

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. Dr. Pramod Deo, Chairperson
2. Shri R.Krishnamoorthy, Member
3. Shri S.Jayaraman, Member
4. Shri V.S.Verma, Member

Petition No. 49/2009

In the matter of

Revision of transmission tariff due to additional capital expenditure incurred during 2006-07 for 40% Fixed Series Compensation on 400 kV Gooty-Neelmangala transmission line (Ckt-II) at Gooty under FSC project in Southern Region..

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.**

The following were present:

1. Shri U.K.Tyagi, PGCIL
2. Shri V.V.Sharma, PGCIL
3. Shri M.M.Mondal, PGCIL
4. Shri Mohd. Mohsin, PGCIL
5. Shri R.Krishnaswami, TNEB

**ORDER
(DATE OF HEARING: 21.5.2009)**

This petition has been filed for revision of transmission tariff on account of additional capital expenditure incurred during 2006-07 in respect of 40% Fixed Series Compensation on 400 kV Gooty-Neelmangala transmission line (Ckt-II) (the transmission asset) at Gooty under FSC project (the transmission scheme) in Southern Region for the period from 1.4.2006 to 31.3.2009,, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004, (hereinafter referred to as "the 2004

regulations”). The petitioner has also prayed for reimbursement of the petition filing fee and other expenditure .in connection with the filing of the petition.

2. The investment approval for the transmission scheme was accorded by the Board of Directors of the petitioner company vide letter dated 22.10.2002 at an estimated cost of Rs.5793 lakh, including IDC of Rs. 443 lakh. The transmission asset was declared under commercial operation on 1.5.2006.

3. The transmission charges for the transmission asset were approved by the Commission in its order dated 23.3.2007 in Petition No. 129/2006 for the period 1.5.2005 to 31.3.2009 based on capital cost of Rs. 1382.59 lakh as on the date of commercial operation and Rs. 1461.40 lakh as on 31.3.2006, after considering additional capital expenditure of Rs. 78.81 lakh for the period 1.5.2005 to 31.3.2006. The summary of the transmission charges approved by the said order dated 23.3.2007 is extracted hereunder:

(Rs. in lakh)

	2005-06 (Pro rata)	2006-07	2007-08	2008-09
Depreciation	46.93	52.61	52.61	52.61
Interest on Loan	73.87	78.38	72.73	66.76
Return on Equity	54.75	61.38	61.38	61.38
Advance against Depreciation	0.00	9.01	18.87	18.87
Interest on Working Capital	5.07	5.81	6.01	6.04
O & M Expenses	26.81	30.42	31.63	32.90
Total	207.43	237.61	243.23	238.55

4. The relevant details of the completion cost etc. of the transmission assets claimed by the petitioner are as under:

(Rs.in lakh)

Capital expenditure up to 1.5.2005	Additional Capitalization during 2005-06	Capital expenditure as on 1.4.2006	Additional Capitalization during 2006-07	Capital expenditure as on 1.4.2007
1382.59 (As per order dated 23.3.2007)	78.81	1461.40	4.19	1465.59

5. Based on the above additional capital expenditure, the petitioner has claimed the revised transmission charges for the years 2006-07, 2007-08 and 2008-09 as under:

(Rs. in lakh)			
	2006-07	2007-08	2008-09
Depreciation	52.69	52.76	52.76
Interest on Loan	78.50	72.97	66.97
Return on Equity	61.47	61.56	61.56
Advance against Depreciation	8.93	18.95	18.95
Interest on Working Capital	5.82	6.02	6.05
O & M Expenses	30.42	31.63	32.90
Total	237.83	243.89	239.19

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

(Rs. in lakh)			
	2006-07	2007-08	2008-09
Maintenance Spares	14.59	15.46	16.39
O & M expenses	2.54	2.64	2.74
Receivables	39.64	40.65	39.87
Total	56.77	58.75	59.00
Rate of Interest	10.25%	10.25%	10.25%
Interest	5.82	6.02	6.05

7. The reply to the petition has been filed by the Tamil Nadu Electricity Board.

CAPITAL COST

8. The details submitted by the petitioner in support of its claim for additional capital expenditure are given hereunder:

Year	Amount (Rs. in lakh)	Nature and details of expenditure
2007-08	Sub-station = Rs 4.19 lakh	Balance/retention payments
	Total = Rs. 4.19 lakh	

9. It is found that the additional capital expenditure claimed is in respect of committed liabilities. These are part of the deferred liabilities relating to works/services which have since materialised, and are within the original scope

of work. Therefore, the additional expenditure sought to be capitalised is allowed under clauses (1) and (2) of Regulation 53 of the 2004 regulations.

