

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 39/2010

Coram:

- 1. Shri S.Jayaraman, Member**
- 2. Shri M.Deena Dayalan, Member**

DATE OF HEARING: 29.4.2010

DATE OF ORDER: 18.6.2010

In the matter of

Determination of revised transmission tariff due to additional capital expenditure during 1.4.2007 to 31.3.2009 for (i) 400 kV Siliguri sub-station (extension) (relevant portion), 400 kV Purnea sub-station (extension) (relevant portion) (excluding 400/220 kV, 315 MVA ICT at Purnea sub-station), 40% Fixed Series Compensation (FSC) and 5% to 15% Thyristor Controlled Series Compensation (TCSC) on each Ckt of Purnea-Muzaffarpur 400 kV D/C line at Purnea, (ii) 400/220 kV, 315 MVA ICT at Purnea sub-station, (iii) 400/220 kV Muzaffarpur sub-station (New) (Excluding 2 no, 400 kV bays at Muzaffarpur with line reactors for Muzaffarpur Gorkhpur line and ICT-II at Muzaffarpur sub-station), 220 kV Muzaffarpur sub-station (BSEB Kanti) Extension and (iv) 400/220 kV, 315 MVA ICT-II at Muzaffarpur sub-station associated with Tala HEP in East-North Inter-connector and Northern Region Transmission system.

And in the matter of

Power Grid Corporation of India Limited, Gurgaon
Vs

..Petitioner

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 Rakesh Prasad, PGCIL
3. Shri M.M.Mondal, PGCIL
4. Shri R.B.Sharma, Advocate, BSEB

ORDER

This petition has been filed for revision of transmission tariff due to additional capital expenditure incurred in respect of transmission elements given in the table below together with their dates of commercial operation under Tala HEP, East-North Inter-connector and Northern Region Transmission System (the transmission system) in Northern 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:

S. No.	Name of Assets	Date of the commercial operation
1.	400 kV Siliguri sub-station (extension) (relevant portion), 400 kV Purnea sub-station (extension) (relevant portion) (excluding 400/220 kV, 315 MVA ICT at Purnea sub-station), 40% Fixed Series Compensation (FSC) and 5% to 15% Thyristor Controlled Series Compensation (TCSC) on each Ckt of Purnea-Muzaffarpur 400 kV D/C line at Purnea (Asset-I)	1.5.2006
2.	400/220 kV, 315 MVA ICT at Purnea sub-station (Asset-II)	1.6.2006
3.	400/220 kV Muzaffarpur sub-station (New) (Excluding 2no, 400 kV bays at Muzaffarpur with line reactors for Muzaffarpur Gorkhpur line and ICT-II at Muzaffarpur sub-station), 220 kV Muzaffarpur sub-station (BSEB Kanti) Extension (Asset-III)	1.9.2006
4.	400/220 kV, 315 MVA ICT-II at Muzaffarpur sub-station associated with Tala HEP (Asset-IV)	1.6.2007

2. 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

3. The administrative approval and expenditure sanction for the transmission system was accorded by Ministry of Power vide its letter dated 2.7.2003 at an estimated cost of Rs.198070 lakh, which included IDC of Rs.

21792 lakh (based on 2nd quarter 2002 price level). Subsequently, the approval for revised cost estimate-I was accorded by Ministry of Power vide its letter dated 29.9.2005 at an estimated cost of Rs. 248388 lakh, which included IDC of Rs. 14744 lakh (based on 1st quarter 2005 price level). The transmission system has been implemented by the petitioner and Joint Venture Company as under:

- (i) PGCIL portion: 87210 lakh (including IDC of Rs. 2574 lakh)
- (ii) JV portion Rs. 161178 lakh (including IDC of Rs. 12170 lakh)

4. The transmission charges for the Asset-I Asset-II and Asset-III were approved vide order dated 23.5.2008 in Petition No. 141/2007 and for Asset-IV vide order dated 8.4.2009 in Petition No. 133/2008. The summary of the transmission charges approved by the said orders dated 23.5.2008 and 8.4.2009 is extracted hereunder:

