

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Coram:

1. **Shri R.Krishnamoorthy, Member**
2. **Shri V.S.Verma, Member**

Petition No. 56/2009

In the matter of

Determination of revised transmission tariff due to additional capitalization incurred during 2007-08 for Bhadrawati-Chandrapur 400 kV D/C transmission line including bays at Bhadrawati (Power Grid) switching station (extension) and Chandrapur (MSEB) switchyard (extension) in Western Region for the tariff block 2007-09 period.

And in the matter of

Power Grid Corporation of India Limited, Gurgaon **..Petitioner**
Vs

- 1.Madhya Pradesh Power Trading Company Ltd., Jabalpur
- 2.Maharashtra State Electricity Distribution Company Ltd.Mumbai
- 3.Gujarat Urja Vikas Nigam Ltd.,Baroda
4. Electricity Deptt. Government of Goa, Panaji
- 5.Electricity Deptt., Administration of Daman & Diu, Daman
- 6.Electricity Deptt., Administration of Dadra Nagar Haveli, Silvassa
- 7.Chhattisgarh State Electricity Board, Raipur
- 8.Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd., Indore

.....Respondents

The following were present:

1. Shri U.K. Tyagi, PGCIL
2. Shri S.K.Niranjan, PGCIL
3. Shri M.M.Mandol, PGCIL
4. Shri D. Khandelwal, MPPTCL

**ORDER
(DATE OF HEARING: 19.5.2009)**

This petition has been filed for revision of transmission tariff on account of additional capital expenditure incurred during 2007-08 in respect of Bhadrawati-Chandrapur 400 kV D/C transmission line including bays at Bhadrawati (Power Grid) switching station (extension) and Chandrapur (MSEB) switchyard (extension) (the transmission line) in Western Region from 1.4.2007 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 line was accorded by Board of Directors of the petitioner company vide letter dated 13.7.2004 at an estimated cost of Rs.3338 lakh, which included IDC of Rs. 150 lakh. Subsequently, the approval for the revised cost estimates was accorded by the Board of Directors of the petitioner company vide Memorandum dated 29.1.2007 for an estimated cost of Rs. 4109 lakh, including IDC of Rs. 47.00 lakh. The transmission line was declared under commercial operation on 1.5.2006.

3. The transmission charges for the transmission line were approved by the Commission in its order dated 28.5.2008 in Petition No. 145/2007 for the period 1.5.2006 to 31.3.2009 based on capital cost of Rs. 2956.45 lakh as on the date of commercial operation and Rs. 3570.01 lakh as on 31.3.2007, after considering additional capital expenditure of Rs. 614.56 lakh for the period 1.5.2006 to 31.3.2007. The summary of the transmission charges approved by the said order dated 28.5.2008 is extracted hereunder:

	(Rs. in lakh)		
	2006-07(Pro rata)	2007-08	2008-09
Depreciation	90.42	107.93	107.93
Interest on Loan	163.50	187.51	178.99
Return on Equity	122.87	146.95	146.95
Advance against Depreciation	0.00	0.00	0.00
Interest on Working Capital	12.55	14.54	14.73
O & M Expenses	121.65	137.95	143.53
Total	510.99	594.88	592.14

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 1.5.2006	Additional Capitalization during 2006-07	Capital expenditure as on 1.4.2007	Additional Capitalization during 2007-08	Capital expenditure as on 1.4.2008	Balance estimated expenditure	Estimated completion cost
2955.45 (As per order dated 28.5.2008)	614.56	3572.86	175.26	3748.12	60.80	3811.46

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

(Rs.in lakh)		
	2007-08	2008-09
Depreciation	111.44	114.75
.Interest on Loan	193.73	190.75
Return on Equity	150.85	154.53
Advance against Depreciation	0.00	0.00
Interest on Working Capital	14.78	15.19
O & M Expenses	137.95	143.53
Total	608.75	618.75

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

(Rs. in lakh)		
	2007-08	2008-09
Maintenance Spares	31.24	33.11
O & M expenses	11.50	11.96
Receivables	101.46	103.13
Total	144.20	148.20
Rate of Interest	10.25%	10.25%
Interest	14.78	15.19

7. The reply to the petition has been filed by the Madhya Pradesh Power Trading Company Ltd.

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	175.26	Balance payments, retention payments and price variation and final payments

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.

