

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

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

Petition No.51/2002

In the matter of

Petition for approval of tariff for 400 kV Jeypore-Gazuwaka Transmission Line along with associated bays and 500 MW HVDC back-to-back station at Gazuwaka between Southern Region and Eastern 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. Karnataka Power Transmission Corporation Ltd, Bangalore
 2. Transmission Corporation of Andhra Pradesh, Hyderabad
 3. Kerala State Electricity Board, Thiruvananthapuram
 4. Tamil Nadu Electricity Board, Chennai
 5. Electricity Department, Govt. of Pondicherry, Pondicherry
 6. Bihar State Electricity Board, Patna
 7. West Bengal State Electricity Board, Kolkata
 8. Grid Corporation of Orissa Ltd, Bhubaneswar
 9. Damodar Valley Corporation, Kolkata
 10. Power Department, Government of Sikkim, Gangtok
-**Respondents**

ORDER

The petition was filed for approval of tariff for 400 kV Jeypore-Gazuwaka transmission line and 500 MW HVDC back-to-back station at Gazuwaka between Southern and Eastern regions for the period from 1.4.2001 to 31.3.2004 based on the terms and conditions for determination of tariff contained in the Commission's notification dated 26.3.2001. The tariff was approved by the Commission in its order dated 18.7.2003 as per details given below:

(Rs. in lakh)

Transmission Tariff	2001-02	2002-03	2003-04
Interest on Loan	3985.05	3166.82	2802.02
Interest on Working Capital	281.64	252.38	269.24
Depreciation	2012.70	2012.70	2012.70
Advance against Depreciation	2442.32	1496.92	2442.32
Return on Equity	1536.65	1536.65	1536.65
O & M Expenses	571.68	605.98	642.34
Total	10830.05	9071.46	9705.28

2. In the order dated 18.7.2003, among other loans, interest on ADB-I loan was considered in accordance with the following details:

CALCULATION OF INTEREST ON LOAN

(Rs. in lakh)

Details of Loan	2001-02	2002-03	2003-04
ADB-I			
Gross Loan –Opening	11118.00	11118.00	11118.00
Cumulative Repayment up to Previous Year	302.69	1045.64	1864.81
Net Loan-Opening	10815.31	10072.36	9253.19
Repayment during the year- 1 st June	362.42	399.60	440.55
	10452.89	9672.75	8812.64
Repayment during the year- 1 st December	380.53	419.56	462.56
Net Loan-Closing	10072.36	9253.19	8350.08
Rate of Interest	7.73%	7.73%	7.73%
Interest	802.94	742.11	674.97
Repayment Schedule	Half Yearly Installments- 01.06.2001,01.12.2001,01.06.2002, 01.12.2002,01.06.2003 & 01.12.2003.		
Notional Loan-ADB-I (on account of FERV)			
Gross Loan –Opening	649.19	649.19	649.19
Cumulative Repayment up to Previous Year	0.00	44.60	93.77
Net Loan-Opening	649.19	604.59	555.42
Repayment during the year- 1 st June	21.75	23.99	26.44
	627.43	580.61	528.98
Repayment during the year- 1 st December	22.84	25.18	27.77
Net Loan-Closing	604.59	555.42	501.21
Rate of Interest	7.73%	7.73%	7.73%
Interest	48.20	44.55	40.52
Repayment Schedule	Half Yearly Installments- 01.06.2001,01.12.2001,01.06.2002, 01.12.2002,01.06.2003 & 01.12.2003.		

3. Repayment amount of ADB-I loan and Notional Loan ADB-I on account of FERV was actually worked out in Indian rupees by considering the original loan in British Pounds and exchange rate was applied accordingly. On scrutiny of tariff petitions filed by the petitioner for approval of tariff for the period 1.4.2004 to 31.3.2009, it, however, now transpires that ADB-I loan was in USD and it was so claimed by the petitioner and, therefore, the exchange rate as applicable to USD was to be considered for calculating repayment of loan and consequentially the interest on loan in Indian rupees. The mistake is accidental and is considered to be purely of ministerial or clerical nature. Therefore, in the interest of justice, in exercise of our powers *suo motu*, we propose to rectify the mistake in calculation of interest on the loan component of tariff. The recalculation of interest of loan component will involve readjustment of Advance Against Depreciation and also interest on working capital. Therefore, these two components of tariff will also be revised being consequential to recalculation of interest on working capital. The other three components of tariff, namely, depreciation, return on equity and O&M expenses already approved by order dated 18.7.2003 will remain unchanged.

