

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 320/2009

Coram:

1. Dr. Pramod Deo, Chairperson
2. Shri S.Jayaraman, Member
3. Shri V.S.Verma, Member
4. Shri M.Deena Dayalan, Member

DATE OF HEARING: 11.3.2010

DATE OF ORDER: 26.4.2010

In the matter of

Determination of revised transmission tariff due to additional capital expenditure incurred during 2007-08 and 2008-09 for 2nd 315 (3 x 105) MVA, 400/220 kV transformer at Indravati (OHPC) Switchyard in Eastern Region.

And in the matter of

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

1. Bihar State Electricity Board, Patna
2. West Bengal State Electricity Board, Kolkata
3. Grid Corporation of Orissa Ltd., Bhubaneswar
4. Damodar Valley Corporation , Kolkata
5. Power Department, Govt. of Sikkim, Gangtok
6. Jharkhand State Electricity Board, Ranchi **.... Respondents**

The following were present:

1. Shri U.K.Tyagi, PGCIL
2. Shri M.M.Mondal, PGCIL
3. Shri S.K.Niranjan, PGCIL
4. Shri R.Prasad, PGCIL
5. Shri R.B.Sharma, Advocate, BSEB

ORDER

This petition has been filed seeking revision of transmission tariff for additional capital expenditure incurred in respect of 2nd 315 (3 x 105) MVA, 400/220 kV transformer at Indravati (OHPC) Switchyard (the transmission asset) in Eastern Region during the period 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, licence fee and other expenditure in connection with the filing of the petition.

2. The investment approval for the transmission asset was accorded by Board of Directors of the petitioner company vide Memorandum dated 26.2.2003 at an estimated cost of Rs. 1905 lakh, which included IDC of Rs. 152 lakh.. The transmission line 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 29.8.2008 in Petition No. 137/2007 after accounting for additional capitalization of Rs. 20.39 lakh during 2006-07. The summary of the final annual transmission charges approved by the said order dated 29.8.2008 is extracted hereunder:

	(Rs. in lakh)		
	2006-07(Pro rata)	2007-08	2008-09
Depreciation	43.01	47.28	47.28
Interest on Loan	62.51	65.70	62.33
Return on Equity	44.50	48.98	48.98
Advance against Depreciation	0.00	0.00	0.00
Interest on Working Capital	5.30	5.89	5.98
O & M Expenses	55.77	63.26	65.80
Total	211.09	231.11	230.37

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

(Rs. in lakh)					
Capital expenditure up to 1.5.2006 (Date of commercial operation)	Additional Capitalization during 2006-07	Additional Capitalization during 2007-08	Capital expenditure as on 1.4.2008	Additional Capitalization during 2008-09	Capital expenditure as on 1.4.2009
1299.41	20.39	121.15	1440.95	19.20	1460.15

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

(Rs. in lakh)			
	2006-07	2007-08	2008-09
Depreciation	43.22	49.69	52.22
Interest on Loan	62.50	69.54	70.32
Return on Equity	45.32	52.41	55.36
Advance against Depreciation	0.00	0.00	0.00
Interest on Working Capital	5.32	6.06	6.32
O & M Expenses	55.77	63.26	65.80
Total	212.13	240.96	250.02

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	12.99	13.71	14.53
O & M expenses	5.07	5.27	5.48
Receivables	38.57	40.16	41.67
Total	56.63	59.14	61.68
Rate of Interest	10.25%	10.25%	10.25%
Interest	5.32	6.06	6.32

7. BSEB in its reply dated 22.2.2010 has submitted that the additional capital expenditure claimed in the petition are mainly on account of retention/final payments and a confirmation be taken from the petitioner that no part of the claim belongs to any other category not covered by Regulation 53 of the 2004 regulations. The petitioner in its rejoinder has confirmed that the expenditure shown in the petition for the year 2007-08 and 2008-09 has been claimed as per Regulation 53 (2) of the 2004

regulation on account of final/retention payments. In view of the clarification of the petitioner, the objections of BSEB no more survive on the point.

