

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Coram**

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

**Petition No. 38/2002**

**In the matter of**

Petition for approval of tariff for Rihand Transmission System, Reactor at Agra in Northern Region for the period 1.4.2001 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, Srinagar
6. Uttar Pradesh Power Corporation Ltd., Lucknow
7. Delhi Vidyut Board, New Delhi
8. Chief Engineer, Chandigarh Administration, Chandigarh
9. Uttranchal Power Corporation Ltd, Dehradun

**.....Respondents**

**The following were present:**

1. Shri R.G. Yadav, ED (SO), PGCIL
2. Shri P.C. Pankaj, AGM, PGCIL
3. Shri U.K. Tyagi, DGM, PGCIL
4. Shri C. Kannan, Chief Manager, PGCIL
5. Shri Alok Roy, GM, NRLDC, PGCIL
6. Shri V. Mittal, AGM (SO), PGCIL
7. Shri Sunil Agrawal, DGM (SO), PGCIL
8. Shri D.D. Chopra, Advocate, UPPCL
9. Shri D.D. Dhayasee, PGCIL
10. Shri K.K. Mittal, XEN (ISP), RVPNL
11. Shri J.S. Bhargava, A.EN(ISP), RVPNL
12. Shri A.K. Tandon, Sr. AE, UPPCL
13. Shri T.P.S. Bawa, S.E., PSEB
14. Shri V.K. Gupta, PSEB
15. Shri Kartar Chand, XEN, J&K PDD
16. Shri R.K. Arora, XEN, HVPN

**ORDER**  
**(DATE OF HEARING: 23.9.2003)**

In this petition, the petitioner, Power Grid Corporation of India Ltd has sought approval for tariff for Rihand Transmission System, including Reactor at Agra in Northern Region for the period from 1.4.2001 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. Approval of Ministry of Power for the setting up of transmission system associated with Rihand STPP-I was accorded vide letter dated 31.5.1989, at a total capital cost of Rs.1063.00 crore, including IDC of Rs.38.50 crore. Subsequently, the cost estimate was revised and approved by Ministry of Power vide letter dated 19.4.1995 for capital investment of Rs.1460.58 crore including IDC of Rs.130.97 crore. The details of approved scope of work and dates of commercial operation of the different components of the transmission system are as under:

<b>S.No</b>	<b>Name of the line</b>	<b>Date of commercial operation</b>
1.	Rihand-Kanpur 400 kV S/C line	26.12.88
2.	Kanpur-Ballabgarh 400 kV S/C line	10.10.88
3.	Ballabgarh-Jaipur 400 kV S/C line	10.10.88
4.	Ballabgarh-Dadri 400 kV D/C line	
	Ckt-I	26.6.90
	Ckt-II	1.7.90
5.	Dadri-Mandola 400 kV D/C line	22.11.90
6.	Dadri-Malerkotla 400 kV S/C line	30.6.92
7.	Rihand-Dadri Pole-I 500 kV HVDC	10.1.92
8.	Rihand-Dadri Pole-II 500 kV HVDC	20.5.91

3. The tariff for above noted assets was notified by Ministry of Power for the period from 1997-1998 to 2001-2002 vide notification dated 16.11.1998 at a cost of Rs.1204.01 crore. Subsequently, in terms of notification dated 14.5.1999, Ministry of

Power approved tariff at the additional cost of Rs.43.75 crore on account of additional capitalisation, which included the tariff for Agra Reactor. Thus, the total admitted cost of the assets for the purpose of tariff is stated to be Rs 1247.76 crore. The tariff approved by Ministry of Power was valid up to 31.3.2002. However, meanwhile the Commission notified the revised terms and conditions of tariff applicable from 1.4.2001. Hence, the present petition.

4. Based on the above-noted facts, the petitioner has sought approval for transmission charges as under:

(Rs. in lakh)

<b>Transmission Tariff</b>	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>
Interest on Loan	739.81	464.75	189.70
Interest on Working Capital	498.70	508.75	520.52
Depreciation	3986.36	3986.36	3986.36
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	7296.70	7296.70	7296.70
O & M Expenses	2886.36	3045.57	3241.79
<b>Total</b>	<b>15407.93</b>	<b>15302.13</b>	<b>15235.07</b>

5. The details furnished by the petitioner in support of its claim for interest on Working Capital are as extracted below:

(Rs. in lakh)

	<b>2001-2002</b>	<b>2002-2003</b>	<b>2003-2004</b>
Spares	1528.04	1619.72	1716.90
O & M expenses	240.53	253.80	270.15
Receivables	2567.99	2550.35	2539.18
<b>Total</b>	<b>4336.56</b>	<b>4423.87</b>	<b>4526.23</b>
Rate of Interest	11.50%	11.50%	11.50%
<b>Interest</b>	<b>498.70</b>	<b>508.75</b>	<b>520.52</b>

6. In addition, the petitioner has prayed for approval of other charges like 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.

### **CAPITAL COST**

7. As laid down in the notification dated 26.3.2001, the project cost, which includes capitalised initial spares for the first 5 years of operation, 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. The notification dated 26.3.2001 further provides that the actual capital expenditure incurred on completion of the project shall be the criterion for the fixation of tariff. Where the actual expenditure exceeds the approved project cost the excesses as approved by the CEA or an appropriate independent agency, as the case may be, shall be deemed to be the actual capital expenditure for the purpose of determining tariff, provided that the excess expenditure is not attributable to the Transmission Utility or its suppliers or contractors and provided further that where a transmission services agreement entered into between the Transmission Utility and the beneficiary provides a ceiling on capital expenditure, the capital expenditure shall not exceed such ceiling.

8. As already noted the tariff for the transmission system was notified by Ministry of Power by considering cost of Rs. 124776.00 lakh. Therefore, for the purpose of present petition, the capital cost as considered by Ministry of Power has been adopted as the base for computation of tariff by the Commission in the present petition.

### **ADDITIONAL CAPITALISATION**

9. 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.

10. The petitioner has not claimed any additional capital expenditure on works for the period after 01.04.2001 in the petition. Accordingly, the question of considering additional capitalisation on works does not arise.

### **EXTRA RUPEE LIABILITY**

11. The notification dated 26.3.2001 provides that

- (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.