(Rs. in lakh)

	Asset- I			Asset-II			Asset-III		
	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09	2006-07 (Pro rata)	2007-08	2008-09
Depreciation	347.82	381.39	381.39	30.16	36.19	36.19	99.05	174.60	174.60
Interest on Loan	413.61	432.92	409.50	37.39	42.86	40.64	131.78	227.48	215.68
Return on Equity	373.62	409.85	409.85	29.65	35.57	35.57	116.63	206.32	206.32
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	38.38	42.60	43.28	3.88	4.74	4.84	13.95	24.65	25.11
O & M Expenses	334.62	379.56	394.80	50.70	63.26	65.80	195.20	347.93	361.90
Total	1508.04	1646.32	1638.82	151.78	182.62	183.04	556.60	980.97	983.61

(Rs. in lakh)

Asset-IV		
	2007-08 (Pro rata)	2008-09
Depreciation	45.19	58.48
Interest on Loan	58.45	72.19
Return on Equity	54.98	70.94
Advance against Depreciation	0.00	0.00
Interest on Working Capital	6.47	8.17
O & M Expenses	52.72	65.80
Total	217.81	275.57

5. 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 1.4.2007/ date of the commercial operation	Additional Capital Expenditure during 2007-08	Capital cost as on 1.4.2008	Additional Capital Expenditure during 2008-09	Capital cost as on 1.4.2009
Asset-I	10495.61	207.46	10703.07	10.00	10713.07
Asset-II	1005.25	92.00	1097.25	0.00	1097.25
Asset-III	4939.69	669.50	5609.19	265.52	5874.71
Asset-IV	1689.47	53.28	1742.75	3.59	1739.16

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

(Rs. in lakh)

	Asset- I		Asset-II		Asset- III		Asset-IV	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
Depreciation	385.36	389.52	37.85	39.50	186.36	202.04	45.19	59.44
Interest on Loan	437.27	418.17	44.77	44.37	242.85	251.92	58.45	73.39
Return on Equity	414.21	418.78	37.51	39.44	220.38	240.01	54.98	72.06
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	42.82	43.72	4.84	5.03	25.36	26.80	6.47	8.24
O & M Expenses	379.56	394.80	63.26	65.80	347.93	361.90	52.72	65.80
Total	1659.22	1664.99	188.23	194.14	1022.88	1082.67	217.81	278.93

7. 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		Asset-III		Asset-IV	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
Maintenance Spares	109.59	116.16	10.56	11.19	47.98	50.86	14.53	15.26
O & M expenses	31.63	32.90	5.27	5.48	28.99	30.16	5.27	5.48
Receivables	276.54	277.50	31.37	32.36	170.48	180.45	43.56	46.49
Total	417.76	426.56	47.20	49.03	247.45	261.47	63.36	67.23
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	12.25%	12.25%
Interest	42.82	43.72	4.84	5.03	25.36	26.80	6.47	8.24

8. BSEB in its reply dated 23.3.2010 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, this objection of BSEB no more survives. The concern expressed by BSEB regarding initial spares, wages revision and reimbursement of filing fee have been taken care of under relevant heads of this order.

CAPITAL COST

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

Asset-I			Asset-II			Asset-III			Asset-IV		
Year	Amount (Rs. in lakh)	Nature and details of expenditure	Year	Amount (Rs. in lakh)	Nature and details of expenditure	Year	Amount (Rs. in lakh)	Nature and details of expenditure	Year	Amount (Rs. in lakh)	Nature and details of expenditure
2007-08	Sub-station and PLCC= Rs. 207.46 lakh	Retention /balance payments	2007-08	Sub-station= Rs. 92.00 lakh	Retention /balance payments	2007-08	Building, = Rs. 46.03 lakh, sub-station = Rs. 613.46 lakh and PLCC=Rs. 10.01 lakh	Retention /balance payments	2007-08	-	-
Total	Rs. 207.46 lakh		Total	Rs. 92.00 lakh	-	Total	Rs. 669.50 lakh			-	-
2008-09	sub-station = Rs. 10.00 lakh	Retention /balance payments	2008-09	-	--	2008-09	Land= Rs. 1.88 lakh Building = Rs. 91.29 lakh and Sub-station=Rs. 172.35 lakh	Retention /balance payments	2008-09	sub-station= Rs. 53.28 lakh	Retention /balance payments
Total	Rs. 10.00 lakh						Rs. 265.52 lakh		Total	Rs. 53.28 lakh	

