

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 5/2010

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: 18.3.2010

DATE OF ORDER 24.5.2010

In the matter of

Determination of revised transmission tariff due to additional capital expenditure incurred during 2008-09 for (a) 400/220 kV sub-station at Narendra with one 315 MVA ICT, (b) 2nd 315 MVA ICT at Narendra sub-station associated with establishment of 400/220 kV sub-station at Narendra in Southern Region.

And in the matter of

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

- 1.Karnataka Power Transmission Corporation Limited, 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
- 6.Eastern Power Distribution Company of Andhra Pradesh Limited, Vishakhapatnam
7. Southern Power Distribution Company of Andhra Pradesh Limited, Tirupati
8. Central Power Distribution Company of Andhra Pradesh Limited, Hyderabad
9. Northern Power Distribution Company of Andhra Pradesh Limited, Warangal
10. Bangalore Electricity Supply Company Ltd., Bangalore
11. Gulbarga Electricity Supply Company Ltd. Gulbarga
12. Hubli Electricity Supply Company Ltd., Hubli
13. MESCOM Corporate office, Mangalore
- 14.Chamundeswari Electricity Supply Corporation Ltd., Mysore.

.Respondents

The following were present:

1. Shri U.K.Tyagi, PGCIL
2. Shri Rakesh Prasad, PGCIL
3. Shri M.M.Mondal, PGCIL
4. Shri R.Krishnaswami, PGCIL

ORDER

This petition has been filed for revision of transmission tariff due to additional capital expenditure incurred in respect of (a) 400/220 kV sub-station at Narendra with one 315 MVA ICT (Asset-I), and (b) 2nd 315 MVA ICT at Narendra sub-station associated with establishment of 400/220 kV sub-station (Asset-II) (collectively referred to as "the transmission assets") at Narendra in Southern Region during the period from 1.4.2008 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 administrative approval and expenditure sanction for the transmission assets was accorded by the Board of Directors of the petitioner company vide Memorandum dated 27.2.2003 at an estimated cost of Rs 6051 lakh, which included IDC of Rs. 487 lakh. Subsequently, revised cost estimate was approved by Board of Directors of the petitioner company vide Memorandum dated 26.2.2008 at an estimated cost of Rs 6231 lakh, including IDC of Rs. 223 lakh. Asset-I and Asset-II were declared under commercial operation on 1.11.2005 and 1.9.2006, respectively.

3. The transmission charges for Asset-II was approved by the Commission vide its order dated 30.5.2008 in Petition No. 123/2007. Transmission charges for Asset-I were revised vide order dated 29.8.2008. The transmission charges for 400 kV D/C Kaiga-Narendra transmission line were also approved vide said order dated 29.8.2008. In the present petition, the petitioner has not claimed additional capital expenditure incurred during 2008-09 for 400 kV D/C Kaiga-Narendra transmission line. However there was a balance estimated expenditure of Rs. 6.4 lakh for the transmission assets in Petition No. 123/2007. The petitioner vide its affidavit dated 5.5.2010 has clarified that the balance expenditure of Rs. 6.4 lakh shown in the auditors certificate dated 27.6.2007 in respect of 400 kV D/C Kaiga-Narendra transmission line is towards payment related to settlement of court cases, which are still pending. As and when the court cases are settled, the expenditure incurred shall be claimed during 2009-14 period. The summary of the transmission charges approved by the said order dated 29.8.2008 is extracted hereunder:

(Rs. in lakh)

	Asset-I			Asset-II		
	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09
Depreciation	4.60	9.21	9.21	13.46	23.71	23.71
Interest on Loan	11.30	22.48	21.83	21.10	35.74	33.80
Return on Equity	9.17	18.34	18.34	15.66	27.58	27.58
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.44	0.87	0.86	2.18	3.83	3.91
O & M Expenses	0.00	0.00	0.00	35.49	63.26	65.80
Total	25.52	50.90	50.24	87.89	154.12	154.79

4. The relevant details of the capital expenditure of the transmission assets claimed by the petitioner are as under:

(Rs. in lakh)

	Capital cost as on 1.4.2008 (As per order dated 29.8.2008)	Additional Capital Expenditure during 2008- 09	Capital cost as on 1.4.2009
Asset-I	5429.18	34.31	5463.49
Asset-II	658.69	63.98	722.67

5. The petitioner has claimed the transmission charges as under:

(Rs. in lakh)

	Asset-I	Asset-II
	2008-09	2008-09
Depreciation	165.68	24.86
Interest on Loan	250.20	35.58
Return on Equity	228.37	28.92
Advance against Depreciation	0.00	0.00
Interest on Working Capital	25.00	3.98
O & M Expenses	329.00	65.80
Total	998.25	159.14

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

(Rs. in lakh)

	Asset- I	Asset-II
	2008-09	2008-09
Maintenance Spares	50.07	6.84
O & M expenses	27.42	5.48
Receivables	166.38	26.52
Total	243.87	38.84
Rate of Interest	10.25%	10.25%
Interest	25.00	3.98

7. The reply to the petition has been filed by Tamil Nadu Electricity Board (TNEB), which was received on 25.3.2010. TNEB vide its reply has pointed out that there is cost over run of Rs. 0.31 lakh. In this regard, it is seen that total expenditure up to 31.3.2009 is Rs. 61.86 crore, which is well within the approved cost of Rs. 62.31 crore. Total estimated cost of Rs. 62.62 lakh,

includes balance estimated expenditure of Rs. 0.76 lakh which is yet to be incurred. Accordingly, the objection of the respondent is not tenable at this stage. TNEB has also objected to considering wage revision under O & M expenses and reimbursement of the petition filing fee. These concerns have been taken care of in the order.