4. In the order dated 18.7.2003, the capital expenditure of Rs.63064.34 lakh (inclusive of FERV) was considered. Debt and equity in the the ratio of 84.77:15.23. In this manner, the amount of equity works out to Rs.9604.07 lakh and the loan is worth Rs.53460.27 lakh. We now proceed to consider the revised entitlement of the petitioner on account of interest on loan, Advance Against Depreciation and interest on working capital.

INTEREST ON LOAN

5. 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.

6. The petitioner has claimed interest on the basis of net outstanding loan as was claimed for the previous tariff setting. However, the interest on foreign loan has been worked out by the petitioner in foreign currency and the same has been multiplied with exchange rate as on 31.03.2001. This would amount to working out the interest on foreign loan on revalued foreign loan at the exchange rate as on 31.03.2001, which results in double claim. Interest on notional loan has been claimed on the basis of (i) division of FERV into notional loan & equity in the ratio of 50:50 (ii) depreciation on FERV as repayment during the year (iii) weighted average rate of interest of total outstanding loan as on 01.04.2001

7. In keeping with the provisions of the notification dated 26.3.2001, the following methodology has been adopted for calculation of interest on loan:

- (i) Gross amount of loan, repayment of loan up to 31.03.2001 and net outstanding loan as on 31.03.2001 as considered by the Commission in its order dated 3.6.2002 for determination of annual transmission charges for the period up to 31.03.2001 has been considered.
- (ii) The repayment for the year 2001-02 to 2003-04 and rate of interest etc. of the above loan has been worked out from the loan details submitted by the petitioner in the affidavits filed before the Commission.

(iii) Notional loan arising out of FERV has been divided between debt and equity in the ratio 84.77:15.23.

(iv) The repayment for the year 2001-02 to 2003-04 of the above notional loan has been worked out as per the following formula:

Notional net loan at the beginning of the year x (actual repayment of the respective foreign loan / actual net respective foreign loan at the beginning of the year

(v) Rate of interest etc. of the notional loan on account of FERV has been taken of the respective foreign loan from the loan details submitted by the petitioner in the affidavits filed before the Commission.

(vi) As the notional loan has arisen due to revaluation of the outstanding balance as on 31.03.2001 of WMB-II and ADB-I loan, repayment of the notional loan is worked out in proportion to repayment of respective foreign loan and ratio of the notional loan to respective foreign loan and rate of interest of respective foreign loan is applied to the notional loan.

(vii) It is noted that the amount of repayment of ADB-I loan considered in the petition and as worked out is as below:

(USD in lakh)

		2001-02	2002-03	2003-04
1st June	As per the petition	3.790	4.180	4.610
	As worked out	5.302	5.846	6.445
1st December	As per the petition	3.980	4.390	4.840
	As worked out	5.567	6.138	6.767
Total	As per the petition	7.770	8.570	9.450
	As worked out	10.869	11.984	13.212

(viii) Similarly, amount of repayment of WMB-II loan is taken as GBP 19.46 lakh in the petition, while the same works out to GBP 19.23 lakh. However, in the calculation, repayment amount as worked out has been considered for working out interest on loan after proportionately adjusting for admitted loan.