10. The petitioner has submitted audited capital cost up to 31.2.2009 duly certified by Chartered Accountant. The additional capital expenditure claimed is within the original scope of work and on account of

retention/final/balance payments. The additional expenditure sought to be capitalised is allowed under Regulation 53 of the 2004 regulations.

Initial spares

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 details of actual expenditure incurred and spares included therein by the petitioner as per original scope of project up to 31.3.2009 are as under:-

(Rs. in lakh)

	Asset	Petition for additional capital expenditure for 2008-09	Date of the commercial operation	Cut-Off Date	Expenditure as on Cut Off date	Initial spares	Initial spares as % of capital cost as on cut off date
1	400 KV Bareilly S/stn & 400 KV Mandola S/s associated with 400 KV Mandaula Bareilly line of POWERLINKS	311/2009	1.5.2006	31.3.2008	2416.01	54.19	2.24%
2	400 KV DC Lucknow – Unnao line with bays at both end, 400 KV DC Gorakhpur – Gorakhpur line with bays at both end, 2 nos. 400 KV bays at Gorakhpur & 2 nos. 400 KV Bays at Lucknow for 400 KV DC Gorakhpur-Lucknow line of POWERLINKS, 315 MVA ICT at Lucknow with Associated Bays & 315 MVA ICT-I at Gorakhpur with associated Bays,	311/2009	1.8.2006	31.3.2008	25539.62	374.84	1.47%
3	LILo of I Ckt. of 400 KV DC Ballabgarh Dadri TL at Maharaniabagh GIS along with associated Bays & 315 MVA ICT I at Maharaniabagh GIS along with associated Bays	311/2009	1.9.2007	31.03.2009	14550.04	202.32	1.39%

4	315 MVA 400/220/33 KV ICT II at Maharanibagh GIS along with associated Bays	311/2009	1.10.2007	31.3.2009	3374.77	69.11	2.05%
5	2 nos of 400 KV bays at Muzaffarpur with line reactor associated bays 400 KV Muzaffarpur-Gorakhpur line of POWERLINKS under transmission system associated with Tala HEP, East-North inter connector System	312/2009	01.09.2006	31.03.2008	1927.79	32	1.65%
6	400/220 KV, 315 Mva lct at Purnea	39/2010 (This petition)	01.06.2006	31.03.2008	1097.25	6	0.55%
7	400/220 kv Muzaffarpur S/Stn. (New) (excluding 2 Nos. 400 kv bays at Muzaffarpur with line reactor associated with 400 kv Muzaffarpur-Gorakhpur line and ICT-II), 220 kv Muzaffarpur S/Stn. (BSEB Kanti) Extension	39/2010 (This petition)	01.09.2206	31.03.2008	5609.19	92.28	1.65%
8	400/220 kv, 315 MVA ICT-II at Muzaffarpur S/S associated with Tala HEP	39/2010 (This petition)	01.06.2007	31.03.2009	1742.75	19.79	1.14%
	Total				56257.42	850.53	1.51%

(Rs. in lakh)

Actual Initial spares of the 8 Assets together@1.51%	850.5300
Initial Spares @ 1.5% of all the 8 Assets as on cut off date	843.7597
Difference to be adjusted	6.7703

13. The present petition has four assets whereas the project contains ten Assets. For ascertaining the initial Spares, petitioner was directed to submit the details of date of the commercial operation and expenditure up to cut off date for all the assets under the project. The petitioner vide its affidavit dated 8.2.2010 has furnished above details for the ten assets under the project, with the request to allow initial spares for the project as a whole excluding two assets which have Thyristor Controlled Series Compensation (TCSC) and Fixed Series compensation (FSC) included in them.

