

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 330/2010

**Coram: Shri S. Jayaraman, Member
Shri V.S.Verma, Member
Shri M. Deena Dayalan**

Date of Hearing: 26.5.2011

Date of Order: 28. 7.2011

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009, for determination of transmission tariff for 315 MVA 400/220 kV ICT-I, ICT-II and ICT III at Bhinmal along with associated bays and 2 Nos 220 kV Line Bays at Hissar under Transmission System associated with Northern Region System Strengthening Scheme-VIII (NRSS-VIII), in Northern Region from their respective dates of commercial operation to 31.3. 2014.

And

In the matter of:

Power Grid Corporation of India Limited, Gurgaon

...Petitioner

Vs

1. Rajasthan Rajya Vidyut Prasaran Nigam Limited, Jaipur
2. Ajmer Vidyut Vitaran Nigam Ltd., Ajmer
3. Jaipur Vidyut Vitaran Nigam Ltd., Jaipur
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
5. Haryana Power Purchase Centre, Panchkula

..... Respondents

The following was present:

1. Shri.U. K Tyagi, PGCIL
2. Shri M. M. Mondal, PGCIL
3. Shri K..K. Jain, PGCIL
4. Shri Sanjeet Kumar, HPPC

ORDER

This petition has been filed seeking approval for determination of transmission tariff for 315 MVA 400/220 kV ICT-I, ICT-II and ICT III at Bhinmal along with associated bays and 2 Nos 220 kV Line Bays at Hissar under



Transmission System associated with Northern Region System Strengthening Scheme-VIII (NRSS-VIII), in Northern Region from their respective dates of commercial operation to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as “the 2009 regulations”). The petitioner has also sought the following reliefs:-

- (a) Allow, in respect of the assets being combined to calculate the transmission charges, to recover full depreciation (90% of the Gross Block) of the assets during their useful life (25 years for S/S and 35 years for Transmission Line) reckoning from their actual dates of commercial operation and also permit the petitioner to treat the recovery of depreciation after achieving the useful life by an asset (to be reckoned from the actual date of commercial operation) as prayed or in the petition;
- (b) Allow the petitioner to bill and adjust impact on loan due to change in interest rate on account of floating rate of interest applicable during the tariff period, if any, from the respondents;
- (c) Allow the petitioner to bill and recover Service Tax on Transmission charges separately from the respondents, if at any time the exemption from service tax is withdrawn and transmission of power is notified as a taxable service;
- (d) Invoke the provisions of regulation 44 of the 2009 regulations to allow grossing up the base rate of return with the applicable tax rate as

per the relevant Finance Acts and direct settlement of tax liability with the long term transmission customers on year to year basis;

(e) Approve the reimbursement, of expenditure, by the beneficiaries towards petition filing fee, and publishing of notices in newspapers in terms of Regulation 42 of the 2009 regulations, and other expenditure (if any) in relation to the filing of petition; and

(f) Allow the petitioner to bill and recover license fee separately from the respondents

2. The administrative approval and expenditure sanction for the transmission project was accorded by the Board of Directors of the Petitioner company vide C/CP/NRSS-VIII dated 26.10.2006 for ₹ 22069 lakh including Interest During Construction of ₹ 1144 lakh based on 2nd quarter 2006 price level.

3. The details of the elements forming part of the project and their respective dates of commercial operation are as under:-

S.No	Element	Date of commercial operation
(a)	Asset-A :LILO of one Circuit of 400 kV D/C Kankroli-Zerda line at Bhinmal along with 80MVAR Bus Reactor at Bhinmal.	1.9.2009
(b)	Asset-B :315 MVA 400/220 kV ICT-I at Bhinmal along with associated bays	1.9.2009
(c)	Asset-C :315 MVA 400/220 kV ICT-II at Bhinmal along with associated bays	1.4.2010
(d)	Asset-D :315 MVA 400/220 kV ICT-III at Hissar with associated bays at Hissar	1.4.2010
(e)	Asset-E :2 Nos.220kV Line Bays at Hissar	1.8.2010

4. The petitioner has separately filed Petition No. 224/2010 on 5.8.2010, for determination of tariff in respect of Asset A and Asset B mentioned above.