12. The petitioner has claimed FERV in accordance with the following method:  
Outstanding loan as on 31.3.2001 (in foreign currency) X (exchange rate as on 31.3.2001 - exchange rate as on date of commercial operation/1.4.92)

13. The amount of FERV arrived at in the above manner is added in the capital cost as on 1.4.2001 (base capital cost for the tariff period) and depreciation is worked out on the above capital cost. For the claim of Advance Against Depreciation, 1/12th of gross loan and repayment of foreign loan is worked out by the petitioner by multiplying the foreign currency with exchange rate as on 31.03.2001. In addition, the petitioner has claimed FERV based on the outstanding loan as on 31.3.2001 in foreign currency and multiplying the same with difference in exchange rate as on 31.3.2001 and as on the date of commercial operation. This results into double claim of FERV

14. We have considered the matter. On consideration of the fact that the method up to 31.03.2001 to allow the FERV was on repayment of loan and payment of interest on actual basis, we have decided that FERV to be capitalised for adding in the Gross Block as on 01.04.2001 would be arrived in the following manner:

Foreign Loan outstanding as on 31.03.2001 x (Exchange Rate as on 31.03.2001 - Exchange Rate as on DOCO/01.04.1992 as given in the petition).

15. FERV amount calculated in the above manner is as shown below:

<b>IBJ-II (Tranche D)</b>	
Outstanding balance as on 31.03.2001 (in JPY lakh)	1124.08
Exchange Rate as on 31.03.2001	0.377
Exchange Rate as on the date of commercial operation/01.04.1992	0.23557
FERV on the outstanding loan as on 31.03.2001 ( Rs. in lakh)	158.98
<b>Commerz Bank (Tranche B&amp;C IBJ-II replacement)</b>	
Outstanding balance as on 31.03.2001 (in JPY lakh)	1289.39
Exchange Rate as on 31.03.2001	0.377
Exchange Rate as on the date of commercial operation /01.04.1992	0.23557
FERV on the outstanding loan as on 31.03.2001 ( Rs. in lakh)	182.36
<b>ING Bank (Tranche A IBJ-II replacement)</b>	
Outstanding balance as on 31.03.2001 (in JPY lakh)	2954.48
Exchange Rate as on 31.03.2001	0.377
Exchange Rate as on the date of commercial operation/01.04.1992	0.23557
FERV on the outstanding loan as on 31.03.2001 ( Rs. in lakh)	417.85
<b>SUMITOMO</b>	
Outstanding balance as on 31.03.2001 (in JPY lakh)	6193.43
Exchange Rate as on 31.03.2001	0.377
Exchange Rate as on the date of commercial operation/01.04.1992	0.23557
FERV on the outstanding loan as on 31.03.2001 ( Rs. in lakh)	875.93
<b>IBJ-III</b>	
Outstanding balance as on 31.03.2001 (in JPY lakh)	13954.33
Exchange Rate as on 31.03.2001	0.377
Exchange Rate as on the date of commercial operation/01.04.1992	0.23557
FERV on the outstanding loan as on 31.03.2001 ( Rs. in lakh)	1973.55
<b>IBRD-I</b>	
Outstanding balance as on 31.03.2001 (in USD lakh)	15.98
Exchange Rate as on 31.03.2001	46.88
Exchange Rate as on DOCO/01.04.1992	36.04
FERV on the outstanding loan as on 31.03.2001 ( Rs.in lacs)	173.22
<b>Total</b>	<b>3781.88</b>

16. The above FERV amount has been added to the loan and equity as on 1.4.2001 in the ratio of 50:50, in which the last tariff was approved by Ministry of Power. The capital expenditure considered in the calculations for tariff is under:

(Rs. in lakh)	
Capital Expenditure up to 31.03.2001 as per previous tariff setting	124776.00
FERV up to 31.03.2001	3781.88
Capital Expenditure up to 31.03.2001	128557.88
Additional Capital Expenditure after 31.03.2001	0.00
<b>Capital Expenditure considered for determination of Tariff</b>	<b>128557.88</b>

17. The approval of FERV is subject to the condition that the petitioner shall furnish a certificate within four weeks of this order that there has been no drawl of the foreign loan after the date of commercial operation of the respective transmission element claimed in the petition. If the petitioner fails to submit the certificate within stipulated time, no amount on account of FERV would be allowed as pass through in tariff of concerned line.

18. As per Accounting Standard 11 of the Institute of Chartered Accountant of India, exchange difference arising out of repayment of liabilities incurred for the purpose of acquiring fixed assets, which are carried in terms of historical cost, should be adjusted in the carrying amount of the respective fixed assets. In other words, FERV as per para 15 above should be added to the respective head of gross block, which was financed, from the foreign loan on which FERV is proposed to be allowed. As the above details are not available, the FERV amount is allocated to all the heads of gross block in proportion to their ratio to the total gross block. The petitioner has allocated the FERV amount claimed on transmission line, sub-station and PLCC only.

#### **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. The petitioner has claimed tariff by taking the debt and equity in the ratio of 50:50. It is pointed out on behalf of the respondents that taking debt and equity as claimed by the petitioner will result into higher return on equity (ROE). The respondents have submitted that equity of 20% or 30% should be considered for the purpose of fixation of tariff.

20. In the present case, the assets were commissioned before 1.4.1997 and Ministry of Power while notifying tariff had considered debt and equity in the ratio of 50:50 of net fixed assets as on 1.4.1997 for determination of annual transmission charges. Therefore, the same debt-equity ratio as considered by Ministry of Power while notifying tariff for the previous tariff period has been maintained for determination of tariff in the present petition. FERV amount worked out as per para 15 above has been divided into loan and equity in the same ratio.

### **INTEREST ON LOAN**

21. 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 in the calculation, the interest on loan has been worked as detailed below:

- (i) Closing balance of the notional loan as on 31.3.2001 is taken as opening balance as on 1.4.2001.
- (ii) FERV has been added to the above loan.

- (iii) Repayment of the loan during the year is worked out by considering actual repayment during the year or as worked out as per the following formula, whichever is higher:

Actual repayment during the year x notional net loan at the beginning of the year / actual net loan at the beginning of the year,

- (iv) On the basis of actual rate of interest on actual average loan, the weighted rate of interest on loan has been worked out and the same has been applied on the notional average loan during the year to arrive at the interest on loan.