14. On scrutiny of affidavit, it is noted that the initial spares as percentage of capital cost as on cut-off date for all the 10 assets of the

project taken together is 1.56%; that for the two assets with TCSC and FSC is 1.70% and for remaining 8 assets taken together is 1.51%.

15. It is observed that in the present petition Asset-I has TCSC and FCS and other assets have been covered in Petition No. 312/2009, which is pending.

16. It is also observed that the difference of Rs. 6.7703 lakh on account of excess initial spares for eight assets as above was adjusted in Petition No. 311/2009 which included three assets covered under current petition No. (39/2010) and excluded Asset-1 which contains TCSC and FSC. The capital cost of Asset-I up to 31.3.2009 in the current petition is Rs. 10713.07 lakh excluding balance estimated expenditure of Rs. 2 lakh. Initial Spares included therein amounts to Rs. 109 lakh which is within limit of 1.5%. Accordingly, the initial spares for the transmission assets have been allowed as per the 2004 regulations.

TOTAL CAPITAL COST

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

	(Rs. in lakh)			
	Capital cost as on 1.4.2007/ date of the commercial operation	Additional Capital Expenditure during 2007-08	Additional Capital Expenditure during 2008-09	Capital cost as on 1.4.2009
Asset-I	10495.61	207.46	10.00	10713.07
Asset-II	1005.25	92.00	0.00	1097.25
Asset-III	4939.69	669.50	265.52	5874.71
Asset-IV	1689.47	53.28	3.59	1739.16

DEBT- EQUITY RATIO

18. The petitioner has considered the amount of additional capital expenditure for the year 2008-09 for the transmission assets 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 as on 1.4.2007	Notional additional equity during 2007-08	Average equity for 2007-08	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	2927.52	62.24	2958.64	2989.76	3.00	2992.76	2991.26
Asset-II	254.10	27.60	267.90	281.70	0.00	281.70	281.70
Asset-III	1473.69	200.85	1754.12	1674.54	79.66	1754.20	1714.37
Asset-IV	435.83	70.86	471.26	506.69	15.89	522.67	514.69

RETURN ON EQUITY

19. 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.

20. Equity as given in the table under para 18 above has been considered. However, tariff for 2007-08 and 2008-09 for the transmission assets has been allowed on average equity. Accordingly, return on equity allowed is given as under:

(Rs. in lakh)		
Name of the asset	2007-08	2008-09
Asset-I	414.21	418.78
Asset-II	37.51	39.44
Asset-III	220.38	240.01
Asst-IV	54.98	72.06

INTEREST ON LOAN

21. 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.”

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

- (i) 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 petition.
- (ii) Notional loan arising out of additional capital expenditure for the year 2007-08 and 2008-09 has been added to the loan amount as on the date of commercial operation to arrive at total notional loan. This adjusted Gross loan has been considered as normative loans for tariff calculations.
- (iii) Tariff has been worked out considering normative loan and normative repayments. Normative repayment has been worked out by the following formula:

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

- (iv) 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.

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

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

(Rs. in lakh)

Details	Asset- I		Asset-II		Asset- III		Asset-IV	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
Gross Normative Loan	7568.09	7713.32	751.15	815.55	3466.00	3934.65	1017.43	1182.78
Cumulative Repayment up to Previous Year/date of commercial operation	347.82	733.18	30.16	68.00	99.05	285.41	21.21	66.40
Net Loan-Opening	7220.27	6980.13	720.99	747.55	3366.95	3649.24	996.22	1116.38
Addition due to Additional Capitalisation	145.22	7.00	64.40	0.00	468.65	185.86	165.35	37.30
Repayment during the year	385.36	389.52	37.85	39.50	186.36	202.04	45.19	59.44
Net Loan-Closing	6980.13	6597.62	747.55	708.05	3649.24	3633.06	1116.38	1094.23
Average Loan	7100.20	6788.87	734.27	727.80	3508.09	3641.15	1056.30	1105.30
Weighted Average Rate of Interest on Loan	6.16%	6.16%	6.10%	6.10%	6.92%	6.92%	6.64%	6.64%
Interest	437.27	418.17	44.77	44.37	242.85	251.92	58.45	73.39

24. The detailed calculations in support of the weighted average rate of interest for the four assets are contained in Annexure-I, Annexure-II, Annexure-III and Annexure-IV, respectively attached.