CAPITAL COST

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

(Rs. in lakh)

Asset-I			Asset-II		
Year	Amount (Rs. in lakh)	Nature and details of expenditure	Year	Amount (Rs. in lakh)	Nature and details of expenditure
2008-09	sub-station = Rs. 34.31 lakh	Final and retention payments	2008-09	Sub-station= Rs. 63.98 lakh	Final and retention payments
Total	Rs. 34.31 lakh			Rs. 63.98 lakh	

9. The petitioner has submitted audited capital cost up to 31.3.2009 duly certified by Chartered Accountant. The additional capital expenditure claimed is within the original scope of work and on account of retention/balance payments. The additional expenditure sought to be capitalised is allowed under Regulation 53 of the 2004 regulations.

TOTAL CAPITAL COST

10. Based on the above, capital cost for the purpose of tariff in respect of the transmission assets as on 31.3.2009 works out as under:

(Rs. in lakh)

	Capital cost as on 1.4.2008 (As per order dated 30.6.2009)	Additional Capital Expenditure during 2008-09	Capital cost as on 1.4.2009
Asset-I	5429.18	34.31	5463.49
Asset-II	658.69	63.98	722.67

DEBT- EQUITY RATIO

11. The petitioner has considered the amount of additional capital expenditure in the debt-equity ratio of 70.01:29.99 for both asset. The debt-equity ratio has been considered in accordance with 2004 regulations. Accordingly, for the purpose of tariff, equity considered for the transmission assets is as under:

(Rs. in lakh)

	Equity as on 1.4.2008	Notional additional equity during 2008-09	Total equity considered as on 31.3.2009	Average equity for 2008-09
Asset-I	1626.05	10.29	1636.35	1631.20
Asset-II	196.97	19.19	216.16	206.57

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 in the table under para 11 above has been considered. However, tariff for 2008-09 has been allowed on average equity. Accordingly, return on equity allowed for the year 2008-09 is given as under:

(Rs. in lakh)

Name of the asset	
	2008-09
Asset-I	228.37
Asset-II	28.92

INTEREST ON LOAN

14. Clause (i) 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 and rate of interest and weighted average rate of interest on actual loan have been considered as per the petition.

(b) Notional loan arising out of additional capital expenditure for the year 2008-09 has been added to the loan amount as on the date of commercial operation to arrive at total notional loans. This adjusted gross loan has been considered as normative loans for tariff calculations.

(c) Tariff has been worked out considering normative loan and normative repayments. Once the normative loan has been arrived at, it is considered for all purposes in the tariff. Normative repayment has 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, it is considered as moratorium and 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.

16. Based on the above, the details of interest worked out are given hereunder:

Details	(Rs. in lakh)	
	Asset- I 2008-09	Asset-III 2008-09
Gross Normative Loan	3803.13	461.72
Cumulative Repayment up to Previous Year/date of commercial operation	385.72	37.18
Net Loan-Opening	3417.41	424.54
Addition due to Additional Capitalisation	24.02	44.79
Repayment during the year	165.68	24.86
Net Loan-Closing	3275.75	444.46
Average Loan	3346.58	434.50
Weighted Average Rate of Interest on Loan	7.48%	8.19%
Interest (Pro rata)	250.20	35.58

17. The detailed calculations in support of the weighted average rate of interest for the two assets are contained in Annexure-I and Annexure-II, respectively 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:

- "(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 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.
- (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."

19. Depreciation allowed has been worked out as below:

(Rs. in lakh)

Details	Asset- I	Asset- II
	2008-09	2008-09
Gross block as on the date of commercial operation	5429.18	658.69
Additional Capitalisation during 2008-09	34.31	63.98
Gross Block at the end of the year	5463.49	722.67
Rate of Depreciation	3.0420%	3.6000%
Depreciable Value	4408.85	621.61
Balance Useful life of the asset	-	-
Remaining Depreciable Value	4023.13	584.44
Depreciation	165.68	24.86

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. Petitioner has not claimed Advance Against Depreciation and accordingly, Advance Against Depreciation has not been considered.

OPERATION & MAINTENANCE EXPENSES

23. 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

24. O&M expenses as taken for the tariff calculations as per orders dated 30.5.2008 and 29.8.2008 in Petition No. 123/2007 has been considered, since line length and number of bays remain unchanged.