Adjustments for Initial Spares

10. While approving the transmission charges, Commission vide order dated 28.5.2008 had restricted the value of initial spares to 1.5% of the cost as on 1.4.2007 and consequently the tariff was worked out based on the cost as on the date of commercial operation of Rs 2955.45 lakh. The petitioner was given liberty to approach the Commission for adjustment of cost of initial spares while claiming additional capitalization beyond 1.4.2007. The petitioner has now submitted audited expenditure up to 31.3.2008.

11. Initial spares included in the capital cost of the transmission line has been restricted to 1.5 % of actual capital expenditure incurred up to the cut-off date as per clause 52, read along with clause 49 (xiv) of the 2004 regulations. In the present petition, the date of commercial operation is 1. 5.2006 and thus the cut-off date is 31. 3.2008. The petitioner has submitted the actual capital expenditure incurred and audited up to 31. 3.2008. Therefore, for computation of initial spares of 1.5 % of original project cost, we have considered the capital cost found justified and audited up to 31. 3.2008 as per the 2004 regulations. Therefore, the initial spares have been worked out to Rs. 56.22 lakh.

TOTAL CAPITAL COST

12. Based on the above, capital cost for the purpose of tariff for transmission line, initial spares of 1.5 % of capital cost admitted as on 31.3.2008 works out as under:

	Particulars	Capital Expenditures				(Rs in lakh)
		Capital expenditure up to 1.5.2006	Additional Capital expenditure during 2006-07	Capital expenditure as on 1.4.2007	Additional capital expenditure from 1.4.2007 to 31.3.2008	Expenditure as on 31.3.2008
1	Expenditure	2960.84	614.66	3575.50	175.26	3750.76
2	Initial spares included in capital cost	58.86		58.86		58.86
3	Capital cost with out initial spares (1)-(2)	2901.98		3516.64		3691.90
4	Initial spares restricted to 1.5% of expenditure as on cut off date [(3) x 1.5%]/98.5%	56.22		56.22		56.22
5	Admitted cost including 1.5% initial spares (3) + (4)	2958.20		3572.86		3748.12

13. The cost of initial spares has been restricted to Rs 56.22 lakh. Thus, there is a difference of Rs 2.64 lakh between the amount claimed by the petitioner and the one being allowed in the calculations. In line with the para 18 of the order dated 28.5.2008 in Petition No. 145/2007, as majority of the initial spares were meant for sub-station, the difference of Rs 2.64 lakh has been adjusted under the head sub-station. The sub-station equipment cost has been considered as Rs 982.47 lakh on the date of commercial operation.

DEBT- EQUITY RATIO

14. 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 1.5.2006 (As per order dated 28.5.2008)	Notional additional equity during 2006-07	Equity as on 1.4.2007	Notional additional equity during 2007-08	Average equity for 2007-08	Equity as on 1.4.2008
866.07	184.40	1050.47	52.58	1076.76	1103.05

RETURN ON EQUITY

15. 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.

16. Equity as given the table under para 14 above has been considered. The tariff for the years 2007-08 has been allowed on average equity. Accordingly, revised return on equity allowed each year is given as under:

(Rs. in lakh)

Return on equity	
2007-08	2008-09
150.75	154.43

INTEREST ON LOAN

17. 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.”

18. 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 28.5.2008 in Petition No. 145/2007. There is addition of actual loan during 2007-08 by way of Bond XXVII.

(b) Notional loan arising out of additional capitalisation for the year 2007-08 has been added in loan amount as on 31.3.2007 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.

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

Details	(Rs. in lakh)	
	2007-08	2008-09
Gross Normative Loan-Opening	2522.39	2645.08
Cumulative Repayment up to Previous Year/date of commercial operation	90.51	201.86
Net Loan-Opening	2431.88	2443.22
Addition due to Additional Capitalisation	122.68	-
Repayment during the year	111.35	114.66
Net Loan-Closing	2443.22	2328.56
Average Loan	2437.55	2385.89
Weighted Average Rate of Interest on Loan	7.94%	7.99%
Interest	193.60	190.62

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

DEPRECIATION

21. 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.