DEPRECIATION

25. 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."

26. Depreciation allowed has been worked out as below:

(Rs. in lakh)

Details	Asset- I		Asset- II		Asset- III		Asset-IV	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
Gross block as on the date of commercial operation	10495.61	10703.07	1005.25	1097.25	4939.69	5609.19	1453.26	1689.47
Additional Capitalisation during 2007-08 and 2008-09	207.46	10.00	92.00	0.00	669.50	265.52	236.21	53.28
Gross Block at the end of the year	10703.07	10713.07	1097.25	1097.25	5609.19	5874.71	1689.47	1742.75
Rate of Depreciation	3.6357%	3.6376%	3.6000%	3.6000%	3.5333%	3.5187%	3.4511%	3.4637%
Depreciable Value	9539.41	9637.26	946.13	987.53	4587.77	5007.68	1411.00	1541.27
Balance Useful life of the asset	-	-	-	-	-	-	-	-
Remaining Depreciable Value	9191.59	8904.08	915.97	919.52	4488.72	4722.27	1411.00	1496.08
Depreciation	385.36	389.52	37.85	39.50	186.36	202.04	45.19	59.44

ADVANCE AGAINST DEPRECIATION

27. 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

28. 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.

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

OPERATION & MAINTENANCE EXPENSES

30. 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

31. O&M expenses as taken for the tariff calculations as per orders dated 23.5.2008 and 8.4.2009 in Petition Nos. 141/2007 and 133/2008, respectively have been considered, since line length and number of bays remain unchanged.

INTEREST ON WORKING CAPITAL

32. 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. 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 orders dated 23.5.2008 and 8.4.2009 in Petition Nos. 141/2007 and 133/2008, respectively 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 1.4.2006 for Asset-I Asset-II and Asset-III and @ 12.25% based on SBI PLR as on 1.4.2007 for Asset-IV, which is in accordance with the 2004 regulations and has been allowed.

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

(Rs. in lakh)

	Asset- I		Asset-II		Asset-III		Asset-IV	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
Maintenance Spares	109.59	116.16	10.56	11.19	47.98	50.86	14.53	15.26
O & M expenses	31.63	32.90	5.27	5.48	28.99	30.16	5.27	5.48
Receivables	276.54	277.50	31.37	32.36	170.48	180.45	43.56	46.49
Total	417.75	426.56	47.20	49.03	247.45	261.46	63.37	67.23
Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%	10.25%	12.25%	12.25%
Interest	42.82	43.72	4.84	5.03	25.36	26.80	6.47	8.24

TRANSMISSION CHARGES

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

(Rs. in lakh)

	Asset- I		Asset-II		Asset- III		Asset-IV	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
Depreciation	385.36	389.52	37.85	39.50	186.36	202.04	45.19	59.44
Interest on Loan	437.27	418.17	44.77	44.37	242.85	251.92	58.45	73.39
Return on Equity	414.21	418.78	37.51	39.44	220.38	240.01	54.98	72.06
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	42.82	43.72	4.84	5.03	25.36	26.80	6.47	8.24
O & M Expenses	379.56	394.80	63.26	65.80	347.93	361.90	52.72	65.80
Total	1659.22	1664.98	188.22	194.13	1022.88	1082.67	217.81	278.92

35. The petitioner shall recover from the beneficiaries the additional transmission charges in two instalments and these charges shall be shared in accordance with the 2004 regulations.

36. 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 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 applied in the present case also. The decision on licence fee shall be communicated separately.

37. 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.