8. The relevant details in support of calculation of interest on loan are given hereunder:

CALCULATIONS OF INTEREST ON LOAN

(Rs. in lakh)

Details of Loan	2001-02	2002-03	2003-04
No .of days in the Year	365	365	366
Bonds VI			
Gross Loan -Opening	996.11	996.11	996.11
Cumulative Repayment up to Previous Year	0.00	0.00	99.61
Net Loan-Opening	996.11	996.11	896.50
Repayment during the year	0.00	99.61	99.61
Net Loan-Closing	996.11	896.50	796.89
Rate of Interest	13.13%	13.13%	13.13%
Interest	130.79	126.63	113.53
Repayment Schedule	10 Annual Instalments from 06.12.2002		
SBI-I / Bond XI (Option-II) (Refinancing of SBI-I from Bond XI - Option-II on 7.12.2001)			
Gross Loan -Opening	1992.22	1992.22	1992.22
Cumulative Repayment up to Previous Year	0.00	0.00	0.00
Net Loan-Opening	1992.22	1992.22	1992.22
Repayment during the year	0.00	0.00	332.04
Net Loan-Closing	1992.22	1992.22	1660.18
Rate of Interest - SBI-I	12.00%		
Rate of Interest - Bond XI -Option-II	9.20%	9.20%	9.20%
Interest	221.49	183.28	173.60
Repayment Schedule	SBI-I - 7 Annual Instalments form 24.03.2003 (refinanced on 07.12.2001) / Bond XI -Option-II (6 Annual Instalments from 07.12.2003)		
Bonds-VII			
Gross Loan -Opening	2634.40	2634.40	2634.40
Cumulative Repayment up to Previous Year	0.00	0.00	0.00
Net Loan-Opening	2634.40	2634.40	2634.40
Repayment during the year	0.00	0.00	526.88
Net Loan-Closing	2634.40	2634.40	2107.52
Rate of Interest	13.64%	13.64%	13.64%
Interest	359.33	359.33	312.01
Repayment Schedule	5 Annual Instalments from 04.08.2003		
Corporation Bank			
Gross Loan –Opening	1316.71	1316.71	1316.71
Cumulative Repayment up to Previous Year	0.00	0.00	0.00
Net Loan-Opening	1316.71	1316.71	1316.71
Repayment during the year	0.00	0.00	65.84
Net Loan-Closing	1316.71	1316.71	1250.87
Rate of Interest	12.25%	12.25%	12.25%
Interest	161.30	161.30	160.81
Repayment Schedule	20 Half yearly Instalments from 10.03.2004		

PNB			
Gross Loan -Opening	2634.40	2634.40	2634.40
Cumulative Repayment up to Previous Year	0.00	0.00	0.00
Net Loan-Opening	2634.40	2634.40	2634.40
Repayment during the year	0.00	0.00	263.44
Net Loan-Closing	2634.40	2634.40	2370.96
Rate of Interest	12.01%	12.01%	12.01%
Interest	316.39	316.39	316.22
Repayment Schedule	10 Annual Instalments from 30.03.2004		
SBI-II			
Gross Loan -Opening	2041.24	2041.24	2041.24
Cumulative Repayment up to Previous Year	0.00	0.00	0.00
Net Loan-Opening	2041.24	2041.24	2041.24
Repayment during the year	0.00	0.00	340.21
Net Loan-Closing	2041.24	2041.24	1701.03
Rate of Interest	12.07%	12.07%	12.07%
Interest	246.38	246.38	215.75
Repayment Schedule	6 Annual Instalments from 3.7.2003		
WMB-II			
Gross Loan -Opening	21076.17	21076.17	21076.17
Cumulative Repayment up to Previous Year	3991.31	6620.25	9249.19
Net Loan-Opening	17084.86	14455.92	11826.98
Repayment during the year- 22 nd Aug.	1314.47	1314.47	1314.47
	15770.39	13141.45	10512.51
Repayment during the year- 22 nd Feb.	1314.47	1314.47	1314.47
Net Loan-Closing	14455.92	11826.98	9198.05
Rate of Interest	7.55%	7.55%	7.55%
Interest	1219.21	1020.73	821.89
Repayment Schedule	Half Yearly Instalments- 22.08.2001,22.02.2002,22.08.2002,22.02.2003,22.08.2003 & 22.02.2004		
LIC			
Gross Loan -Opening	253.93	253.93	253.93
Cumulative Repayment up to Previous Year	253.93	253.93	253.93
Net Loan-Opening	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00
Rate of Interest	18.15%	18.15%	18.15%
Interest	0.00	0.00	0.00
Repayment Schedule	Repaid before 31.03.2001		
ADB-I			
Gross Loan -Opening	11118.00	11118.00	11118.00
Cumulative Repayment up to Previous Year	302.69	769.22	1283.61
Net Loan-Opening	10815.31	10348.78	9834.39
Repayment during the year- 1 st June	227.58	250.93	276.64
	10587.73	10097.85	9557.75
Repayment during the year- 1 st December	238.95	263.46	290.46