CAPITAL COST

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

Sl. No.	Year	Amount (Rs. in lakh)	Nature and details of expenditure
1.	2007-08	Sub-station = Rs. 121.15 lakh	Balance payments/Retention payments
2.	2008-09	Sub-station = Rs. 19.20 lakh	Balance payments/Retention payments

9. It is found that the additional capital expenditure claimed is in respect of retention/final payments. These are part of the deferred liabilities relating to works/services which have materialised, and are within the original scope of work. Therefore, the additional expenditure sought to be capitalised is allowed under Regulation 53 of the 2004 regulations.

Initial spares

10. While approving the transmission charges, Commission vide order dated 29.8.2008 in Petition No. 137/2007 had restricted the value of initial spares to Rs. 19.70 lakh @ 1.5% of the cost as on 1.4.2007 as the initial spares amounting to Rs. 26.03 lakh were more than the 1.5% of the capital cost and consequently the tariff was worked out based on the cost of Rs 1293.08 lakh as on the date of commercial operation (1.5.2006). The petitioner was given liberty to approach the Commission for adjustment of cost of initial spares while claiming additional capital expenditure

beyond 1.4.2007. In this petition, the petitioner has submitted audited expenditure up to 31.3.2009. The value of initial spares is being revised based on the audited capital expenditure as on 1.4.2008.

11. Clause (1) of the Regulation 52 of the 2004 regulations *inter alia* provides that,-

“(1) Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the transmission system and shall include capitalized initial spares subject to a ceiling norm as 1.5% of original project cost”.

12. The initial spares included in the capital cost for the transmission asset has been restricted to 1.5% of actual capital expenditures incurred up to the 31.3.2008 as per clause 52 read with clause 49 (xiv) of the 2004 regulations. In this petition, the petitioner has furnished 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 to be justified and audited up to 31.3.2008 as per the 2004 regulations. Thus, initial spares have been restricted to Rs. 21.55 lakh. The details of actual expenditure incurred and spares included therein by the petitioner as per original scope of project up to 31.3.2008 are as under:-

	Particulars	Capital Expenditures (Rs in lakh)				
		Up to the date of commercial operation (1-5-2006)	From the date of commercial operation to 31-3-2007	Expenditure as on 1-4-2007	From 1-4-2007 to 31-3-2008	Expenditure as on cut-off date (31-3-2008)
1	Expenditure	1299.41	20.39	1319.80	121.15	1440.95
2	Initial spares included in capital cost	26.03		26.03		26.03

3	Capital cost with out initial spares (1)-(2)	1273.38		1293.77		1414.92
4	Initial spares restricted to 1.5% of expenditure as on cut-off date [(3) x 1.5%]/98.5%	21.55		21.55		21..55
5	Admitted cost including 1.5% initial spares (3) + (4)	1294.93		1315.32		1436.47

13. The cost of initial spares has been restricted to Rs. 21.55 lakh. Thus, there is a difference of Rs 4.48 lakh between the amount claimed by the petitioner and that being allowed in the calculations. In line with the Para 19 of the order dated 28.8.2008 in petition No. 137/2007, as the total cost of the initial spares were meant for sub-station, the difference of Rs. 4.48 lakh has been adjusted under the head sub- station. The sub- station equipment cost has been considered as Rs.1294.93 lakh on the Date Of Commercial Operation. Accordingly capital cost as indicated at S No. 5 above have been considered in the calculations and tariff calculations have been revised for the years 2006-07, 2007-08 and 2008-09.

