

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram

1. **Shri Bhanu Bhushan, Member**
2. **Shri R. Krishnamoorthy, Member**

**I.A.No. 19/2007 in
Petition No. 136/2006**

In the matter of

Correction of error in order dated 6.2.2007 in Petition No 136/2006 determining final transmission tariff for 400 kV D/C Madurai–Thiruvananthapuram Transmission System in Southern Region for the period 1.8.2005 to 31.3.2009 including additional capitalization form the date of commercial operation (1.8.2005) to 31.3.2006.

And in the matter of

Power Grid Corporation of India Limited, New Delhi

... **Petitioner**

Vs

1. Karnataka Power Transmission Corporation Ltd., Bangalore
2. Transmission Corporation of Andhra Pradesh Ltd., Hyderabad
3. Kerala State Electricity Board, Thiruvananthapuram
4. Tamil Nadu Electricity Board, Chennai
5. Electricity Department, Govt. of Pondicherry, Pondicherry

.... **Respondents**

ORDER

This application has been made for correction of certain errors in the Commission's order dated 6.2.2007, determining final transmission tariff in respect of 400 kV D/C Madurai – Thiruvananthapuram transmission line in Southern Region (hereinafter referred to as "the transmission line") for the period form 1.8.2005, the date of commercial operation, to 31.3.2009 after accounting for additional capitalization of Rs.600.21 lakh up to 31.3.2006.

2. In the petition, the petitioner had shown bridge financing of loan from IOB having floating rate of interest of 5.90% p.a., in addition to some other loans. IOB loan was subsequently replaced with Bond XVII having fixed rate of interest of 7.39% p.a., with effect from 22.9.2005. Therefore, for the year 2005-06 weighted average rate of interest of 7.07% was worked out for IOB loan/Bond XVII. The weighted average rate of 7.07% was inadvertently considered for the subsequent years, that is, 2006-07 and 2007-08 as well. Accordingly, the Commission in its order of 6.2.2007 approved interest on loan as under after considering all loans allocated to the transmission line:

(Rs. in lakh)

Details of loan	2005-06 (Pro rata)	2006-07	2007-08	2008-09
Interest on Loan				
Opening Gross Loan	17509.00	17929.15	17929.15	17929.15
Cumulative Repayment	288.82	735.11	1598.84	2606.15
Net Loan-Opening	17220.18	17194.04	16330.31	15323.00
Additions due to Additional Capitalisation	420.15			
Repayment during the year	446.29	863.73	1007.31	1508.71
Net Loan-Closing	17194.04	16330.31	15323.00	13814.28
Average Loan	17207.11	16762.17	15826.65	14568.64
Weighted Average Rate of Interest on Loan	8.24%	8.21%	8.16%	8.12%
Interest	945.73	1375.41	1290.89	1183.63

3. The petitioner has pointed out that interest rate of 7.07% for the years 2006-07 and 2007-08 for IOB loan/Bond XVII has been wrongly applied and that for these years interest rate of 7.39% ought to have been considered for computation of the overall weighted average rate of interest. It has also been pointed out that there is discrepancy in considering notional repayments for the years 2007-08 and 2008-09 in the computation given in para 23 of the order dated 6.2.2007. The petitioner accordingly seeks necessary corrections.

4. Notice of the application was issued to the respondents. Only the fourth respondent has filed its reply. This respondent has accepted the error in interest rate

considered for the years 2006-07 and 2007-08. The respondent has agreed that a discrepancy in considering notional repayments of loan existed, and has furnished its own computations in this regard.

5. We have perused the records and are satisfied that there are inadvertent mathematical errors in the computation of interest on loan component of tariff and these errors need to be rectified.

6. Accordingly, the interest on loan component of tariff in respect of the transmission line is revised as under, which will supersede the interest allowed in the table given under para 23 of the order dated 6.2.2007:

INTEREST ON LOAN

(Rs. In lakh)

	2005-06	2006-07	2007-08	2008-09
Opening Gross Loan	17509.00	17929.15	17929.15	17929.15
Cumulative Repayment up to DOCO/Previous Year	288.82	735.11	1598.84	2605.80
Net Loan-Opening	17220.18	17194.04	16330.31	15323.34
Additions including additions due to Additional Capitalisation	420.15			
Repayment during the year	446.29	863.73	1006.96	1479.87
Net Loan-Closing	17194.04	16330.31	15323.34	13843.47
Average Loan	17207.11	16762.17	15826.83	14583.41
Weighted Average Rate of Interest on Loan	8.2442%	8.2248%	8.1769%	8.1467%
Interest	945.73	1378.65	1294.15	1188.07

7. The detailed calculations in support of weighted average rate of interest considered in tariff are contained in Annexure-I attached.