22. The calculations in support of weighted average rate of interest are appended below:

### Calculation of Weighted Average Rate of Interest

(Rs. in lakh)

Details of Loan		2001-02	2002-03	2003-04			
<b>1a</b>	<b>GOI Loan-I</b>						
	Gross Loan -Opening <sup>1</sup>	3292.00	3292.00	3292.00			
	Cumulative Repayment upto Previous Year	1536.27	1755.74	1975.21			
	Net Loan-Opening	1755.73	1536.26	1316.79			
	Repayment during the year	219.47	219.47	219.47			
	Net Loan-Closing	1536.26	1316.79	1097.32			
	Average Loan	1646.00	1426.53	1207.06			
	Rate of Interest-(Fixed)	12.25%	12.25%	12.25%			
	Interest	201.63	174.75	147.86			
	Repayment Schedule	23.03.2002,23.03.2003 & 23.03.2004					
<b>1b</b>	<b>GOI Loan-II</b>						
	Gross Loan -Opening <sup>1</sup>	295.58	295.58	295.58			
	Cumulative Repayment upto Previous Year	137.94	157.65	177.36			
	Net Loan-Opening	157.64	137.93	118.22			
	Repayment during the year	19.71	19.71	19.71			

	Net Loan-Closing	137.93	118.22	98.51			
	Average Loan	147.79	128.08	108.37			
	Rate of Interest-(Fixed)	12.25%	12.25%	12.25%			
	Interest	18.10	15.69	13.27			
	Repayment Schedule	25.11.2001,25.11.2002 & 25.11.2003					
<b>1c</b>	<b>GOI Loan-III</b>						
	Gross Loan -Opening <sup>1</sup>	1273.00	1273.00	1273.00			
	Cumulative Repayment upto Previous Year	509.20	594.07	678.94			
	Net Loan-Opening	763.80	678.93	594.06			
	Repayment during the year	84.87	84.87	84.87			
	Net Loan-Closing	678.93	594.06	509.19			
	Average Loan	721.37	636.50	551.63			
	Rate of Interest-(Fixed)	12.25%	12.25%	12.25%			
	Interest	88.37	77.97	67.57			
	Repayment Schedule	09.03.2002,09.03.2003 & 09.03.2004					
<b>1d</b>	<b>GOI Loan-IV</b>						
	Gross Loan -Opening <sup>1</sup>	11163.00	11163.00	11163.00			
	Cumulative Repayment upto Previous Year	5209.40	5953.60	6697.80			
	Net Loan-Opening	5953.60	5209.40	4465.20			
	Repayment during the year	744.20	744.20	744.20			
	Net Loan-Closing	5209.40	4465.20	3721.00			
	Average Loan	5581.50	4837.30	4093.10			
	Rate of Interest-(Fixed)	12.25%	12.25%	12.25%			
	Interest	683.73	592.57	501.40			
	Repayment Schedule	08.07.2002,08.07.2003 & 08.07.2004					
<b>1</b>	<b>Total GOI Loan</b>						
	Gross Loan -Opening	16023.58	16023.58	16023.58			
	Cumulative Repayment upto Previous Year	7392.81	8461.06	9529.31			
	Net Loan-Opening	8630.77	7562.52	6494.27			
	Repayment during the year	1068.25	1068.25	1068.25			
	Net Loan-Closing	7562.52	6494.27	5426.02			
	Average Loan	8096.65	7028.40	5960.15			
	Rate of Interest	12.25%	12.25%	12.25%			
	Interest	991.84	860.98	730.12			
<b>2</b>	<b>NTPC Bonds</b>						
	Gross Loan -Opening <sup>1</sup>	148.70	148.70	148.70			
	Cumulative Repayment upto Previous Year	0.00	148.70	148.70			
	Net Loan-Opening	148.70	0.00	0.00			
	Repayment during the year	148.70	0.00	0.00			
	Net Loan-Closing	0.00	0.00	0.00			
	Average Loan	74.35	0.00	0.00			

Rate of Interest-(Fixed)	9.00%	9.00%	9.00%			
Interest	6.69	0.00	0.00			
Repayment Schedule	Bullet- 20.03.2002					
<b>3 IBJ-II (Tranche D)</b>						
Gross Loan -Opening <sup>1</sup>	993.00	993.00	993.00	4215.30	4215.30	4215.30
Cumulative Repayment upto Previous Year	728.20	860.60	993.00	3091.22	3653.26	4215.30
Net Loan-Opening	264.80	132.40	0.00	1124.08	562.04	0.00
Repayment during the year	132.40	132.40	0.00	562.04	562.04	0.00
Net Loan-Closing	132.40	0.00	0.00	562.04	0.00	0.00
Average Loan	198.60	66.20	0.00	843.06	281.02	0.00
Rate of Interest-(Floating)	0.5225%	0.5225%	0.5225%	0.235571	0.235571	0.235571
Interest	1.04	0.35	0.00			
Repayment Schedule	14 Equal Half-Yearly Instalments- 24.09.2001, 24.03.2002, 24.09.2002 and 24.03.2003					
<b>4 Commerz Bank (Tranche B&amp;C IBJ-II replacement)</b>						
Gross Loan -Opening <sup>1</sup>	531.55	531.55	531.55	2256.43	2256.43	2256.43
Cumulative Repayment upto Previous Year	227.81	379.68	531.55	967.04	1611.74	2256.43
Net Loan-Opening	303.74	151.87	0.00	1289.39	644.69	0.00
Repayment during the year	151.87	151.87	0.00	644.70	644.69	0.00
Net Loan-Closing	151.87	0.00	0.00	644.69	0.00	0.00
Average Loan	227.81	75.94	0.00	967.04	322.35	0.00
Rate of Interest-(Fixed)	1.73%	1.73%	1.73%	0.235571	0.235571	0.235571
Interest	3.94	1.31	0.00			
Repayment Schedule	7 Equal Half-Yearly Instalments- 24.09.2001, 24.03.2002, 24.09.2002 and 24.03.2003					
<b>5 ING Bank (Tranche A IBJ-II replacement)</b>						
Gross Loan -Opening <sup>1</sup>	695.99	695.99	695.99	2954.48	2954.48	2954.48
Cumulative Repayment upto Previous Year	0.00	0.00	695.99	0.00	0.00	2954.48
Net Loan-Opening	695.99	695.99	0.00	2954.48	2954.48	0.00
Repayment during the year	0.00	695.99	0.00	0.00	2954.48	0.00
Net Loan-Closing	695.99	0.00	0.00	2954.48	0.00	0.00
Average Loan	695.99	347.99	0.00	2954.48	1477.24	0.00
Rate of Interest-(Floating)	0.8475%	0.8475%	0.8475%	0.235571	0.235571	0.235571
Interest	5.90	2.95	0.00			
Repayment Schedule	Bullet- 24.03.2003					
<b>6 SUMITOMO</b>						
Gross Loan -Opening <sup>1</sup>	4019.19	4019.19	4019.19	17061.48	17061.48	17061.48
Cumulative Repayment upto Previous Year	2560.20	3291.72	4019.19	10868.05	13973.35	17061.48
Net Loan-Opening	1458.99	727.47	0.00	6193.43	3088.13	0.00
Repayment during the year	731.52	727.47	0.00	3105.30	3088.13	0.00