Net Loan-Closing	10348.78	9834.39	9267.30
Rate of Interest	7.73%	7.73%	7.73%
Interest	815.25	777.05	734.89
Repayment Schedule	Half Yearly Instalments- 01.06.2001,01.12.2001,01.06.2002,01.12.2002,01.06.2003 & 01.12.2003.		
Bond III (IInd Series)			
Gross Loan -Opening	1897.12	1897.12	1897.12
Cumulative Repayment up to Previous Year	1897.12	1897.12	1897.12
Net Loan-Opening	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00
Rate of Interest	16.30%	16.30%	16.30%
Interest	0.00	0.00	0.00
Repayment Schedule	Repaid before 31.03.2001		
Bond IV (IInd Tranche)			
Gross Loan -Opening	2742.25	2742.25	2742.25
Cumulative Repayment up to Previous Year	0.00	2742.25	2742.25
Net Loan-Opening	2742.25	0.00	0.00
Repayment during the year	2742.25	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00
Rate of Interest	17.84%	17.84%	17.84%
Interest	142.07	0.00	0.00
Repayment Schedule-Bullet on	Bullet on 16.07.2001		
Bond IV (IInd Issue)			
Gross Loan -Opening	2025.56	2025.56	2025.56
Cumulative Repayment up to Previous Year	2025.56	2025.56	2025.56
Net Loan-Opening	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00
Rate of Interest	17.57%	17.57%	17.57%
Interest	0.00	0.00	0.00
Repayment Schedule	Repaid before 31.03.2001		
Bond V			
Gross Loan -Opening	2650.09	2650.09	2650.09
Cumulative Repayment up to Previous Year	0.00	2650.09	2650.09
Net Loan-Opening	2650.09	0.00	0.00
Repayment during the year	2650.09	0.00	0.00
Net Loan-Closing	0.00	0.00	0.00
Rate of Interest	15.80%	15.80%	15.80%
Interest	377.42	0.00	0.00
Repayment Schedule	Bullet on 24.02.2002		
Notional Loan-WMB-II			
Gross Loan -Opening	-567.12	-567.12	-567.12
Cumulative Repayment up to Previous Year	0.00	-87.27	-174.53
Net Loan-Opening	-567.12	-479.86	-392.59

Repayment during the year- 1 st June	-43.63	-43.63	-43.63
	-523.49	-436.22	-348.96
Repayment during the year- 1 st December	-43.63	-43.63	-43.63
Net Loan-Closing	-479.86	-392.59	-305.32
Rate of Interest	7.55%	7.55%	7.55%
Interest	-40.47	-33.88	-27.28
Repayment Schedule	Same as of WMB-II loan		
Notional Loan-ADB-I			
Gross Loan -Opening	649.19	649.19	649.19
Cumulative Repayment up to Previous Year	0.00	28.00	58.88
Net Loan-Opening	649.19	621.19	590.31
Repayment during the year- 1 st June	13.66	15.06	16.61
	635.53	606.12	573.70
Repayment during the year- 1 st December	14.34	15.81	17.43
Net Loan-Closing	621.19	590.31	556.27
Rate of Interest	7.73%	7.73%	7.73%
Interest	48.94	46.64	44.11
Repayment Schedule	Same as of ADB-I loan		
Total Loan			
Gross Loan -Opening	53460.27	53460.27	53460.27
Cumulative Repayment up to Previous Year	8470.61	16899.15	20085.70
Net Loan-Opening	44989.66	36561.11	33374.56
Repayment during the year	8428.54	3186.55	4770.82
Net Loan-Closing	36561.11	33374.56	28603.74
Interest	3998.10	3203.86	2865.54

9. SBI – I, Corporation Bank, PNB, SBI – II and ADB –I loans carry floating rate of interest. The interest rate stated to be prevailing on 1.4.2001 has been taken in calculation. Any changes/re-setting of the interest rate during the tariff period may be settled mutually by the parties. In case they are unable to do so, either party may approach the Commission for appropriate decision.