8. The petitioner's entitlement to Advance Against Depreciation has also been re-worked out based on the revised calculation of interest on loan and the relevant

details are reproduced hereunder, which will supersede the Advance Against Depreciation allowed in the table given under para 33 of the order dated 6.2.2007:

(Rs. in lakh)

Details of Advance Against Depreciation	2005-06	2006-07	2007-08	2008-09
1/10th of Gross Loan(s)	1750.90	1792.91	1792.91	1792.91
Repayment of Loan	446.29	863.73	1006.96	1479.87
Minimum of the above	446.29	863.73	1006.96	1479.87
Depreciation during the year	446.29	677.99	677.99	677.99
(A) Difference	0.00	185.75	328.98	801.89
Cumulative Repayment of the Loan	735.11	1598.84	2605.80	4085.68
Cumulative Depreciation/ Advance against Depreciation	446.29	1124.28	1988.01	2994.97
(B) Difference	288.82	474.56	617.79	1090.70
Advance Against Depreciation Minimum of (A) and (B)	0.00	185.75	328.98	801.89

9. The revision of interest on loan component has resulted in marginal adjustments in interest on working capital. The petitioner's entitlement to interest on working capital as revised, is given hereunder:

(Rs. in lakh)

	2005-06 (Pro rata)	2006-07	2007-08	2008-09
Maintenance Spares	243.33	253.07	268.25	284.35
O & M expenses	37.75	39.28	40.82	42.48
Receivables	599.90	631.52	644.89	710.79
Total	880.99	923.87	953.96	1037.62
Rate of Interest	10.25%	10.25%	10.25%	10.25%
Interest	60.20	94.70	97.78	106.36

10. The other two elements of tariff, namely return on equity and O & M charges approved by order dated 6.2.2007 remain unaffected.

11. The revised summary of the transmission charges applicable for the transmission line, in supersession of that given in the table in para 39 of the order dated 6.2.2007 shall be as under:

(Rs. in lakh)

	2005-06 (Pro rata)	2006-07	2007-08	2008-09
Depreciation	446.29	677.99	677.99	677.99
Interest on Loan	945.73	1378.65	1294.15	1188.07
Return on Equity	645.35	980.63	980.63	980.63
Advance against Depreciation	0.00	185.75	328.98	801.89
Interest on Working Capital	60.20	94.70	97.78	106.36
O & M Expenses	302.02	471.39	489.80	509.79
Total	2399.60	3789.10	3869.32	4264.73

12. The revised summary sheet of the capital cost, etc in respect of the transmission line is attached as Annexure – II.

13. This order disposes of I.A. No 19/2007.

Sd-/
(R. KRISHNAMOORTHY)
MEMBER

sd-/
(BHANU BHUSHAN)
MEMBER

New Delhi dated the 7th June, 2007

ANNEXURE-I

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

400 KV Sub-Station at Thiruvananthapuram and 400 KV D/C Madurai- Thiruvananthapuram Transmission Line

(Rs. in Lacs)