TOTAL CAPITAL COST

10. Based on the above, capital cost for the purpose of tariff for transmission line as on 31.3.2008 works out as under:

(Rs. in lakh)

Capital expenditure up to 1.5.2005	Additional Capitalization during 2005-06	Capital expenditure as on 1.4.2006	Additional Capitalization during 2006-07	Capital expenditure as on 1.4.2007
1382.59	78.81	1461.40	4.19	1465.59

DEBT- EQUITY RATIO

11. The petitioner has considered the amount of additional capitalization in the debt-equity ratio of 70:30. This has been found to be in order. Accordingly, for the purpose of tariff, equity considered for the transmission line is as under:

(Rs. in lakh)

Equity as on 1.5.2005 (As per order dated 23.3.2007)	Notional additional equity during 2005-06	Average equity for 2005-06	Equity as on 1.4.2006	Notional additional equity during 2006-07	Average equity for 2006-07	Equity as on 1.4.2007
414.79	23.64	426.61	438.43	1.26	439.06	439.69

RETURN ON EQUITY

12. As per clause (iii) of Regulation 56 of the 2004 regulations, return on equity shall be computed on the equity base determined in accordance with regulation 54 @ 14% per annum. Equity invested in foreign currency is to be allowed a return in the same currency and the payment on this account is made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

13. Equity as given the table under para 11 above has been considered. The tariff for the years 2006-07 has been allowed on average equity. Accordingly, revised return on equity allowed each year is given as under:

(Rs. in lakh)

Return on equity		
2006-07	2007-08	2008-09
61.47	61.56	61.56

INTEREST ON LOAN

14. Clause (1) of regulation 56 of the 2004 regulations *inter alia* provides that,-

(a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 54.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan in accordance with Regulation 54 minus cumulative repayment as admitted by the Commission or any other authority having power to do so, up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis.

(c) The transmission licensee shall make every effort to re-finance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such re-financing shall be borne by the beneficiaries.

(d) The changes to the loan terms and conditions shall be reflected from the date of such re-financing and benefit passed on to the beneficiaries.

(e) In case of dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment ordered by the Commission to the transmission licensee during pendency of any dispute relating to re-financing of loan;

(f) In case any moratorium period is availed of by the transmission licensee, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(g) The transmission licensee shall not make any profit on account of re-financing of loan and interest on loan;

(h) The transmission licensee may, at its discretion, swap loans having floating rate of interest with loans having fixed rate of interest, or vice versa, at its own cost and gains or losses as a result of such swapping shall accrue to the transmission licensee:

Provided that the beneficiaries shall be liable to pay interest for the loans initially contracted, whether on floating or fixed rate of interest.”

15. In our calculation, the interest on loan has been worked out as detailed below:

(a) Gross amount of loan, repayment of instalments as per the loan , rate of interest and weighted average rate of interest on actual loan have been considered as per order dated 23.3.2007 in Petition No. 129/2006.

(b) Notional loan arising out of additional capitalisation for the year 2006-07 has been added in loan amount as on 31.3.2006 to arrive at total Notional loan. This adjusted Gross loan has been considered as normative loan for tariff calculations.

(c) Tariff has been worked out considering normative loan and normative repayments. Once the normative loan is arrived at, it is considered for all purposes in the tariff. Normative repayments are worked out by the following formula:

$$\frac{\text{Actual repayment of actual loan during the year}}{\text{Opening balance of actual loan during the year}} \times \text{Opening balance of normative loan during the year}$$

(d) Moratorium in repayment of loan has been considered with reference to normative loan and if the normative repayment of loan during the year is less than the depreciation during the year, it has been considered as moratorium and depreciation during the year has been deemed as normative repayment of loan during the year.

(e) Weighted average rate of interest on actual loan worked out as per (i) above has been applied on the average loan during the year to arrive at the interest on loan.

16. Based on above, revised year-wise interest on loan has been worked out as under:

(Rs. in lakh)			
Details	2006-07	2007-08	2008-09
Gross Normative Loan-Opening	1022.97	1025.90	1025.90
Cumulative Repayment up to Previous Year/date of commercial operation	46.93	108.54	180.25
Net Loan-Opening	976.04	917.36	845.65
Addition due to Additional Capitalisation	2.93	0.00	
Repayment during the year	61.62	71.70	71.70
Net Loan-Closing	917.36	845.65	773.95
Average Loan	946.70	881.51	809.80
Weighted Average Rate of Interest on Loan	8.29%	8.277%	8.27%
Interest	78.50	72.97	66.97

17. The detailed calculations in support of the weighted average rate of interest are contained in Annexure attached.

DEPRECIATION

18. Sub-clause (a) of clause (ii) of Regulation 56 of the 2004 regulations provides for computation of depreciation in the following manner, namely:

(a) The value base for the purpose of depreciation shall be the historical cost of the asset.

(b) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations. The residual value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.