Net Loan-Closing	727.47	0.00	0.00	3088.13	0.00	0.00
Average Loan	1093.23	363.74	0.00	4640.78	1544.07	0.00
Rate of Interest-(Floating)	0.7825%	0.7825%	0.7825%	0.235571	0.235571	0.235571
Interest	8.55	2.85	0.00			
Repayment Schedule	11 Half-Yearly Instalments- 18.09.2001, 18.03.2002, 18.09.2002 and 18.03.2003					
<b>7 IBJ-III</b>						
Gross Loan -Opening <sup>1</sup>	3287.24	3287.24	3287.24	13954.33	13954.33	13954.33
Cumulative Repayment upto Previous Year	0.00	0.00	4.04	0.00	0.00	17.17
Net Loan-Opening	3287.24	3287.24	3283.19	13954.33	13954.33	13937.16
Repayment during the year	0.00	4.04	731.52	0.00	17.17	3105.30
Net Loan-Closing	3287.24	3283.19	2551.67	13954.33	13937.16	10831.86
Average Loan	3287.24	3285.21	2917.43	13954.33	13945.75	12384.51
Rate of Interest-(Fixed)	3.0850%	3.0850%	3.0850%	0.235571	0.235571	0.235571
Interest	101.41	101.35	90.00			
Repayment Schedule	10 Half-Yearly Instalments- 21.03.2003, 21.09.2003 and 21.03.2004					
<b>8 IBRD-I</b>						
Gross Loan -Opening <sup>1</sup>	609.44	609.44	609.44	16.910	16.910	16.910
Cumulative Repayment upto Previous Year	33.52	68.94	102.86	0.930	1.913	2.854
Net Loan-Opening	575.92	540.49	506.58	15.980	14.997	14.056
Repayment during the year	35.43	33.91	35.86	0.983	0.941	0.995
Net Loan-Closing	540.49	506.58	470.72	14.997	14.056	13.061
Average Loan	558.21	523.54	488.65	15.489	14.527	13.559
Rate of Interest-(Floating)	6.11%	6.11%	6.11%	36.04	36.04	36.04
Interest	34.11	31.99	29.86			
Repayment Schedule	30 Half-Yearly Instalments- 01.06.2001, 01.12.2001, 01.06.2002, 01.12.2002, 01.06.2003 and 01.12.2003					
<b>9 Bond-I (Issue-III)</b>						
Gross Loan -Opening	237.70	237.70	237.70			
Cumulative Repayment upto Previous Year	0.00	237.70	237.70			
Net Loan-Opening	237.70	0.00	0.00			
Repayment during the year	237.70	0.00	0.00			
Net Loan-Closing	0.00	0.00	0.00			
Average Loan	118.85	0.00	0.00			
Rate of Interest-(Fixed)	9.00%	9.00%	9.00%			
Interest	10.70	0.00	0.00			
Repayment Schedule	Bullet on 10.03.2002					
<b>Total Loan</b>						
Gross Loan -Opening	26546.38	26546.38	26546.38			
Cumulative Repayment upto Previous Year	10942.53	13448.40	16262.34			
Net Loan-Opening	15603.85	13097.98	10284.04			
Repayment during the year	2505.87	2813.94	1835.63			

Net Loan-Closing	13097.98	10284.04	8448.41			
Average Loan	14350.92	11691.01	9366.22			
Rate of Interest	8.1122%	8.5687%	9.0749%			
Interest	1164.18	1001.77	849.98			
<sup>1</sup> Amount of loan outstanding as on 31.03.1992 in the transfer books (as per the affidavit filed on 26.03.2003 by the petitioner)						

23. On the basis of the details of actual loan, repayments and rate of interest, etc on record, interest on loan has been worked out in accordance with the methodology outlined above as under:

(Rs. in lakh)

	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Gross Loan –Opening	45604.35	45604.35	45604.35
Cumulative Repayment up to the previous Year	32890.95	35396.82	38210.77
Net Loan-Opening	12713.39	10207.52	7393.58
Repayment during the year	2505.87	2813.94	1835.63
Net Loan-Closing	10207.52	7393.58	5557.95
Average Loan	11460.46	8800.55	6475.77
Rate of Interest	8.1122%	8.5687%	9.0749%
<b>Interest</b>	<b>929.70</b>	<b>754.10</b>	<b>587.67</b>

24. IBJ-II (Tranche D), ING Bank (Tranche A IBJ-II replacement), Sumitomo and IBRD-I loans carry floating rate of interest and the interest rate as submitted by the petitioner stated to be prevailing as on 01.04.2001 has been taken in the calculation. In view of the above, any change/resetting of the interest rate of the above loans during the tariff period covered in this petition would require settlement of the same mutually between the parties. In case the parties are unable to settle the matter, any one of them is at liberty to approach the Commission for appropriate relief or direction.

### **DEPRECIATION**

25. The notification dated 26.3.2001 provides:

- (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.

- (iv) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.
- (v) 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.
- (vi) 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.