INTEREST ON WORKING CAPITAL

25. 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. maintenance spares as taken for the tariff calculations as per orders dated 30.5.2008 and 29.8.2008 in Petition No. 123/2007 has been considered.

(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 orders dated 30.5.2008 and 29.8.2998 in Petition No. 123/2007 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 of 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 whether or not the transmission licensee has 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 and 1.4.2006 for Asset-I and Asset-II, respectively, which is in accordance with the 2004 regulations and has been allowed.

26. The necessary computations in support of interest on working capital are appended herein below:

	(Rs. in lakh)	
	Asset- I	Asset-II
	2008-09	2008-09
Maintenance Spares	50.07	6.84
O & M expenses	27.42	5.48
Receivables	166.38	26.52
Total	243.87	38.85
Rate of Interest	10.25%	12.25%
Interest	25.00	3.98

TRANSMISSION CHARGES

27. The transmission charges being allowed for the three transmission assets are summarised below:

(Rs. in lakh)

	Asset- I	Asset-II
	2008-09	2008-09
Depreciation	165.68	24.86
Interest on Loan	250.20	35.58
Return on Equity	228.37	28.92
Advance against Depreciation	0.00	0.00
Interest on Working Capital	25.00	3.98
O & M Expenses	329.00	65.80
Total	998.25	159.15

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

29. 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 (suo-motu) has decided that the petitioner shall not be allowed reimbursement of the petition filing fee. The decision on reimbursement of the licence fee shall be communicated separately.

30. 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.

31. This order disposes of Petition No. 5/2010.

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

Asset-I

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

		(Rs. in lakh)
	Details of Loan	2008-09
1	Bond XV	
	Gross Loan opening	450.00
	Cumulative Repayment up to the date of commercial operation/previous year	37.50
	Net Loan-Opening	412.50
	Additions during the year	0.00
	Repayment during the year	37.50
	Net Loan-Closing	375.00
	Average Loan	393.75
	Rate of Interest	6.68%
	Interest	26.30
	Repayment Schedule	12 Annual instalments from 23.2.2008
2	Bond XVI	
	Gross Loan opening	746.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	746.00
	Additions during the year	0.00
	Repayment during the year	74.60
	Net Loan-Closing	671.40
	Average Loan	708.70
	Rate of Interest	7.10%
	Interest	50.32
	Repayment Schedule	10 Annual instalments from 18.2.2009
3	Bond XVII	
	Gross Loan opening	1850.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	1850.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	1850.00
	Average Loan	1850.00
	Rate of Interest	7.39%

	Interest	136.72
	Repayment Schedule	10 Annual instalments from 22.9.2009
4	Bond XVII (ADD CAP FOR 2005-2006)	
	Gross Loan opening	282.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	282.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	282.00
	Average Loan	282.00
	Rate of Interest	7.39%
	Interest	20.84
	Repayment Schedule	10 Annual instalments from 22.9.2009
5	Bond XVIII (ADD CAP FOR 2005-2006)	
	Gross Loan opening	362.85
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	362.85
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	362.85
	Average Loan	362.85
	Rate of Interest	8.15%
	Interest	29.57
	Repayment Schedule	12 Annual instalments from 9.3.2010
6	Bond XIX (ADD CAP FOR 2006-2007)	
	Gross Loan opening	100.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	100.00
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	100.00
	Average Loan	100.00
	Rate of Interest	9.25%
	Interest	9.25
	Repayment Schedule	12 Annual instalments from 24-7-2010
7	Bond XXII (ADD CAP FOR 2006-2007 DRAWL ON 31.3.2007)	
	Gross Loan opening	284.90

	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	284.90
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	284.90
	Average Loan	284.90
	Rate of Interest	8.68%
	Interest	24.73
	Repayment Schedule	12 Annual instalments from 7-12-2010
	TOTAL	
	Gross Loan opening	4075.75
	Cumulative Repayment up to the date of commercial operation /previous year	37.50
	Net Loan-Opening	4038.25
	Additions during the year	0.00
	Repayment during the year	112.10
	Net Loan-Closing	3926.15
	Average Loan	3982.20
	Rate of Interest	7.476%
	Interest	297.73

Asset-II

(Rs. in lakh)

	Details of Loan	2008-09
1	Bond XVIII	
	Gross Loan opening	437.15
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	437.15
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	437.15
	Average Loan	437.15
	Rate of Interest	8.15%
	Interest	35.63
	Repayment Schedule	12 Annual instalments from 9.3.2010
2	Bond XXII (ADDCAP FOR 2006-07 DRAWL ON 02.09.2006)	
	Gross Loan opening	35.10
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	35.10
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	35.10
	Average Loan	35.10
	Rate of Interest	8.68%
	Interest	3.05
	Repayment Schedule	12 Annual instalments from 7.12.2010
	Gross Loan opening	472.25
	Cumulative Repayment up to the date of commercial operation /previous year	0.00
	Net Loan-Opening	472.25
	Additions during the year	0.00
	Repayment during the year	0.00
	Net Loan-Closing	472.25
	Average Loan	472.25
	Rate of Interest	8.19%
	Interest	38.67