The Commission in its order dated 16.5.2011 in Petition No.224/2010 has



determined the tariff of both the Assets from 1.9.2009 to 31.3.2014. Asset B is being combined with Asset C in this petition w,.e.f. the date of commercial operation of Asset C (i.e. 1.4.2010). Accordingly, the tariff for Asset B as determined in our dated 16.5.2011 shall be considered upto 31.3.2010 and tafiff of combined Asset B and C has been determined from 1.4.2010 to 31.3.2014. Asset D has been considered as a single asset from 1.4.2010 till 31.7.2010 and has been combined with Asset E from 1.8.2010 i.e. the date of commercial operation of Asset E. In this order tariff has been determined as under:-

(a) Combined Asset 1 – It includes the tariff of Asset-B and Asset C from 1.4.2010 to 31.3.2014

(b) Single Asset - It includes the tariff of Asset D from 1.4.2010 till 31.7.2010.

(c) Combined Asset 2 – It includes the tariff of Asset D and E from 1.8.2010 to 31.3.2014

5. Details of the transmission charges claimed by the petitioner are as under: -

(₹ in lakh)

Combined Asset 1				
	2010-11	2011-12	2012-13	2013-14
Depreciation	324.75	347.51	352.07	352.07
Interest on Loan	382.40	385.37	359.95	327.80
Return on equity	334.06	361.70	367.09	367.09
Interest on Working Capital	37.26	39.27	39.96	40.37
O & M Expenses	343.48	363.14	383.88	405.84
Total	1421.95	1496.99	1502.95	1493.17

(₹ in lakh)

Single Asset	
	2010-11
Depreciation	101.42
Interest on Loan	114.51
Return on equity	100.73
Interest on Working Capital	10.84
O & M Expenses	94.18
Total	421.68

(₹ in lakh)

Combined Asset 2				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Depreciation	83.26	139.09	144.12	144.12
Interest on Loan	92.87	146.11	139.45	126.69
Return on equity	82.62	138.01	143.00	143.00
Interest on Working Capital	10.66	17.16	17.72	17.99
O & M Expenses	114.49	181.57	191.94	202.92
Total	383.90	621.94	636.23	634.72

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

(₹ in lakh)

Combined Asset 1				
	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	51.52	54.47	57.58	60.88
O & M expenses	28.62	30.26	31.99	33.82
Receivables	236.99	249.50	250.49	248.86
Total	317.13	334.23	340.06	343.56
Rate of Interest	11.75%	11.75%	11.75%	11.75%
Interest	37.26	39.27	39.96	40.37

(₹ in lakh)

Single Asset	
	2010 - 11
Maintenance Spares	14.13
O & M expenses	7.85
Receivables	70.28
Total	92.26
Rate of Interest	11.75%
Interest	10.84

(₹ in lakh)

Combined Asset 2				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Maintenance Spares	25.76	27.24	28.79	30.44
O & M expenses	14.31	15.13	16.00	16.91
Receivables	95.98	103.66	106.04	105.79
Total	136.05	146.03	150.83	153.14
Rate of Interest	11.75%	11.75%	11.75%	11.75%
Interest	10.66	17.16	17.72	17.99

7. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under section 64 of the Electricity Act, 2003. Reply to the petition has been filed Ajmer Vidyut Vitaran Nigam Limited, Jaipur Vidyut Vitaran Nigam Limited and Haryana Power Purchase Centre.

8. Ajmer Vidyut Vitaran Nigam Limited, respondent no. 2, filed its reply vide affidavit dated 27.1.11 and Jaipur Vidyut Vitaran Nigam Limited, respondent no. 4, has also filed its reply vide affidavit dated 27.1.11. The objections raised by both the respondents 2 and 4 are similar and they are being dealt together. The objections raised by these respondents are as follows:-

(a) As regards the petitioner's submission that it would make one more application for revision for tariff prior to 2013-14, the respondents have prayed that the petitioner should be directed to file the petition after the expenditure projected for the additional capitalization is actually incurred so that correct capital cost incurred is taken into account;

(b) As regard the submission by the petitioner that the liquidated damages for delay of two months would be settled with the

contractor and adjusted in the capital cost, it has been submitted that the IDC for the delay should not be allowed to be capitalized and petitioner should be directed to inform the beneficiaries regarding the LD with the contractor; and

- (c) As regards the petitioner's proposal to approach the Commission for revision of the O&M expenses on account of impact wage hike, it has been submitted that the O&M expenses are normative in nature and the petitioner's prayer is not tenable.