22. Depreciation allowed has been worked out as below:

	(Rs. in lakh)	
	2007-08	2008-09
Gross block as on 1 st April of the year	3572.86	3748.12
Addition due to Additional Capitalisation	175.26	-
Gross Block	3748.12	3748.12
Rate of Depreciation	3.0418%	3.0590%
Depreciable Value	3294.44	3373.31
Balance Useful life of the asset	-	-
Remaining Depreciable Value	3203.93	3171.45
Depreciation	111.35	114.66

ADVANCE AGAINST DEPRECIATION

23. 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

24. 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.

25. The petitioner has not claimed Advance Against Depreciation and, thereafter, Advance Against Depreciation has not been considered.

OPERATION & MAINTENANCE EXPENSES

26. 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

27. O&M expenses as taken for the tariff calculations as per order dated 28.5.2008 in Petition No. 145/2007 have been considered, since line length and number of bays remain unchanged.

INTEREST ON WORKING CAPITAL

28. 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 28.5.2008 in Petition No. 145/2007 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 1.4.2006, which is in accordance with the 2004 regulations and has been allowed.

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

(Rs. in lakh)

	2007-08	2008-09
Maintenance Spares	31.21	33.08
O & M expenses	11.50	11.96
Receivables	101.40	103.07
Total	144.11	148.11
Rate of interest	10.25%	10.25%
Interest	14.77	15.18

TRANSMISSION CHARGES

30. The revised transmission charges being allowed for the transmission line for the years 2007-08 and 2008-09 are summarised below:

(Rs. in lakh)

	2007-08	2008-09
Depreciation	111.35	114.66
Interest on Loan	193.60	190.62
Return on Equity	150.75	154.43
Advance against Depreciation	0.00	0.00
Interest on Working Capital	14.77	15.18
O & M Expenses	137.95	143.53
Total	608.41	618.41

31. 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 11.9.2008 in Petition No. 129/2005 has decided that the petitioner shall not be allowed reimbursement of the petition filing fee.

32. 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.

33. This order disposes of Petition No.56/2009.

Sd/-
(V.S.VERMA)
MEMBER

New Delhi dated the 18th June 2009

sd/-
(R.KRISHNAMOORTHY)
MEMBER

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(Rs. in lakh)

	Details of Loan	2006-07	2007-08	2008-09
1	Bond XVII			
	Gross Loan opening	711.00	711.00	711.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	711.00	711.00	711.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	711.00	711.00	711.00
	Average Loan	711.00	711.00	711.00
	Rate of Interest	7.39%	7.39%	7.39%
	Interest	52.54	52.54	52.54
	Repayment Schedule	10 Annual instalments from 22. 9.2009		
2	Bond XVIII			
	Gross Loan opening	1383.00	1383.00	1383.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1383.00	1383.00	1383.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	1383.00	1383.00	1383.00
	Average Loan	1383.00	1383.00	1383.00
	Rate of Interest	8.15%	8.15%	8.15%
	Interest	112.71	112.71	112.71
	Repayment Schedule	12 Annual instalments from 9. 3.2010		
3	Bond XXVII			
	Gross Loan opening	0.00	0.00	138.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	138.00
	Additions during the year	0.00	138.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	138.00	138.00
	Average Loan	0.00	69.00	138.00
	Rate of Interest	9.47%	9.47%	9.47%
	Interest	0.00	6.53	13.07
	Repayment Schedule	12 Annual instalments from 31. 3.2012		
	Gross Loan opening	2094.00	2094.00	2232.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	2094.00	2094.00	2232.00
	Additions during the year	0.00	138.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	2094.00	2232.00	2232.00
	Average Loan	2094.00	2163.00	2232.00
	Rate of Interest	7.89%	7.94%	7.99%
	Interest	165.26	171.79	178.33