26. The petitioner has claimed the depreciation on the capital expenditure of Rs.128557.88 lakh.

27. The gross block as considered by Ministry of Power in its notification for previous tariff setting along with additional capitalisation arising out of FERV worked out above has been considered for working out the depreciation. As the asset-wise break up of the gross block is not available in Ministry of Power notification, the asset-wise break up of the gross block as given by the petitioner in the petition has been taken for calculation of depreciation. For working out cumulative depreciation, the depreciation as considered by Ministry of Power for previous tariff period has been taken into account.

28. Based on the above, the depreciation for individual items of capital expenditure has been calculated on the capital cost of Rs.128557.88 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 3.10% has been worked out. For working out cumulative depreciation, the depreciation as considered by Ministry of Power for the previous tariff setting has been taken into consideration. The break up of the capital cost has been considered as per the details furnished by the petitioner. The necessary calculations in support of calculation of weighted average rate of depreciation are as under:

(Rs. in lakh)

Capital Expenditure as on 31.03.2001	Total	FERV UP TO 31.3.2001	Total Cost including FERV	Approved capital cost	Rate of Depreciation	Depreciation
Land	696.00	21.10	717.10		0%	0.00
Building & Other Civil Works	1234.00	37.40	1271.40		1.80%	22.89
Transmission Line	57566.00	1744.79	59310.79		2.57%	1524.29
Sub-Station Equipment	64604.00	1958.11	66562.11		3.60%	2396.24
PLCC	676.00	20.49	696.49		6.00%	41.79
<b>Total</b>	<b>124776.00</b>	<b>3781.88</b>	<b>128557.88</b>	<b>121360.00</b>		<b>3985.20</b>
<b>Weighted Average Rate of Depreciation</b>	<b>124776.00</b>	<b>3781.88</b>				<b>3.10%</b>



29. The calculations in support of depreciation allowed are appended hereinbelow:

		(Rs. in lakh)		
		2001-02	2002-03	2003-04
Rate of Depreciation	3.10%			
Gross Block	128557.88			
Depreciable Value (90% of the Gross Block)	115702.10			
Remaining Depreciable Value		45461.95	41476.75	37491.56
<b>Depreciation</b>		3985.20	3985.20	3985.20

### **ADVANCE AGAINST DEPRECIATION**

30. 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 dated 26.3.2001. Advance Against Depreciation is computed in accordance with the following formula:

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

31. The petitioner has not claimed Advance Against Depreciation.

32. For working out Advance Against Depreciation, 1/12<sup>th</sup> of the notional loan has been considered while repayment of loan as worked out above has been taken as repayment of the loan during the year. The petitioner is not entitled to Advance Against Depreciation as calculated below:

(Rs. in lakh)			
<b>Advance Against Depreciation</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
1/12th of Gross Loan(s)	3800.36	3800.36	3800.36
Scheduled Repayment of the Loan(s)	2505.87	2813.94	1835.63
Minimum of the above	2505.87	2813.94	1835.63
Depreciation during the year	3985.20	3985.20	3985.20
<b>Advance Against Depreciation</b>	0.00	0.00	0.00

### **OPERATION & MAINTENANCE EXPENSES**

33. In accordance with the notification dated 26.3.2001, 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:

O&M expenses per Unit of the line length in Kms (OMLL) =

Expenses for lines (OML)/Average line length in Kms (LL)

O&M expenses for sub-stations (OMBN) = O&M expenses for substations (OMB)/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.

34. The different elements of Operation & Maintenance expenses have been considered in the succeeding paragraphs in the light of provisions of the notification dated 26.3.2001 based on the data available since 1995-96.

### **Employee Cost**

35. The petitioner has, inter alia, claimed incentive and *ex gratia* as a part of employee cost. The petitioner was asked to specify the amount of minimum statutory bonus paid to its employees under the Payment of Bonus Act. The petitioner vide its

affidavit dated 6.2.2003 has stated that the incentive paid to employees does not include minimum statutory bonus. The petitioner has further stated that the *ex gratia* was being paid in lieu of bonus, as is customary and a normal practice followed in private and public sectors. The petitioner has also furnished a write-up on Incentive scheme in support of the claim. It has been clarified on behalf of the petitioner that even the top management of the petitioner company is paid incentive and *ex gratia* included as a part of employee cost in O&M expenses claimed. The payment of incentive other than the statutory minimum bonus is at the discretion of the petitioner company and should be borne out of its profits or incentive earned from the respondents for higher availability of the Transmission System. In view of the above, the incentive and *ex gratia* payments made by the petitioner to its employees have been kept out of consideration for calculation of employee cost.

36. The petitioner was directed to furnish details of the arrears on account of pay and allowances for the period prior to 1995-96, but paid between 1995-96 to 1999-2000. The petitioner has submitted the details of such arrears, amounting to Rs. 14.99 lakh and Rs 19.33 lakh paid for Northern Region during 1995-96 and 1996-97 respectively. Similarly, the arrears for the previous years included in the employee cost for 1995-96 and 1996-97 for Corporate Office were stated to be Rs. 9.61 lakh and Rs. 35.60 lakh respectively. The petitioner has also submitted that the arrears on account of pay revision from 01.01.97 to 31.03.2000 have been paid during the years 2000-01 and 2001-02 also. The amounts of these arrears as claimed by the petitioner are Rs. 362.56 lakhs and Rs. 263.86 lakhs for Northern Region and Rs. 297.13 lakh and Rs. 109.95 lakh for the Corporate Office for the years 2000-01 and 2001-02 respectively. The petitioner has prayed that the arrears on account of pay and

allowances for the period prior to 1995-96 should be deducted while those pertaining to the period from 1995-96 to 1999-2000 but paid subsequent to 1999-2000 should be added to O&M charges. The petitioner has argued that since these pay arrears pertain to the period being considered for fixation of normative O&M, the arrears should be considered while fixing the normative O&M. We find the submission of the petitioner to be logical and have considered the submission in the calculation of employee cost.