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

(d) 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.

19. Depreciation allowed has been worked out as below:

	(Rs. in lakh)		
	2006-07	2007-08	2008-09
Gross block as on 1 st April of the year	1461.40	1465.59	1465.59
Addition due to Additional Capitalisation	4.19	0.00	-
Gross Block	1465.59	1465.59	1465.59
Rate of Depreciation	3.6000%	3.6000%	3.6000%
Depreciable Value	1316.73	1319.03	1319.03
Balance Useful life of the asset	-	-	-
Remaining Depreciable Value	1269.81	1210.49	1138.79
Depreciation	52.69	52.76	52.76

ADVANCE AGAINST DEPRECIATION

20. As per sub-clause (b) of clause (ii) of Regulation 56 of the 2004 regulations, in addition to allowable depreciation, the transmission licensee is entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 56 (i) subject to a ceiling of 1/10th of loan amount as per regulation 54 minus depreciation as per schedule

21. It is provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year. It is further provided that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

22. The petitioner has claimed Advance Against Depreciation in the following manner:

- (i) 1/10th of gross loan is worked out from the gross notional loan.
- (ii) Cumulative loan as well as repayment of notional loan during the year have been considered.
- (iii) Depreciation as claimed in the petition.

23. In our calculation, the Advance Against Depreciation has been worked out as under:

- (i) 1/10th of gross loan is worked out from the gross notional loan as per para 16 above.
- (ii) Repayment of cumulative loan as well as repayment of notional loan during the year have been considered as per para 16 above.
- (iii) Depreciation worked out in para 19 above has been considered.

24. The details of Advance Against Depreciation allowed for transmission scheme are given hereunder:

(Rs. in lakh)

	2006-07	2007-08	2008-09
1/10 th of Gross Loan(s)	102.30	102.59	102.59
Repayment of the Loan	61.62	71.70	71.70
Minimum of the above	61.62	71.70	71.70
Depreciation during the year	52.69	52.76	52.76
(A) Difference	8.93	18.94	18.94
Cumulative Repayment of the Loan	108.54	180.25	251.95
Cumulative Depreciation/ Advance against Depreciation	99.61	161.30	233.01
(B) Difference	8.93	18.94	18.94
Advance against Depreciation Minimum of (A) and (B)	8.93	18.94	18.94

OPERATION & MAINTENANCE EXPENSES

25. In accordance with clause (iv) of Regulation 56 the 2004 regulations, the following norms are prescribed for O & M expenses:

	Year				
	2004-05	2005-06	2006-07	2007-08	2008-09
O&M expenses (Rs in lakh per ckt-km)	0.227	0.236	0.246	0.255	0.266
O&M expenses (Rs in lakh per bay)	28.12	29.25	30.42	31.63	32.90

26. O&M expenses as taken for the tariff calculations as per order dated 23.3.2007 in Petition No. 129/2006 have been considered, since line length and number of bays remain unchanged.

INTEREST ON WORKING CAPITAL

27. The components of the working capital and the interest thereon are discussed hereunder:

(i) Maintenance spares

Regulation 56(v) (1) (b) of the 2004 regulations provides for maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation. The petitioner has claimed maintenance spares after accounting for additional capital expenditure. For the purpose of computation of maintenance spares, the historical cost is being taken as the cost on the date of commercial operation. Maintenance spares on additional capital expenditure are not being considered for the present. Therefore, the petitioner's claim in this regard is not being allowed. Accordingly, maintenance spares have been worked out on the historical cost and providing escalation from the date of commercial operation.

(ii) O & M expenses

Regulation 56(v)(1)(a) of the 2004 regulations provides for operation and maintenance expenses for one month as a component of working capital. O&M expenses as considered in the order dated 23.3.2007 in Petition No. 129/2006 have been considered.

(iii) Receivables

As per Regulation 56(v)(1)(c) of the 2004 regulations, receivables will be equivalent to two months average billing calculated on target

availability level. Accordingly, in the tariff being allowed, receivables have been worked out on the basis 2 months' transmission charges.

(iv) Rate of interest on working capital

As per Regulation 56(v) (2) of the 2004 regulations, rate of interest on working capital shall be on normative basis and shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the project or part thereof (as the case may be) is declared under commercial operation, whichever is later. The interest on working capital is payable on normative basis notwithstanding that the transmission licensee has not taken working capital loan from any outside agency. The petitioner has claimed interest on working capital @ 10.25% based on SBI PLR as on 1.4.2005, which is in accordance with the 2004 regulations and has been allowed.