38. This order disposes of Petition No. 39/2010.

Sd/-
(M.DEENA DAYALAN)
MEMBER

sd/-
(S.JAYARAMAN)
MEMBER

Calculations in support of the weighted average rate of interest

Annexure-I

Asset-I

(Rs. in lakh)

	Details of Loan	2007-08	2008-09
1	BOND XV		
	Gross Loan opening	325.00	325.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	27.08
	Net Loan-Opening	325.00	297.92
	Additions during the year	0.00	0.00
	Repayment during the year	27.08	27.08
	Net Loan-Closing	297.92	270.84
	Average Loan	311.46	284.38
	Rate of Interest	6.68%	6.68%
	Interest	20.81	19.00
	Repayment Schedule	12 annual instalments from 23.2.2008	
2	BOND XVI		
	Gross Loan opening	300.00	300.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	300.00	300.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	30.00
	Net Loan-Closing	300.00	270.00
	Average Loan	300.00	285.00
	Rate of Interest	7.10%	7.10%
	Interest	21.30	20.24
	Repayment Schedule	10 annual instalments from 18.2.2009	
3	IBRD-II		
	Gross Loan opening	6867.36	6867.36
	Cumulative Repayment up to the date of commercial operation /previous year	143.13	437.09
	Net Loan-Opening	6724.23	6430.27
	Additions during the year	0.00	0.00
	Repayment during the year	293.96	312.94
	Net Loan-Closing	6430.27	6117.33
	Average Loan	6577.25	6273.80
	Rate of Interest	6.04%	6.04%
	Interest	397.27	378.94
	Repayment Schedule	30 Half Yearly installments w.e.f. 15-12-2006	
4	BOND XIX		

	Gross Loan opening	108.19	108.19
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	108.19	108.19
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	108.19	108.19
	Average Loan	108.19	108.19
	Rate of Interest	9.25%	9.25%
	Interest	10.01	10.01
	Repayment Schedule	12 Annual Instalments from 24.7.2010	
	Gross Loan opening	7600.55	7600.55
	Cumulative Repayment up to the date of commercial operation /previous year	143.13	464.17
	Net Loan-Opening	7457.42	7136.38
	Additions during the year	0.00	0.00
	Repayment during the year	321.04	370.02
	Net Loan-Closing	7136.38	6766.36
	Average Loan	7296.90	6951.37
	Rate of Interest	6.1585%	6.1596%
	Interest	449.38	428.18

Asset-II

(Rs. in lakh)

	Details of Loan	2007-08	2008-09
1	BOND XV		
	Gross Loan opening	24.00	24.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	2.00
	Net Loan-Opening	24.00	22.00
	Additions during the year	0.00	0.00
	Repayment during the year	2.00	2.00
	Net Loan-Closing	22.00	20.00
	Average Loan	23.00	21.00
	Rate of Interest	6.68%	6.68%
	Interest	1.54	1.40
	Repayment Schedule	12 annual instalments from 23.2.2008	
2	BOND XVI		
	Gross Loan opening	25.00	25.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	25.00	25.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	2.50
	Net Loan-Closing	25.00	22.50
	Average Loan	25.00	23.75
	Rate of Interest	7.10%	7.10%
	Interest	1.78	1.69
	Repayment Schedule	10 annual instalments from 18.2.2009	
3	IBRD-II		
	Gross Loan opening	702.15	702.15
	Cumulative Repayment up to the date of commercial operation /previous year	14.63	44.68
	Net Loan-Opening	687.52	657.47
	Additions during the year	0.00	0.00
	Repayment during the year	30.05	32.00
	Net Loan-Closing	657.47	625.47
	Average Loan	672.50	641.47
	Rate of Interest	6.04%	6.04%
	Interest	40.62	38.74
	Repayment Schedule	30 Half Yearly installments w.e.f. 15-12-2006	
	Gross Loan opening	751.15	751.15

	Cumulative Repayment up to the date of commercial operation /previous year	14.63	46.68
	Net Loan-Opening	736.52	704.47
	Additions during the year	0.00	0.00
	Repayment during the year	32.05	36.50
	Net Loan-Closing	704.47	667.97
	Average Loan	720.50	686.22
	Rate of Interest	6.0972%	6.0963%
	Interest	43.93	41.83