TOTAL CAPITAL COST

14. Based on the above, capital cost for the purpose of tariff for each of the transmission asset, works out as under, which is within the approved cost estimate:

(Rs.in lakh)					
Capital expenditure up to 1.5.2006 (DOCO)	Additional Capitalization during 2006-07	Additional Capitalization during 2007-08	Capital expenditure as on 1.4.2008	Additional Capitalization during 2008-09	Capital expenditure as on 1.4.2009
1294.93	20.39	121.15	1436.47	19.20	1455.67

DEBT- EQUITY RATIO

15. 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 assets is as under:

(Rs. in lakh)									
Equity on the date of commercial operation (1.5.2006)	Notional additional equity during 2006-07	Average equity during 2006-07	Equity as on 1.4.2007	Notional additional equity during 2007-08	Average equity during 2007-08	Equity as on 1.4.2008	Notional additional equity during 2008-09	Average equity for 2008-09	Equity as on 1.4.2009
344.22	6.12	347.28	350.34	36.35	368.51	386.68	5.76	389.56	392.44

RETURN ON EQUITY

16. 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.

17. Equity as given the table under para 15 above has been considered. However, tariff for the years 2007-08 and 2008-09 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
48.62	51.59	54.54

INTEREST ON LOAN

18. 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."

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

(a) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual loan has been considered as per the petition.

(b) Notional loan arising out of additional capital expenditure for the years 2007-08 and 2008-09 has been added in loan amount as on the date of commercial operation 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. Normative repayments have been 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, then depreciation during the year is deemed as normative repayment of loan during the year.

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

20. 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	950.71	964.98	1049.79
Cumulative Repayment up to Previous Year/date of commercial operation	0.00	43.07	92.60
Net Loan-Opening	950.71	921.91	957.19
Addition due to Additional Capitalisation	14.27	84.81	13.44
Repayment during the year	43.07	49.53	52.06
Net Loan-Closing	921.91	957.19	918.57
Average Loan	936.31	939.55	937.88
Weighted Average Rate of Interest on Loan	7.29%	7.41%	7.51%
Interest	62.59	69.66	70.45

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

DEPRECIATION

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

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

(ii) 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 life 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.

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

(iv) 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."

23. Depreciation allowed has been worked out as below:

(Rs. in lakh)

Details of Depreciation	2006-07	2007-08	2008-09
Gross Block (Opening)	1294.93	1315.32	1436.47
Addition due to additional capitalisation	20.39	121.15	19.20
Gross block (Closing)	1315.32	1436.47	1455.67
Rate of Depreciation	3.6000%	3.6000%	3.6000%
Depreciable Value	1174.61	1238.31	1301.46
Balance Useful life of the asset	-	-	-
Remaining Depreciable Value	1174.61	1195.24	1208.86
Depreciation	43.07	49.53	52.06
Cumulative Depreciation/ Advance against Depreciation	43.07	92.60	144.66

ADVANCE AGAINST DEPRECIATION

24. 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

25. 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.

26. The petitioner has not claimed Advance Against Depreciation and accordingly, Advance Against Depreciation has not been considered.

OPERATION & MAINTENANCE EXPENSES

27. 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

28. O&M expenses as taken for the tariff calculations as per order dated 29.8.2008 in Petition No. 137/2007 have been considered, since line length and number of bays remain unchanged.

INTEREST ON WORKING CAPITAL

29. 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. Accordingly, maintenance spares have been worked out on the historical cost and by 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 29.8.2008 in Petition No. 137/2007 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.

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

(Rs. in lakh)

	2006-07	2007-08	2008-09
Maintenance Spares	12.95	13.66	14.48
O & M expenses	5.07	5.27	5.48
Receivables	38.42	40.01	41.53
Total	56.44	58.95	61.49
Rate of interest	10.25%	10.25%	10.25%
Interest	5.30	6.04	6.30

TRANSMISSION CHARGES

31. The revised transmission charges being allowed for the transmission assets for the period 2007-08 and 2008-09 are summarised below:

(Rs. in lakh)

	2006-07	2007-08	2008-09
Depreciation	43.07	49.53	52.06
Interest on Loan	62.59	69.66	70.45
Return on Equity	44.57	51.59	54.54
Advance against Depreciation	0.00	0.00	0.00
Interest on Working Capital	5.30	6.04	6.30
O & M Expenses	55.77	63.26	65.80
Total	211.30	240.09	249.15

32. The petitioner shall recover from the respondent the additional transmission charges in one instalment and these charges shall be shared in accordance with the 2004 regulations.