### **Repair & Maintenance Expenses**

37. The petitioner has submitted that the increase of 152.77 % in Repair & Maintenance expenses in 1997-98 (Rs 1121.85 lakh) over the previous year (Rs 443.82 lakh) is due to major repair of converter transformer under HVDC project. HVPNL has prayed for exclusion of such abnormal charges for calculating average O&M expenses. It is noted that the converter transformers in the Rihand-Dadri HVDC project have been under outage several times, which is not a normal phenomenon. It may be mentioned that in view of repeated outages in converter transformers, the petitioner has procured 3rd spare transformer for which the Commission has approved the tariff. In view of this, such major repair has been considered as abnormal and hence increase in expenses has been limited to Rs 532.58 lakh (i.e. 20% over the previous year). In the next year i.e. 1998-99, the petitioner has claimed Repair and Maintenance expenses of the same order (Rs 1131.38 lakh) as in 1997-98. Thus, the Repair and Maintenance expenses in 1998-99 are also substantially high. Hence, in this year also the increase has been limited to Rs 639.10 lakh (i.e. 20% over the expenses considered admissible in previous year) for the purpose of normalisation. The abnormal increase of Repair and Maintenance expenses during 1997-98 and 1998-99 is evident from the O&M expenses for the year 1999-2000, which is Rs.

602.4 lakh. However, if any major repairs are undertaken during the tariff period covered by this order, the petitioner may approach the Commission with proper justification to claim the actual expenses as a part of O&M expenses.

### **Power Charges**

38. In case of Corporate Office, the power charges as claimed by the petitioner have been considered in the calculation of O&M expenses. As regards Northern Regional Transmission System (for short “ the NRTS”) the petitioner was directed to submit break up of power charges between sub-station facilities and residential colonies. The petitioner expressed its inability to furnish the data as it was not maintained. However, the petitioner has furnished details of power consumption for the residential colony in Western and Eastern Regions, which work out to be in the range of 20% of the total power charges. On the same basis, the power charges for the residential colony have been considered as 20% of total power charges claimed for Northern Region. As power charges for the residential colony need to be recovered from the employees, admissibility of power charges in case of the NRTS has been limited to 80% of the total claim.

### **Insurance**

39. It has been noted that the petitioner has a policy of self-insurance for which it has created the insurance reserve. The insurance charges claimed by the petitioner are credited to the insurance reserve. The petitioner was directed to furnish the management policy on creation of insurance reserve, items of loss secured and the conditions thereto. The petitioner has submitted insurance policy of the petitioner

company under affidavit dated 6.2.2003. The key features of the policy submitted by the petitioner are as under:

- (a) Insurance reserve is created @ 0.1% on gross value of fixed assets at the close of the year, to meet the future losses arising from uninsured risks, except machinery breakdown for valve hall of HVDC, and fire risk of HVDC equipment and SVC sub-stations.
- (b) The policy generally covers following:
  - (i) Fire, lightning, explosion/implosion, and bush fire
  - (ii) Natural calamity: flood, earthquake, storm, cyclone, typhoon, tempest, hurricane, tornado, subsidence and landslide
  - (iii) Riot, strike/ malicious and terrorist damage
  - (iv) Theft, burglary, Missile testing equipment, impact damage due to rail/ road or animal, aircraft and articles dropped there from.
- (c) The losses of assets caused by the above causes are adjusted against insurance reserve as per the corporation guidelines.
- (d) The amount so set aside in the insurance reserve has not been separately claimed from the respondents and the expenses have been met from the permitted O&M charges under the tariff.

40. The petitioner has stated that the policy of self-insurance has also been followed by NHPC, where 0.5% per annum of the gross block of O&M projects is transferred to self-insurance reserve account. It has also been informed that the rate

of 0.1% as booked under O&M expenses towards self-insurance reserve is lower than the insurance premium (0.22%) being charged by the insurance companies for the risks covered in the self-insurance policy. In support of this claim, the petitioner has placed on record a letter from Reliance General Insurance Company quoting for the insurance rate of the assets covered in the self-insurance policy of the petitioner company.

41. In view of the explanation furnished on behalf of the petitioner, the insurance charges as claimed have been considered in O&M expenses. We, however, make it explicit that the self-insurance provided by the petitioner is for replacement of the damaged assets and the beneficiaries shall not be charged anything in case of damage due to any of the events mentioned in the insurance policy.

42. In case of Training & Recruitment expenses, Communication expenses, Traveling, Rent, and Miscellaneous Expenses as claimed by the petitioner have been considered for calculation, both in the case of the NRTS as well as Corporate Office.

### **Other Expenses**

43. In case of NRTS, under the subhead "provisions", the petitioner has claimed amount of Rs 10.69 lakh, Rs 30.08 lakh and Rs 5.71 lakh for the years 1997-98, 1998-99 and 1999-2000 respectively for loss of stores. Similarly, amount of Rs 5.15 lakh in 1998-99 has been claimed on account of writing off of advance. These have not been considered admissible, since, these items are controllable by the petitioner and reflect the managerial efficiency of the petitioner. In case of Corporate Office, following expenses have not been admitted for reimbursement:



- (a) Donation of Rs. 0.05 lakh, Rs. 30 lakh, Rs. 34.78 lakh and Rs. 600.03 lakh for the years 1995-96, 1996-97, 1998-99 and 1999-2000, as these donations are not related to transmission business. The expenditure on account of the donations need be borne by the petitioner out of other profits of the corporation.
- (b) Provisions of Rs. 1107.61 lakh, Rs. 385.8 lakh and Rs. 0.27 lakh for the year 1996-97, 1997-98 and 1999-2000. These provisions were made for the loss of stores in Eastern Region and North Eastern Region, for bad and doubtful debt in Northern Region and for shortage of store in North Eastern Region. As all these items are controllable by the petitioner and reflect the managerial efficiency. However, an amount of Rs. 11.14 lakh on account of fire at the corporate office in 1998-99 has been considered as admissible under the head provisions.
- (c) Legal expenses amounting to Rs. 2.65 lakh in the Corporate Office on legal opinion on CERC matters have not been allowed in line with the Commission's policy of allowing only the fees for the petitions filed in the Commission. However, other legal expenses for disputes related to compensation, contracts, service matters and labour cases have been admitted.

### **Recoveries**

44. The details of the recoveries for the NRTS and the Corporate Office were furnished by the petitioner vide affidavit dated 6<sup>th</sup> February 2003. The petitioner in the aforesaid affidavit also furnished the "complete details" of the recoveries for the NRTS. According to the petitioner, the income from sale of bid documents has

already been adjusted for under the sub-head Tender Expenses under the head Other Expenses. Hence, income under this sub-head has not been considered in the recovery for the NRTS as well as Corporate Office. Similarly, electricity charges recovered from employees residential buildings and other residential buildings have not been considered under the head “recovery” as 20% of the power charges for colony consumption have been deducted in case of the NRTS.