ADVANCE AGAINST DEPRECIATION

10. 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 1/12th of original loan amount minus depreciation as per schedule.

11. The petitioner has claimed advance against depreciation on the basis of
- (i) 1/12th of gross loan worked out from Gross Loan as claimed in the previous petition and multiplying the outstanding loan as on 31.3.2001 in foreign currency with exchange rate as on 31.3.2001 and division of FERV into notional loan into debt and equity in the ratio of 50:50,
 - (ii) repayment of actual loans (excluding notional loan arising out of FERV claimed above) during the year, and in case of foreign currency loan multiplying the repayment with exchange rate as on 31.3.2001, and
 - (iii) depreciation as claimed in the petition.

12. For working out Advance Against depreciation, 1/12th 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 entitled to Advance Against Depreciation as calculated below:

Advance Against Depreciation	2001-02	2002-03	2003-04
1/12 th of Gross Loan(s)	4455.02	4455.02	4455.02
Scheduled Repayment of the Loan(s)	8428.54	3186.55	4770.82
Minimum of the above	4455.02	3186.55	4455.02
Depreciation during the year	2012.70	2012.70	2012.70
Advance Against Depreciation	2442.32	1173.85	2442.32

INTEREST ON WORKING CAPITAL

13. 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 1/5th 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%.

14. The petitioner has claimed the maintenance spares on the basis of maintenance spares allowed by the Commission in its order dated 3.6.2002 in petition No 9/1999 with escalation @ 6% p.a. for the years 2001-02 to 2003-04 and deducting the 1/5th of the initial capitalized spares therefrom. The petitioner's claim for O & M expenses is based on the petition. The petitioner has further claimed the receivables on the basis 2 months' of annual transmission charges as claimed in the petition.

15. In keeping with the methodology prescribed in the notification dated 26.3.2001, working capital has been worked out. In the calculation, maintenance spares for the year 2001-02 to 2003-04 have been worked out on the basis of capital expenditure up to 31.03.2001 allowed by the Commission earlier, and after deduction of 1/5th of the

initial capitalised spares therefrom. This has been escalated at the rate of 6% per annum. In the calculation, O&M expenses for working capital has been worked out for 1 month of O&M expenses considered in tariff of the respective year. The receivables have been worked out on the basis 2 months' of annual transmission charges as worked out above.

16. 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)

Escalation for Maintenance Spares	6%			
Period in 2000-01	1.00			
On Capital Expenditures up to 31.03.2000	649.89			
On Capital Expenditures during the year 2000-01	0.63			
Maintenance Spares	650.52			
Less: 1/5 th of Initial Spares	87.84			
Maintenance Spares	562.68	596.42	632.21	670.14
O & M expenses		47.64	50.50	53.53
Receivables		1807.22	1463.31	1628.34
Total		2,451.29	2,146.01	2,352.01
Rate of Interest		11.50%	11.50%	11.50%
Interest		281.90	246.79	270.48

TRANSMISSION CHARGES

17. In the light of above discussion, we approve the revised transmission charges as given below:

(Rs. in lakh)

Transmission Tariff	2001-02	2002-03	2003-04
Interest on Loan	3998.10	3203.86	2865.54
Interest on Working Capital	281.90	246.79	270.48
Depreciation	2012.70	2012.70	2012.70
Advance against Depreciation	2442.32	1173.85	2442.32
Return on Equity	1536.65	1536.65	1536.65
O & M Expenses	571.68	605.98	642.34
Total	10843.35	8779.83	9770.04

18. The tariff already charged by the petitioner shall be adjusted in the light of the final tariff now approved by us. The revised tariff shall be shared in accordance with para 62 of the order dated 18.7.2003 and shall be further subject to the conditions contained in that order.

Sd/-
(K.N. SINHA)
MEMBER

Sd/-
(ASHOK BASU)
CHAIRMAN

New Delhi dated the 10th September 2004