28. The necessary computations in support of revised interest on working capital, as revised, are appended herein below:

(Rs. in lakh)

	2006-07	2007-08	2008-09
Maintenance Spares	14.59	15.46	16.39
O & M expenses	2.54	2.64	2.74
Receivables	39.64	40.65	39.86
Total	56.76	58.74	58.99
Rate of Interest	10.25%	10.25%	10.25%
Interest	5.82	6.02	6.05

TRANSMISSION CHARGES

29. The revised transmission charges being allowed for the transmission asset for the years 2006-07, 2007-08 and 2008-09 are summarised below:

(Rs. in lakh)

	2006-07	2007-08	2008-09
Depreciation	52.69	52.76	52.76
Interest on Loan	78.50	72.97	66.97
Return on Equity	61.47	61.56	61.56
Advance against Depreciation	8.93	18.94	18.94
Interest on Working Capital	5.82	6.02	6.05
O & M Expenses	30.42	31.63	32.90
Total	237.83	243.88	239.18

30. The petitioner shall recover from the respondent the additional transmission charges in three monthly instalments. The petitioner has also sought reimbursement of filing fee paid. The Commission by its separate general order dated 19.2.2008 in Petition No. 127/2007 has decided that the petitioner shall not be allowed reimbursement of the petition filing fee.

31. In addition to the transmission charges, the petitioner shall be entitled to other charges like income-tax, incentive, surcharge and other cess and taxes in accordance with the 2004 regulations

32. This order disposes of Petition No.49/2009.

Sd/- sd/- sd/- sd/-
(V.S.VERMA) (S.JAYARAMAN) (R.KRISHNAMOORTHY) (DR.PRAMOD DEO)
MEMBER MEMBER MEMBER CHAIRPERSON
New Delhi dated the 26th June 2009

Annexure

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(Rs. in lakh)

	Details of Loan	2005-06	2006-07	2007-08	2008-09
1	Bond XIII- OPTION - I				
	Gross Loan opening	775.00	775.00	775.00	775.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	64.58	129.16
	Net Loan-Opening	775.00	775.00	710.42	645.84
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	64.58	64.58	64.58
	Net Loan-Closing	775.00	710.42	645.84	581.26
	Average Loan	775.00	742.71	678.13	613.55
	Rate of Interest	8.63%	8.63%	8.63%	8.63%
	Interest	66.88	64.10	58.52	52.95
	Repayment Schedule	12 Annual instalments from 31.7.2006			
2	Bond XV				
	Gross Loan opening	124.00	124.00	124.00	124.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	10.33
	Net Loan-Opening	124.00	124.00	124.00	113.67
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	10.33	10.33
	Net Loan-Closing	124.00	124.00	113.67	103.34
	Average Loan	124.00	124.00	118.84	108.51
	Rate of Interest	6.68%	6.68%	6.68%	6.68%
	Interest	8.28	8.28	7.94	7.25
	Repayment Schedule	12 Annual instalments from 23.2.2008			
3	Bond XVII (Replaced IOB Bridge Finance Loan)				
	Gross Loan opening	44.00	44.00	44.00	44.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	44.00	44.00	44.00	44.00
	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	44.00	44.00	44.00	44.00
	Average Loan	44.00	44.00	44.00	44.00
	Rate of Interest	6.99%	7.39%	7.39%	7.39%
	Interest	3.08	3.25	3.25	3.25
	Repayment Schedule	10 Annual instalments from 22.9.2009			
4	Bond XVIII (Date of Drawal 09-03-2006)				
	Gross Loan opening	0.00	24.80	24.80	24.80
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	24.80	24.80	24.80
	Additions during the year	24.80	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	24.80	24.80	24.80	24.80
	Average Loan	12.40	24.80	24.80	24.80
	Rate of Interest	8.15%	8.15%	8.15%	8.15%
	Interest	1.01	2.02	2.02	2.02
	Repayment Schedule	12 Annual instalments from 9.3.2010			

5	Bond XVIII				
	Gross Loan opening	0.00	55.17	55.17	55.17
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	55.17	55.17	55.17
	Additions during the year	55.17	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00
	Net Loan-Closing	55.17	55.17	55.17	55.17
	Average Loan	27.59	55.17	55.17	55.17
	Rate of Interest	8.15%	8.15%	8.15%	8.15%
	Interest	2.25	4.50	4.50	4.50
	Repayment Schedule	12 Annual instalments from 9.3.2010			
	Gross Loan opening	943.00	1022.97	1022.97	1022.97
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	64.58	139.49
	Net Loan-Opening	943.00	1022.97	958.39	883.48
	Additions during the year	79.97	0.00	0.00	0.00
	Repayment during the year	0.00	64.58	74.91	74.91
	Net Loan-Closing	1022.97	958.39	883.48	808.57
	Average Loan	982.99	990.68	920.94	846.03
	Rate of Interest	8.291%	8.292%	8.277%	8.270%
	Interest	81.50	82.15	76.23	69.97