	Details of Loan	2005-06	2006-07	2007-08	2008-09
1	Bond-IX				
	Gross Loan opening	112.00	112.00	112.00	112.00
	Cumulative Repayment upto DOCO/previous year	22.40	33.60	44.80	56.00
	Net Loan-Opening	89.60	78.40	67.20	56.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	11.20	11.20	11.20	11.20
	Net Loan-Closing	78.40	67.20	56.00	44.80
	Average Loan	84.00	72.80	61.60	50.40
	Rate of Interest	12.25%	12.25%	12.25%	12.25%
	Interest	10.29	8.92	7.55	6.17
	Repayment Schedule	10 Annual instalments from 22.08.2003			
2	Bond-X				
	Gross Loan opening	1066.00	1066.00	1066.00	1066.00
	Cumulative Repayment upto DOCO/previous year	177.67	177.67	266.50	355.33
	Net Loan-Opening	888.33	888.33	799.50	710.67
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	88.83	88.83	88.83
	Net Loan-Closing	888.33	799.50	710.67	621.83
	Average Loan	888.33	843.92	755.08	666.25
	Rate of Interest	10.90%	10.90%	10.90%	10.90%
	Interest	96.83	91.99	82.30	72.62
	Repayment Schedule	12 Annual instalments from 21.06.2004			
3	Bond-XI Option-I				
	Gross Loan opening	1052.00	1052.00	1052.00	1052.00
	Cumulative Repayment upto DOCO/previous year	0.00	87.67	175.33	263.00
	Net Loan-Opening	1052.00	964.33	876.67	789.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	87.67	87.67	87.67	87.67
	Net Loan-Closing	964.33	876.67	789.00	701.33
	Average Loan	1008.17	920.50	832.83	745.17
	Rate of Interest	9.80%	9.80%	9.80%	9.80%
	Interest	98.80	90.21	81.62	73.03
	Repayment Schedule	12 Annual instalments from 07.12.2005			

4	Bond-XII				
	Gross Loan opening	1874.00	1874.00	1874.00	1874.00
	Cumulative Repayment upto DOCO/previous year	0.00	156.17	312.34	468.50
	Net Loan-Opening	1874.00	1717.83	1561.66	1405.50
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	156.17	156.17	156.17	156.17
	Net Loan-Closing	1717.83	1561.66	1405.50	1249.33
	Average Loan	1795.92	1639.75	1483.58	1327.41
	Rate of Interest	9.70%	9.70%	9.70%	9.70%
	Interest	174.20	159.06	143.91	128.76
	Repayment Schedule	12 Annual instalments from 28.03.2006			
5	Bond-XIII Option-I				
	Gross Loan opening	5000.00	5000.00	5000.00	5000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	416.67	833.33
	Net Loan-Opening	5000.00	5000.00	4583.33	4166.67
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	416.67	416.67	416.67
	Net Loan-Closing	5000.00	4583.33	4166.67	3750.00
	Average Loan	5000.00	4791.67	4375.00	3958.33
	Rate of Interest	8.63%	8.63%	8.63%	8.63%
	Interest	431.50	413.52	377.56	341.60
	Repayment Schedule	12 Annual instalments from 31.07.2006			
6	Bond-XV				
	Gross Loan opening	1690.00	1690.00	1690.00	1690.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	140.83
	Net Loan-Opening	1690.00	1690.00	1690.00	1549.17
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	140.83	140.83
	Net Loan-Closing	1690.00	1690.00	1549.17	1408.33
	Average Loan	1690.00	1690.00	1619.58	1478.75
	Rate of Interest	6.68%	6.68%	6.68%	6.68%
	Interest	112.89	112.89	108.19	98.78
	Repayment Schedule	12 Annual instalments from 23-02-2008			
7	Bond- XVI				
	Gross Loan opening	4650.00	4650.00	4650.00	4650.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	4650.00	4650.00	4650.00	4650.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	465.00

	Net Loan-Closing	4650.00	4650.00	4650.00	4185.00
	Average Loan	4650.00	4650.00	4650.00	4417.50
	Rate of Interest	7.10%	7.10%	7.10%	7.10%
	Interest	330.15	330.15	330.15	313.64
	Repayment Schedule	10 Annual instalments from 18-02-2009			
8	Bond- XVII				
	Gross Loan opening	1000.00	1000.00	1000.00	1000.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	1000.00	1000.00	1000.00	1000.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	1000.00	1000.00	1000.00	1000.00
	Average Loan	1000.00	1000.00	1000.00	1000.00
	Rate of Interest	7.07%	7.39%	7.39%	7.39%
	Interest	70.71	73.90	73.90	73.90
	Repayment Schedule	10 Annual Instalments from 22.09.2009			
10	Bond- XVIII (For ACE) (Date of Drawal 09.03.2006)				
	Gross Loan opening	0.00	30.00	30.00	30.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	30.00	30.00	30.00
	Additions during the year	30.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	30.00	30.00	30.00	30.00
	Average Loan	15.00	30.00	30.00	30.00
	Rate of Interest	8.15%	8.15%	8.15%	8.15%
	Interest	1.22	2.45	2.45	2.45
	Repayment Schedule	12 annual inatalments from 09.03.2010			
11	PNB-II				
	Gross Loan opening	581.00	581.00	581.00	581.00
	Cumulative Repayment upto DOCO/previous year	48.42	96.83	145.25	193.67
	Net Loan-Opening	532.58	484.17	435.75	387.33
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	48.42	48.42	48.42	48.42
	Net Loan-Closing	484.17	435.75	387.33	338.92
	Average Loan	508.38	459.96	411.54	363.13
	Rate of Interest	8.60%	8.60%	8.60%	8.60%
	Interest	43.72	39.56	35.39	31.23
	Repayment Schedule	12 Annual Instalments from 08.3.2005			