9. The Haryana Power Purchase Centre, respondent no.5, has filed its reply vide affidavit dated 25.5.2011. The respondent no.5 has raised the following objections: -

- (a) Licence fee is the onus of the licensee, the petitioner, and hence it should not be passed over to the beneficiaries.
- (b) As regards the prayer of the petitioner for adjusting the impact on interest on loan due to change in interest rate due to floating rate of interest, the respondent has submitted that this may be considered in the same manner as the issue of change in tax rate prescribed by the relevant Finance Act as stated in the Commission's order dated 3.8.2010 in petition No. 38/2010.
- (c) That the petitioner's prayer for grossing up of base rate of return with MAT rates applicable for particular financial year and truing up of ROE every year should not be allowed in view of the specific provisions for truing up at the end of the tariff period as per the 2009 regulations.

10. The petitioner has not filed any rejoinder to the replies of the respondents. We have considered the objections of the respondents as noted in Para 8 and 9 above. The objections have been dealt with in relevant part of this order. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition.

CAPITAL COST

11. As regards the capital cost, Regulation 7 (1) of the 2009 regulations provides as under:-

“The expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan – (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the fund deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check.”

12. Capital expenditure in respect of the assets covered under this petition is as under:-

Particular	Actual Cost as on COD	Projected Additional capital expenditure			Estimated completion cost
		2009-10	2010-11	2011-12	
Asset-B	2154.36	1288.55			3442191
Asset-C	2502.85		848.52	205.53	3556.90
Asset-D	1784.82		272.01	132.76	2189.59
Asset-E	404.75		75.00	57.37	537.11

13. It is noticed that as per the investment approval, the project was to be completed within 30 months from 30.11.2007, i.e. the date of issue of first Letter of Award. Accordingly, the assets were to be commissioned on 30.5.2010. It is noticed that while assets C and D were commissioned within the schedule, there has been a time over run of 2 months in commissioning of Asset E. This has been attributed to the delay by the vendor in supply of 220

kV CTs of required ratio. The petitioner has submitted that imposition of liquidated damages if any due to contractual obligations will be dealt with the vendor at the time of closing of contract and LD charges collected, if any from the contractor will be adjusted in the capital cost.

14. We are of the view that passing on the adverse consequence of the delay on the part of the vendor to the beneficiaries would be unjustified and accordingly, we are not inclined to condone the time over-run of two months. However, we have noted the submission of the petitioner that the amount of liquidated damages collected from the vendor would be adjusted in reduction of capital cost. Since, the quantum of liquidated damages to be recovered from the vendor is not unknown, we direct that to the extent liquidated damages recovered exceeds the amount of IDC disallowed in the order, it shall be applied for reduction of capital cost at the time of truing up. Accordingly the capital cost considered for the purpose of computation of tariff is as under:-

(a) **Combined Asset-1:** of ₹ 5945.77 lakh as on 1.4.2010 (₹ 3442.91 lakh for Asset-B by order dated 16.5.2011 in Petition No. 224/2010 and ₹ 2502.85 lakh for Asset-C vide CA certificate dated 5.7.2010);

(b) **Single Asset :** ₹ 1784.82 lakh as on 1.4.2010 vide CA certificate dated 22.10.2010;

(c) **Combined Asset-2 :** ₹ 2186.17 lakh as on 1.8.2010 (₹ 1784.82 lakh for Asset-D vide CA certificate dated 22.10.2010 and Rs. 401.36 lakh for Asset-E after deduction of IDC as stated above).

ADDITIONAL CAPITAL EXPENDITURE

15. Clause 9(1) of the 2009 regulations provides as under:-

“Additional Capitalisation: (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Undischarged liabilities;”

16. The 2009 regulations further define cut-off date as under:-

“cut-off date means 31st march of the year closing after 2 years of the year of commercial operation of the project, and incase of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after 3 years of the year of commercial operation”.

17. As per the above definition, cut-off date in respect of all the assets whose transmission tariff is being approved vide this order is 31.3.2013.

18. Petitioner has claimed Additional Capital Expenditure of ₹ 848.52 lakh and ₹ 205.53 lakh for Combined Asset-1 for the year 2010-11 and 2011-12 respectively and ₹ 347.01 lakh and ₹ 190.13 lakh for Combined Asset-2 for the year 2010-11 (from, date of commercial operation to 31.3.2011) and 2011-12 respectively. Additional capital expenditure claimed falls within the cut-off date. Hence, the same has been considered for the purpose of tariff calculation.

DEBT- EQUITY RATIO

19. Regulation 12 of the 2009 regulations provides as under:-

*“12. **Debt-Equity Ratio.** (1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:*

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.



