	3.07%	3.07%
Interest	18.93	57.12
Repayment Schedule	Equal Half yearly instalments from 10.06.2004	
IBRD-II		
Gross Loan -Opening	23755.17	23755.17
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	23755.17	23755.17
Repayment during the year- 15 th June	0.00	0.00
	23755.17	23755.17
Repayment during the year- 15 th December	0.00	0.00
Net Loan-Closing	23755.17	23755.17
Rate of Interest	3.42%	3.42%
Interest	269.32	812.43

Repayment Schedule	Equal Half yearly instalments from 15.12.2006	
Total Loan		
Gross Loan -Opening	32888.68	32888.68
Cumulative Repayment upto Previous Year	0.00	0.00
Net Loan-Opening	32888.68	32888.68
Repayment during the year	0.00	635.58
Net Loan-Closing	32888.68	32253.09
Interest	576.32	1689.62

22. Corporation Bank, PNB-1, Bank of India (Foreign Currency) and IBRD –II loans carry floating rates of interest. For the purpose of computation of interest on loan, the interest rates on as submitted by the petitioner have been taken into consideration. In view of this, any changes/resetting of the interest rate of the above loans during the tariff period covered in this petition would be settled mutually between the parties and in case of their inability to do so, any one of them may approach the Commission for the appropriate decision.

DEPRECIATION

23. Based on the notification dated 26.3.2001, the petitioner is entitled to claim depreciation. The salient provisions for calculation of depreciation as per the notification dated 26.3.2001 are reproduced below:

- (i) The value base for the purpose of depreciation shall be the historical cost of the asset:

(ii) Depreciation shall be calculated annually as per straight-line method at the rate of depreciation as prescribed in the Schedule attached to the notification dated 26.3.2001:

Provided that the total depreciation during the life of the project shall not exceed 90% of the approved original cost. The approved original cost shall include additional capitalisation on account of foreign exchange rate variation also.

- (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;
- (v) Depreciation against assets relating to environmental protection shall be allowed on case-to-case basis at the time of fixation of tariff subject to the condition that the environmental standards as prescribed have been complied with during the previous tariff period.

24. The petitioner has claimed the depreciation on the capital expenditure of Rs.35704.10 lakh in accordance with the above principles.

25. Based on the above, depreciation for individual items of capital expenditure has been calculated on the capital cost of Rs. 34066.45 lakh at the rates as prescribed in the notification dated 26.3.2001. While approving depreciation

component of tariff, the weighted average depreciation rate of 3.26% has been worked out. The capital cost has been considered in accordance with the details furnished by the petitioner. The calculations in support of weighted average rate of depreciation of 3.26% are appended hereinbelow:

(Rs. in lakh)

	Capital Cost	Apportioned TEC cost	Rate of Depreciation	Depreciation
Capital Expenditures as on 30.11.2002				
Land	121.13		0%	0.00
Building & Other Civil Works	1068.37		1.80%	19.23
Sub-Station Equipment	23806.09		3.6%	857.02
Transmission Line	9013.78		2.57%	231.65
PLCC	57.08		6.00%	3.42
Total	34066.55	41076.00		1111.32
Weighted Average Rate of Depreciation			3.26%	

26. Accordingly, depreciation has been allowed as calculated below:

(Rs. in lakh)

		2002-03	2003-04
Rate of Depreciation	3.26%		
Depreciable Value	30659.81		
Balance Useful life of the asset			
Remaining Depreciable Value		30659.81	30289.37
Depreciation		370.44	1111.32

ADVANCE AGAINST DEPRECIATION

27. In addition to allowable depreciation, the petitioner becomes entitled to Advance Against Depreciation when originally scheduled loan repayment exceeds the

depreciation allowable as per schedule to the notification. Advance Against Depreciation is computed in accordance with the following formula:

AAD = Originally scheduled loan repayment amount subject to a ceiling of 1/12th of original loan amount minus depreciation as per schedule.

28. The petitioner has not claimed Advance Against Depreciation.

29. The entitlement of the petitioner has been considered in accordance with the notification dated 26.3.2001. In the calculation, Advance Against Depreciation has been worked out on the basis of gross loan and repayment and depreciation as worked out above. The petitioner's entitlement to Advance Against Depreciation has been calculated as 'nil' as shown below:

(Rs. in lakh)		
Advance Against Depreciation	2002-03	2003-04
1/12th of Gross Loan(s)	2740.72	2740.72
Scheduled Repayment of the Loan(s)	0.00	635.58
Minimum of the above	0.00	635.58
Depreciation during the year	370.44	1111.32
Advance Against Depreciation	0.00	0.00

OPERATION & MAINTENANCE EXPENSES

30. In accordance with the notification, Operation and Maintenance expenses, including expenses on insurance, if any, are to be calculated as under:

- i) Where O&M expenses, excluding abnormal O&M expenses, if any, on sub-station (OMS) and line (OML) are separately available for each region, these shall be normalised by dividing them by number of bays

and line length respectively. Where data as aforesaid is not available, O&M expenses in the region are to be apportioned to the sub-station and lines on the basis of 30:70 ratio and these are to be normalised as below:

$$\text{O\&M expenses per Unit of the line length in Kms (OMLL)} = \frac{\text{Expenses for lines (OML)}}{\text{Average line length in Kms (LL)}}$$

$$\text{O\&M expenses for sub-stations (OMBN)} = \frac{\text{O\&M expenses for substations (OMB)}}{\text{Average number of bays (BN)}}$$

- ii) The five years average of the normalised O&M expenses for lines and for bays for the period 1995-96 to 1999-2000 is to be escalated at 10% per annum for two years (1998-99 and 1999-2000) to arrive at normative O&M expenses per unit of line length and per bay for 1999-2000.
- iii) The normative O&M per unit length and normative O&M per bay for the year 1999-2000 for the region derived in the preceding paragraph is to be escalated @ 6% per annum to obtain normative values of O&M expenses per unit per line length and per bay in the relevant year. These normative values are to be multiplied by line length and number of bays (as the case may be) in a given system in that year to compute permissible O&M expenses for the system.
- iv) The escalation factor of 6% per annum is to be used to revise normative base figure of O&M expenses. Any deviation of the escalation factor computed from the actual inflation data that lies within 20% of the

notified escalation factor of 6% shall be absorbed by utilities/beneficiaries.

31. The respondent, RRVPNL has raised the objection that the claim of O &M expenses on the basis of O & M expenses of Eastern Region only is not correct as the project belongs to both Northern and Eastern regions. The petitioner has submitted that the booking of cost of this project is in Eastern region. Therefore, O & M has been claimed based on O &M expenses applicable to Eastern region. We are satisfied with the explanation given by the petitioner to claim O&M expenses applicable for Eastern region.

32. The respondent, RRVPNL has further raised an objection to the difference between the number of bays considered in original petition, that is, 28 bays and in the amended petition, that is, 39 bays. In this regard, the petitioner has submitted that the earlier petition for provisional tariff was filed based on the tentative information as was available. However, after declaration of the commercial operation of the transmission assets, the various in puts viz. bay and line length were frozen. The claim in the amended petition was based on final data. This explanation of the petitioner is also found to be satisfactory.

33. Based on the above considerations, the normalized operation and maintenance expenses have been worked out in other petitions pertaining to Eastern Region as under:

NORMALIZED O&M EXPENSES FOR EASTERN REGION

(Rs. in lakh)

S. NO.	Items	1995-96	1996-97	1997-98	1998-99	1999-2000	Total for five years 95-96 to 99-00	99-00	2000-01	2001-02	2002-03	2003-04
1	Total O&M expenses(Rs. Lakhs)	2529.29	2601.18	3586.76	4261.31	4490.56						
2	Abnormal O&M expenses	0.00	23.33	0.68	24.78	143.56	192.35					
3	Normal O&M expenses (S.No. 1 -S.NO. 2)	2529.29	2577.85	3586.08	4236.53	4347.00						
4	OML (O&M for lines)= 0.7 X S. NO.3	1770.50	1804.49	2510.25	2965.57	3042.90	12093.71					
5	OMS (O&M for substation) = 0.3XS.NO.3	758.79	773.35	1075.82	1270.96	1304.10	5183.02					
6	Line length at beginning of the year in Kms.	4418.70	4418.70	4418.70	4482.70	4665.70						
7	Line length added in the year in Kms.	0.00	0.00	64.00	183.00	86.00						
8	Line length at end of the year in Kms.	4418.70	4418.70	4482.70	4665.70	4751.70						
9	LL (Average line length in the Region)	4418.70	4418.70	4450.70	4574.20	4708.70	22571.00					
10	NO. of bays at beginning of the year	76	88	88	90	92						
11	NO. of bays added in the year	12	0	2	2	1						
12	NO. of bays at the end of the year	88	88	90	92	93						
13	BN (Average number of bays in the Region)	82.0	88.0	89.0	91.0	92.5	442.50					
14	AVOMLL(OML/LL)	0.40	0.41	0.56	0.65	0.65	2.668					
15	AVOMBN(OMS/BN)	9.25	8.79	12.09	13.97	14.10	58.194					
16	NOMLL(allowable O&M per unit of line length)			0.5335	0.5869	0.6456		0.6456	0.6843	0.7254	0.7689	0.8150
17	NOMBN(Allowable O&M per bay)			11.6389	12.8028	14.0831		14.0831	14.9280	15.8237	16.7731	17.7795
18	NOMLL(as calculated by petitioner)			0.6000				0.7300	0.7700	0.8200	0.8700	0.9200
19	NOMBN(as calculated by petitioner)			13.0500				15.7900	16.7400	17.7400	18.8000	19.9300

34. The differences in NOMLL and NOMBAN as calculated by the petitioner and as allowed are mainly on account of certain expenses disallowed by us as explained in preceding paragraphs. Using these normative values, O&M charges have been calculated.