Asset-III

(Rs. in lakh)

	Details of Loan	2007-08	2008-09
1	BOND XV		
	Gross Loan opening	58.00	58.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	4.83
	Net Loan-Opening	58.00	53.17
	Additions during the year	0.00	0.00
	Repayment during the year	4.83	4.83
	Net Loan-Closing	53.17	48.34
	Average Loan	55.59	50.76
	Rate of Interest	6.68%	6.68%
	Interest	3.71	3.39
	Repayment Schedule	12 annual instalments from 23.2.2008	
2	BOND XVI		
	Gross Loan opening	6.00	6.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	6.00	6.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.60
	Net Loan-Closing	6.00	5.40
	Average Loan	6.00	5.70
	Rate of Interest	7.10%	7.10%
	Interest	0.43	0.40
	Repayment Schedule	10 annual instalments from 18.02.2009	
3	IBRD-II		
	Gross Loan opening	3189.20	3189.20
	Cumulative Repayment up to the date of commercial operation /previous year	66.47	202.98
	Net Loan-Opening	3122.73	2986.22
	Additions during the year	0.00	0.00
	Repayment during the year	136.51	145.33
	Net Loan-Closing	2986.22	2840.89
	Average Loan	3054.48	2913.56
	Rate of Interest	6.71%	6.71%
	Interest	204.96	195.50
	Repayment Schedule	30 Half Yearly installments w.e.f. 15-12-2006	
4	BOND XIX (ADDCAP FOR 2006-07)		
	Gross Loan opening	304.00	304.00
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00

	Net Loan-Opening	304.00	304.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	304.00	304.00
	Average Loan	304.00	304.00
	Rate of Interest	9.25%	9.25%
	Interest	28.12	28.12
	Repayment Schedule	12 Annual Instalments from 24.7.2010	
5	IBRD-III (ADDCAP for 2007-08 Drawl on 21-May-2007)		
	Gross Loan opening	0.00	347.25
	Cumulative Repayment up to the date of commercial operation /previous year	0.00	0.00
	Net Loan-Opening	0.00	347.25
	Additions during the year	347.25	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	347.25	347.25
	Average Loan	173.63	347.25
	Rate of Interest	6.66%	6.66%
	Interest	11.56	23.13
	Repayment Schedule	30 Half Yearly installments w.e.f. 15-9-2011	
	Gross Loan opening	3557.20	3904.45
	Cumulative Repayment up to the date of commercial operation /previous year	66.47	207.81
	Net Loan-Opening	3490.73	3696.64
	Additions during the year	347.25	0.00
	Repayment during the year	141.34	150.76
	Net Loan-Closing	3696.64	3545.88
	Average Loan	3593.69	3621.26
	Rate of Interest	6.9226%	6.9186%
	Interest	248.78	250.54

Asset-IV

		(Rs. in lakh)	
	Details of Loan	2007-08	2008-09
1	IBRD-II		
	Gross Loan opening	1017.43	1017.43
	Cumulative Repayment up to the date of commercial operation/previous year	21.21	64.77
	Net Loan-Opening	996.22	952.66
	Additions during the year	0.00	0.00
	Repayment during the year	43.56	46.37
	Net Loan-Closing	952.66	906.29
	Average Loan	974.44	929.48
	Rate of Interest	6.64%	6.64%
	Interest	64.70	61.72
	Repayment Schedule	30 Half Yearly instalments from 15.12.2006	
	Gross Loan opening	1017.43	1017.43
	Cumulative Repayment up to the date of commercial operation /previous year	21.21	64.77
	Net Loan-Opening	996.22	952.66
	Additions during the year	0.00	0.00
	Repayment during the year	43.56	46.37
	Net Loan-Closing	952.66	906.29
	Average Loan	974.44	929.48
	Rate of Interest	6.64%	6.64%
	Interest	64.70	61.72