Explanation.- The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

20. Details of debt-equity in respect of the transmission assets as on the date of commercial operation are as under:-

Capital Cost as on date of commercial operation		
Particulars	(₹ in lak0h)	%
Combined Asset-1		
Debt	4162.04	70.00
Equity	1783.73	30.00
Total	5945.77	100.00
Single Asset		
Debt	1249.40	70.00
Equity	535.42	30.00
Total	1784.82	100.00

Combined Asset-2		
Debt	1530.34	70.00
Equity	655.82	30.00
Total	2186.17	100.00

21. As regards the additional capital expenditure, the debt-equity details are given overleaf:-

Normative		
	(₹ in lakh)	%
Combined Asset 1		
Additional Capital Expenditure for 2010 – 11		
Debt	593.96	70.00
Equity	254.56	30.00
Total	848.52	100.00
Additional Capital Expenditure for 2011 -12		
Debt	143.87	70.00
Equity	61.66	30.00
Total	205.53	100.00

Single Asset		
Additional Capital Expenditure for 2010 – 11		
Debt	190.41	70.00
Equity	81.60	30.00
Total	272.01	100.00
Additional Capital Expenditure for 2011-12		
Debt	92.93	70.00
Equity	39.83	30.00
Total	132.76	100.00

Combined Asset 2		
Additional Capital Expenditure for 2010-11		
Debt	242.91	70.00
Equity	104.10	30.00
Total	347.01	100.00
Additional Capital Expenditure for 2011-12		
Debt	133.09	70.00
Equity	57.04	30.00
Total	190.13	100.00

RETURN ON EQUITY

22. Regulation 15 of the 2009 regulations, as amended vide Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011, provides that,

“15. (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per clause (3) of this regulation:



Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below: Rate of pre-tax return on equity = Base rate / (1-t) Where "t" is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations."

23. In this order, Return on Equity has been calculated as per Regulation 15 of the 2009 regulations with pre-tax ROE of 17.481%. The petitioner's prayer to allow grossing up the base rate of ROE based on the tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per the relevant Finance Acts, has already been taken care of through the 2nd amendment to the 2009 regulations.

24. Details of return on equity calculated are given as under:-

(₹ in lakh)

Combined Asset 1				
	2010-11	2011-12	2012-13	2013-14
Opening Equity	1783.73	2038.29	2099.95	2099.95
Addition due to additional capital expenditure	254.56	61.66	0.00	0.00
Closing Equity	2038.29	2099.95	2099.95	2099.95
Average Equity	1911.01	2069.12	2099.95	2099.95
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	334.06	361.70	367.09	367.09



(₹ in lakh)

Single Asset	2010 – 11*
Opening Equity	535.42
Addition due to additional capital expenditure	81.60
Closing Equity	617.02
Average Equity	576.22
Return on Equity (Base Rate)	15.50%
Tax rate for the year 2008-09	11.33%
Rate of Return on Equity (Pre Tax)	17.481%
Return on Equity (Pre Tax)	100.73

*for the full year

(₹ in lakh)

Combined Asset 2				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Opening Equity	655.82	759.92	816.96	816.96
Addition due to additional capital expenditure	104.10	57.04	0.00	0.00
Closing Equity	759.92	816.96	816.96	816.96
Average Equity	707.87	788.44	816.96	816.96
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2008-09	11.33%	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre Tax)	17.481%	17.481%	17.481%	17.481%
Return on Equity (Pre Tax)	82.50	137.83	142.81	142.81

INTEREST ON LOAN

25. Regulation 16 of the 2009 regulations provides that,

"16. (1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year:

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed,.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.



(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

26. In these calculations, interest on loan has been worked out as detailed below:-

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

(b) Tariff is worked out considering normative loan and normative repayments. Depreciation allowed has been taken as normative repayment for the tariff period 2009-14.

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

27. Detailed calculation of the weighted average rate of interest has been given in **Annexures 1 to 3** to this order. Interest on loan for the assets have been worked on the above basis as per the details given overleaf:-

(₹ in lakh)

Combined Asset 1				
	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	4162.04	4756.00	4899.88	4899.88
Cumulative Repayment upto Previous Year	84.38	409.13	756.65	1108.71
Net Loan-Opening	4077.66	4346.87	4143.23	3791.16
Addition due to additional capital expenditure	593.96	143.87	0.00	0.00
Repayment during the year	324.75	347.51	352.07	352.07
Net Loan-Closing	4346.87	4143.23	3791.16	3439.09
Average Loan	4212.26	4245.05	3967.19	3615.13
Weighted Average Rate of Interest on Loan	9.0781%	9.0781%	9.0731%	9.0674%
Interest	382.39	385.37	359.95	327.80