35. In our calculations the escalation factor of 6% per annum has been used. In accordance with the notification, if the escalation factor computed from the observed data lies in the range of 4.8% to 7.2%, this variation shall be absorbed by the petitioner. In case of deviation beyond this limit, adjustment shall be made on by applying actual escalation factor arrived at on the basis of weighted price index of CPI for industrial workers (CPI_IW) and index of selected component of WPI (WPI_TR).

36. The petitioner has claimed O&M expenses for line length of 289 km. In response to the objection raised by RRVPNL, the petitioner vide its affidavit dated 22.1.2004 has confirmed that line length. Therefore, the line length of 289 km has been considered to arrive at admissible O&M expenses. The petitioner has claimed O&M expenses for 39 bays. On scrutiny, it is observed that the petitioner has considered separate bays labeled as 'Converter Tie Bay' and 'Converter Transformer Bay' both in Northern region and Eastern region. In fact, there is only one bay in each of the regions. This has resulted in higher claim. Accordingly, 2 bays have been omitted in computation of O&M expenses and 37 bays have been considered for computation of admissible O&M expenses.

37. O&M expenses allowed are given hereunder:

2002-03			2003-04		
Line length in ckm	No. of bays	O&M expenses (Rs. in lakh)	Line length in ckm	No. of bays	O&M expenses (Rs. in lakh)
289	37	280.94	289	37	893.38

RETURN ON EQUITY

38. In accordance with the notification, the petitioner is entitled to return on equity at the rate of 16% per annum. For the purpose of tariff equity of Rs.1177.77 lakh has been considered. On the above basis, the petitioner shall be entitled to return on equity of Rs. 62.81 lakh during 2002-03 and Rs. 188.44 lakh during 2003-04.

INTEREST ON WORKING CAPITAL

39. As provided in the notification, the interest on working capital shall cover:

- (a) Operation and maintenance expenses (cash) for one month;
- (b) Maintenance spares at a normative rate of 1% of the capital cost less 1/5th of the initial capitalised spares. Cost of maintenance spares for each subsequent year shall be revised at the rate applicable for revision of expenditure on O & M of the transmission system; and
- (c) Receivables equivalent to two months' average billing calculated on normative availability level, which is 98%.

40. In keeping with the above methodology, working capital has been worked out, on the basis of capital expenditure as on the date of commercial operation. The value of maintenance spares has been escalated @ 6% per annum for the years 2002-03 and 2003-04. Deduction of 1/5th of the initial capitalised spares has been considered

in the calculations. The petitioner has claimed interest on working capital at the rate of 11.00%, based on annual SBI PLR for the year 2001-2002. We have allowed interest @ 10.75% as applicable on the date of commercial operation as separately by the Commission in certain other petitions. The detailed calculations in support of interest on Working Capital are as under:

Interest on Working Capital

(Rs. in lakh)

		2002-03	2003-04
Rate of Escalation for maintenance spares		6%	6%
Maintenance Spares	1%	175.12	178.62
O & M expenses		70.24	74.45
Receivables		661.51	663.55
Total		906.86	916.62
Rate of Interest		10.75%	10.75%
Interest		32.50	98.54

TRANSMISSION CHARGES

41. In the light of above discussion, we approve the transmission charges as given in the Table below:

TABLE

(Rs. in lakh)

Transmission Tariff	2002-03	2003-04
Interest on Loan	576.32	1689.62
Interest on Working Capital	32.50	98.54
Depreciation	370.44	1111.32
Advance against Depreciation	0.00	0.00
Return on Equity	62.81	188.44
O & M Expenses	280.94	893.38
Total	1323.01	3981.30

42. The difference between the transmission charges claimed and those allowed by us is primarily attributable to the difference in capital cost considered by the petitioner and that considered by us.

43. 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 notification dated 26.3.2001 subject to directions if any, of the superior courts. The petitioner shall also be entitled to recovery of filing fee of Rs 2 lakh, which shall be recovered from the respondents in five monthly installments of Rupees forty thousand each and shall be shared by the respondents in the same ratio as other transmission charges.

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

45. The transmission charges approved by us 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 notification dated 26.3.2001.

41. This order disposes of Petition No.111/2002.

Sd/-
(BHANU BHUSHAN)
MEMBER

Sd/-
(K.N. SINHA)
MEMBER

Sd/-
(ASHOK BASU)
CHAIRMAN

New Delhi dated the 24th March 2005