### **Allocation of Corporate Office Expenses to Various Regions**

45. The petitioner has submitted the method for allocation of Corporate Office expenses to various Regions. The key steps in the apportionment of Corporate Office expenses among the regions are as under:

- i) Expenses booked under Training & Recruitment, Directors sitting fees, provisions, R&D, Write off of fixed assets/ non-operating expenses and donations are considered exclusively as O&M expenses.
- ii) After deducting these exclusive O&M expenses, the balance Corporate Office expenses are allocated in the ratio of Transmission charges to annual Capital outlay to obtain expenses allocated to O&M and construction activity.
- iii) The allocation to O&M activity obtained in step (ii) is added to exclusive O&M expenses obtained in step (i) to arrive at total O&M expenses in the Corporate Office.

- iv) RLDC expenses are then deducted from the total O&M expenses obtained in step (iii) to arrive at O&M expenses allocated to transmission business.
- v) O&M expenses allocated to transmission business are then allocated to various regions in the ratio of their respective transmission charges.

46. The methodology adopted by the petitioner for allocation of Corporate Office O&M expenses has been approved and followed in the calculation of O&M expenses. The comparative statement of O&M expenses claimed by the petitioner and those allowed and considered for the years 1995-96 to 1999-2000 for the purpose of computation of O&M expenses for the tariff period are given herein below:

**DETAILS OF O&M EXPENSES FOR POWERGRID SYSTEM IN  
NORTHERN REGION**

(Rs. in Lakh)

Items	1995-96		1996-97		1997-98		1998-99		1999-2000	
	As per Petitioner	As allowed for	As per Petitioner	As allowed for	As per Petitioner	As allowed for	As per Petitioner	As allowed for	As per Petitioner	As allowed for
Employee Cost	1475.76	1312.61	1651.14	1485.26	2224.24	2266.33	2686.78	2701.83	3287.71	2929.61
Repair & Maintenance	373.53	373.53	443.82	443.82	1121.85	532.58	1131.38	639.10	602.04	602.04
Power Charges	351.00	280.80	501.27	401.02	486.21	388.97	497.64	398.11	602.04	481.63
Training & Recruitment	7.88	7.88	9.54	9.54	11.57	11.57	13.29	13.29	11.57	11.57
Communications	81.37	81.37	69.53	69.53	100.32	100.32	85.82	85.82	75.13	75.13
Traveling	201.61	201.61	208.75	208.75	274.35	274.35	329.98	329.98	347.30	347.30
Printing & Stationery	25.14	25.14	33.62	33.62	30.15	30.15	26.65	26.65	27.59	27.59
Rent	14.93	14.93	15.79	15.79	24.54	24.54	23.48	23.48	20.86	20.86
Miscellaneous Expenses	342.46	342.46	402.74	402.74	495.03	495.03	619.64	619.64	632.82	632.82
Insurance	406.59	406.59	542.03	542.03	719.81	719.81	640.90	640.90	725.33	725.33
Others	215.95	215.95	150.09	150.09	292.18	281.49	188.39	145.16	237.43	231.72
Corporate Expenses Allocation	949.51	929.40	1216.57	598.75	1191.95	1028.16	1068.85	1066.49	1348.99	1090.89
<b>TOTAL</b>	<b>4445.73</b>	<b>4192.27</b>	<b>5244.89</b>	<b>4360.93</b>	<b>6972.20</b>	<b>6153.30</b>	<b>7312.80</b>	<b>6690.45</b>	<b>7918.81</b>	<b>7176.49</b>
Less : Recoveries		44.79		24.31		52.45		13.88		39.17
<b>Net O&amp;M Expenses</b>	4445.73	4147.48	5244.89	4336.62	6972.20	6100.85	7312.80	6676.57	7918.81	7137.32

### Method of Normalizing O&M Expenses

47. The following formulae for calculation of normative O&M expenses as per the notification dated 26.3.2001, as amended vide Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2003 published in the Gazette of India on 2.6.2003 have been followed

$$AVOMLL = \frac{1}{5} \sum_{i=1995-1996}^{1999-2000} \frac{|OML_i|}{|LL_i|}$$

$$AVOMBN = \frac{1}{5} \sum_{i=1995-1996}^{1999-2000} \frac{|OMS_i|}{|BN_i|}$$

Where:

AVOMLL and AVOMBN are average normalized O&M expenses per Ckt. km of line length and per bay respectively.

$OML_i$  and  $OMS_i$  are O&M expenses for the lines and for the sub-stations for the  $i^{th}$  year respectively.

$LL_i$  and  $BN_i$  are the total line length in Ckt. km and total number of bays in the  $i^{th}$  year respectively.

48. As per the above method, AVOMLL and AVOMBN are calculated based on the data for the years 1995-96 to 1999-2000. These normalized averages correspond to the year 1997-98. After escalating these averages by 10% per annum for two years, the normative O&M expenses for the base year 1999-2000 have been obtained. Normative O&M expenses for subsequent years are obtained by escalating these normative figures by 6% per annum. Following table gives comparison of the normative O&M expenses as calculated by the petitioner and as per our calculations allowed for the base year i.e. 1999-2000 and afterwards:

## NORMALISED O&M EXPENSES FOR NORTHERN 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. in lakh)	4147.48	4336.62	6100.85	6676.57	7137.32						
2	Abnormal O&M expenses	0.00	0.00	57.64	107.13	99.08	263.85					
3	Normal O&M expenses (S.No. 1 -S.NO. 2)	4147.48	4336.62	6043.21	6569.44	7038.24						
4	<b>OML</b> (O&M for lines)= 0.7 X S. NO.3	2903.24	3035.63	4230.25	4598.61	4926.77	<b>19694.50</b>					
5	<b>OMS</b> (O&M for substation) = 0.3XS.NO.3	1244.24	1300.99	1812.96	1970.83	2111.47	<b>8440.49</b>					
6	Line length at beginning of the year in Kms.	9622.13	9622.13	9743.48	10561.88	10819.55						
7	Line length added in the year in Kms.	0.00	121.35	818.40	257.67	1705.07						
8	Line length at end of the year in Kms.	9622.13	9743.48	10561.88	10819.55	12524.62						
9	LL (Average line length in the Region)	9622.13	9682.81	10152.68	10690.72	11672.09	<b>51820.43</b>					
10	NO. of bays at beginning of the year	157	157	161	183	185						
11	NO. of bays added in the year	0	4	22	2	31						
12	NO. of bays at the end of the year	157	161	183	185	216						
13	BN (Average number of bays in the Region)	157.0	159.0	172.0	184.0	200.5	<b>872.50</b>					
14	AVOMLL(OML/LL)	0.302	0.314	0.417	0.430	0.422	1.884					
15	AVOMBN(OMS/BN)	7.925	8.182	10.540	10.711	10.531	47.890					
16	<b>NOMLL(allowable O&amp;M per unit of line length)</b>			<b>0.3768</b>	<b>0.4145</b>	<b>0.4560</b>		<b>0.4560</b>	<b>0.4833</b>	<b>0.5123</b>	<b>0.5431</b>	<b>0.5756</b>
17	<b>NOMBN(Allowable O&amp;M per bay)</b>			<b>9.5780</b>	<b>10.5358</b>	<b>11.5894</b>		<b>11.5894</b>	<b>12.2847</b>	<b>13.0218</b>	<b>13.8031</b>	<b>14.6313</b>
	<b>NOMLL(as calculated by petitioner)</b>			<b>0.42</b>				<b>0.51</b>	<b>0.54</b>	<b>0.57</b>	<b>0.60</b>	<b>0.64</b>
	<b>NOMBN(as calculated by petitioner)</b>			<b>10.75</b>				<b>13.01</b>	<b>13.79</b>	<b>14.62</b>	<b>15.50</b>	<b>16.43</b>

49. 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.

50. In our calculations the escalation factor of 6% per annum has been used. In accordance with the notification dated 26.3.2001, 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).

51. The details of O&M expenses allowed are given hereunder:

2001-02			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)	Line length in Ckm	No. of bays	O&M expenses (Rs. in lakh)
3370.95	66	2586.44	3370.95	66	2741.63	3370.95	66	2906.13

### **RETURN ON EQUITY**

52. As per the notification dated 26.3.2001, return on equity shall be computed on the paid up and subscribed capital and shall be 16% of such capital. It further provides that premium raised by the Transmission Utility while issuing share capital & investment of internal resources created out of free reserve of the existing utility, if any, for the funding of the project, shall also be reckoned as paid up capital for the purpose of computing the return on equity, provided such premium amount and

internal resources are actually utilised for meeting the capital expenditure of the transmission project and forms part of the approved financial package as set out in the techno-economic clearance accorded by the Authority.

53. The equity as considered by Ministry of Power in its notification for previous tariff period along with notional equity arising out of FERV worked out as per para 15 above has been considered for calculating return on equity. The following amount of equity has been considered in the calculation of return of equity:

Rs. in lakh	
Equity as allowed by Ministry of Power for previous tariff period	43713.41
Notional Equity arising out of FERV	1890.94
<b>Total</b>	<b>45604.35</b>

54. On the above basis, the petitioner shall be entitled to return on equity of Rs. 7296.70 lakh each year during the tariff period.

#### **INTEREST ON WORKING CAPITAL**

55. As provided in the notification dated 26.3.2001, 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 1/5<sup>th</sup> 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%.

56. The petitioner has claimed the maintenance spares on the basis of maintenance spares allowed in Ministry of Power for the year 1997-98 escalating the same as per weighted price index taking into account 60% of weightage for WPI & 40% of CPI and @ 6% p.a. for the years 2001-02 to 2003-04 and deducting the 1/5<sup>th</sup> of the initial capitalized spares therefrom.

57. In keeping with the methodology prescribed in the notification dated 26.3.2001, working capital has been worked out. The value of maintenance spares for 1997-98 has been taken as considered by Ministry of Power and the same has been escalated up to 2000-01 as per respective WPI/CPI and thereafter the same has been further escalated @ 6% per annum for the tariff period 2001-02 to 2003-04.

58. The petitioner has claimed interest on working capital at the rate of 11.5%, based on annual SBI PLR for the year 2001-2002, which has been allowed separately by the Commission in certain other petitions and, therefore, the same has been allowed here also despite the objection of some of the respondents. The detailed calculations in support of interest on Working Capital are as under:

### Interest on Working Capital

(Rs. in lakh)

<b>Working Capital</b>		<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Escalation for Maintenance Spares	6%			
Spares	1441.01			
Less: 1/5 <sup>th</sup> of Initial Spares	0.00			
Maintenance Spares	1441.01	1527.47	1619.11	1716.26
O & M expenses		215.54	228.47	242.18
Receivables		2548.59	2547.17	2549.01
Total		4,291.60	4,394.75	4,507.45
Rate of Interest		11.50%	11.50%	11.50%
<b>Interest</b>		<b>493.53</b>	<b>505.40</b>	<b>518.36</b>



## **TRANSMISSION CHARGES**

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

**TABLE**

(Rs. in lakh)

<b>Transmission Tariff</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>
Interest on Loan	929.70	754.10	587.67
Interest on Working Capital	493.53	505.40	518.36
Depreciation	3985.20	3985.20	3985.20
Advance against Depreciation	0.00	0.00	0.00
Return on Equity	7296.70	7296.70	7296.70
O&M Expenses	2586.44	2741.63	2906.13
<b>Total</b>	<b>15291.57</b>	<b>15283.02</b>	<b>15294.05</b>

60. In addition to the transmission charges, the petitioner shall be entitled to other charges like Development Surcharge, 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. The recovery of filing fee is subject to confirmation that the amount is not already included in the O&M charges.

61. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's notification dated 4.4.2001 as extended from time to time. The provisional billing of tariff shall be adjusted in the light of final tariff now approved by us.

62. The transmission charges approved by us shall be included in the regional transmission tariff for Northern Region and shall be shared by the respondents in accordance with the notification dated 26.3.2001.

63. This order disposes of Petition No. 38/2002.

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

**SD/-**  
**(ASHOK BASU)**  
**CHAIRMAN**

New Delhi dated the 26<sup>th</sup> February 2004