12	OBC				
	Gross Loan opening	484.00	484.00	484.00	484.00
	Cumulative Repayment upto DOCO/previous year	40.33	80.67	121.00	161.33
	Net Loan-Opening	443.67	403.33	363.00	322.67
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	40.33	40.33	40.33	40.33
	Net Loan-Closing	403.33	363.00	322.67	282.33
	Average Loan	423.50	383.17	342.83	302.50
	Rate of Interest	8.60%	8.60%	8.60%	8.60%
	Interest	36.42	32.95	29.48	26.02
	Repayment Schedule	12 Annual Instalments from 22.03.2005			
	Total Loan				
	Gross Loan opening	17509.00	17539.00	17539.00	17539.00
	Cumulative Repayment upto DOCO/previous year	288.82	632.60	1481.89	2472.00
	Net Loan-Opening	17220.18	16906.40	16057.11	15067.00
	Additions during the year	30.00	0.00	0.00	0.00
	Repayment during the year	343.79	849.28	990.12	1455.12
	Net Loan-Closing	16906.40	16057.11	15067.00	13611.88
	Average Loan	17063.29	16481.76	15562.06	14339.44
	Rate of Interest	8.2442%	8.2248%	8.1769%	8.1467%
	Interest	1406.74	1355.59	1272.50	1168.20

Annexure - II

Summary Sheet							
Name of the Company:			PGCIL				
Name of the Element:			400 KV Sub-Station at Thiruvananthapuram and 400 KV D/C Madurai- Thiruvananthapuram Transmission Line				
Actual date of commercial operation			1.8.2005				
Petition No.:			136/2006				
Tariff setting Period:			2004-09				
(Rs.in lakh)							
1	Capital Cost of the Project as on Date of commercial operation					24333.47	
2	Additional Capitalisation					600.21	
			For the year 2004-05			0.00	
			For the year 2005-06			600.21	
			Total			600.21	
	Total Capital Cost as on 1.4.2005(1+2a)					24333.47	
3	Total Capital Cost as on 1.4.2006(1+2)					24933.68	
4	Means of Finance :						
		As on date of commercial operation	As on 1.4.2005		As on 1.4.2006		
	Debt	71.95%	17509.00	71.95%	17509.00	71.91% 17929.15	
	Equity	28.05%	6824.47	28.05%	6824.47	28.09% 7004.53	
	Total	100.00%	24333.47	100.00%	24333.47	100.00% 24933.68	
5	Gross Loan:						
	As on date of commercial operation					17509.00	
	Notional Loan corresponding to ACE during 2004-05					0.00	
	As on 1.4.2005					17509.00	
	Notional Loan corresponding to ACE during 2005-06					420.15	
	As on 1.4.2006					17929.15	
6	Cumulative Repayment up to 31.3.2009 :					4085.68	
		Up to Date of commercial operation				288.82	
		From Date of commercial operation to 31.3.2009				3796.86	
		Total				4085.68	
7	Balance Loan to be repaid beyond 31.3.2009 :					13843.47	
8	Depreciation recovered up to 31.3.2009 :					3796.86	
				Dep	AAD	Total	
		From date of commercial operation to 31.3.2009			2480.25	1316.61	3796.86
		Total					3796.86
	Balance Depreciation to be recovered beyond 31.3.2009 :					18246.14	
			Capital cost for the purpose of Depreciation			24333.47	
			ACE during 2004-05			0.00	
			ACE during 2005-06			600.21	
			Capital cost as 1.4.2006			24933.68	
			Less: Land Cost			441.46	
						24492.22	
			90% of Capital Cost as above			22043.00	
			Cum. Depreciation to be recovered up to 31.3.2009			3796.86	
			Balance Depreciation to be recovered beyond 31.3.2009			18246.14	