33. The petitioner has also sought reimbursement of filing fee paid. The Commission by its order dated 11.9.2008 in Petition No. 129/2005 (Suo-motu) has decided that petition filing fee shall not be reimbursed during the tariff period 2004-09 as the same has been factored in O & M norms. The decision in the said petition apply to the present case also. The decision on licence fee shall be communicated separately

34. 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.

35. This order disposes of Petition No. 320/2009.

Sd/-	sd/-	sd/-	sd/-
(M.DEENA DAYALAN)	(V.S.VERMA)	(S.JAYARAMAN)	(Dr. PRAMOD DEO)
MEMBER	MEMBER	MEMBER	CHAIRPERSON

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
(Rs. in lakh)

	Details of Loan	2006-07	2007-08	2008-09
1	Bond XV			
	Gross Loan opening	130.00	130.00	130.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00	10.83
	Net Loan-Opening	130.00	130.00	119.17
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	10.83	10.83
	Net Loan-Closing	130.00	119.17	108.34
	Average Loan	130.00	124.59	113.76
	Rate of Interest	6.68%	6.68%	6.68%
	Interest	8.68	8.32	7.60
	Repayment Schedule	12 Annual instalments from 23.2.2008		
2	Bond XVI			
	Gross Loan opening	304.00	304.00	304.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00	0.00
	Net Loan-Opening	304.00	304.00	304.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	30.40
	Net Loan-Closing	304.00	304.00	273.60
	Average Loan	304.00	304.00	288.80
	Rate of Interest	7.10%	7.10%	7.10%
	Interest	21.58	21.58	20.50
	Repayment Schedule	10 Annual instalments from 18.2.2009		
3	Bond XVII			
	Gross Loan opening	440.00	440.00	440.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00	0.00
	Net Loan-Opening	440.00	440.00	440.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	440.00	440.00	440.00
	Average Loan	440.00	440.00	440.00
	Rate of Interest	7.39%	7.39%	7.39%
	Interest	32.52	32.52	32.52
	Repayment Schedule	10 Annual instalments from 22.9.2009		
4	Bond XVIII			
	Gross Loan opening	80.00	80.00	80.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00	0.00
	Net Loan-Opening	80.00	80.00	80.00

	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	80.00	80.00	80.00
	Average Loan	80.00	80.00	80.00
	Rate of Interest	8.15%	8.15%	8.15%
	Interest	6.52	6.52	6.52
	Repayment Schedule	12 Annual instalments from 9.3.2010		
5	Bond XXIV (ADDCAP FOR 2006-07)			
	Gross Loan opening	0.00	20.39	20.39
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	20.39	20.39
	Additions during the year	20.39	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	20.39	20.39	20.39
	Average Loan	10.20	20.39	20.39
	Rate of Interest	9.95%	9.95%	9.95%
	Interest	1.01	2.03	2.03
	Repayment Schedule	12 Annual instalments from 26.3.2011		
6	Bond XXVII (ADDCAP FOR 2007-08 DRAWL ON 31.03.2008)			
	Gross Loan opening	0.00	0.00	85.00
	Cumulative Repayment up to the date of commercial operation/previous year	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	85.00
	Additions during the year	0.00	85.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	0.00	85.00	85.00
	Average Loan	0.00	42.50	85.00
	Rate of Interest	0.00%	9.47%	9.47%
	Interest	0.00	4.02	8.05
	Repayment Schedule	12 Annual instalments from 31.3.2012		
	Gross Loan opening	954.00	974.39	1059.39
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00	10.83
	Net Loan-Opening	954.00	974.39	1048.56
	Additions during the year	20.39	85.00	0.00
	Repayment during the year	0.00	10.83	41.23
	Net Loan-Closing	974.39	1048.56	1007.33
	Average Loan	964.20	1011.48	1027.95
	Rate of Interest	7.29%	7.41%	7.51%
	Interest	70.32	75.00	77.22