Single Asset	
	2010-11*
Gross Normative Loan	1249.40
Cumulative Repayment upto Previous Year	0.00
Net Loan-Opening	1249.40
Addition due to additional capital expenditure	190.41
Repayment during the year	101.42
Net Loan-Closing	1338.39
Average Loan	1293.89
Weighted Average Rate of Interest on Loan	8.8498%
Interest	114.51

* for the full year

Combined Asset 2				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Gross Normative Loan	1530.34	1773.25	1906.34	1906.34
Cumulative Repayment upto Previous Year	33.81	116.83	255.74	399.68
Net Loan-Opening	1496.54	1656.42	1650.60	1506.66
Addition due to additional capital expenditure	242.91	133.09	0.00	0.00
Repayment during the year	83.02	138.91	143.94	143.94
Net Loan-Closing	1656.42	1650.60	1506.66	1362.71
Average Loan	1576.48	1653.51	1578.63	1434.69
Weighted Average Rate of Interest on Loan	8.8509%	8.8509%	8.8500%	8.8491%
Interest	93.02	146.35	139.71	126.96

DEPRECIATION

28. Regulation 17 of the 2009 regulations provides for computation of depreciation in the following manner, namely:-



“17. (1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

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(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system:

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.”

29. The transmission assets were put under commercial operation on various dates from 1.9.2009 to 1.8.2010. Accordingly, the same will complete 12 years beyond 2013-14 and thus depreciation has been calculated annually based on Straight Line Method and at rates specified in Appendix-III of 2009 regulations.

30. Depreciation of the assets has been worked out are as under:-

(₹ in lakh)

Combined Asset 1				
	2010-11	2011-12	2012-13	2013-14
Opening Gross Block	5945.77	6794.29	6999.82	6999.82
Addition due to projected additional capitalization	848.52	205.53	0.00	0.00
Closing Gross Block	6794.29	6999.82	6999.82	6999.82
Average Gross Block	6370.03	6897.06	6999.82	6999.82
Rate of Depreciation	5.0981%	5.0386%	5.0297%	5.0297%
Depreciable Value (90%)	5621.50	6083.94	6176.43	6176.43
Remaining Depreciable Value	5537.11	5674.81	5419.78	5067.72
Depreciation	324.75	347.51	352.07	352.07



(₹ in lakh)

Single Asset	2010-11*
Opening Gross Block	1784.82
Addition due to projected additional capitalization	272.01
Closing Gross Block	2056.83
Average Gross Block	1920.83
Rate of Depreciation	5.2800%
Depreciable Value (90%)	1728.74
Remaining Depreciable Value	1728.74
Depreciation	101.42

* for the full year

(₹ in lakh)

Combined Asset 3				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Opening Gross Block	2186.17	2533.18	2723.31	2723.31
Addition due to projected additional capitalization	347.01	190.13	0.00	0.00
Closing Gross Block	2533.18	2723.31	2723.31	2723.31
Average Gross Block	2359.67	2628.24	2723.31	2723.31
Rate of Depreciation	5.2776%	5.2854%	5.2856%	5.2856%
Depreciable Value (90%)	2123.70	2365.42	2450.97	2450.97
Remaining Depreciable Value	2089.90	2248.59	2195.23	2051.29
Depreciation	83.02	138.91	143.94	143.94

OPERATION & MAINTENANCE EXPENSES

31. Clause (g) of regulation 19 of the 2009 regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and line. Norms prescribed in respect of the elements covered in the instant petition are as under:-

Name of Elements	2009-10	2010-11	2011-12	2012-13	2013-14
400 kV Bay (₹ lakh/ bay)	52.40	55.40	58.57	61.92	65.46
220 kV bay (₹ lakh/ bay)	36.68	38.78	41.00	43.34	45.82

32. Based on the above norms, the petitioner has calculated the following operation and maintenance expense which is allowed is given overleaf:-



(₹ in lakh)

Cpmbined Asset 1				
Name of Elements	2010-11	2011-12	2012-13	2013-14
400 kV Bay 2 No.	110.80	117.14	123.84	130.92
220 kV Bay 6 No.	232.68	246.00	260.04	274.92
Total	343.48	363.14	383.88	405.84

Single Asset	
Name of Elements	2010-11
400 kV Bay 1 No.	55.40
220 kV Bay 1 No.	38.78
Total	94.18

Combined Asset 2				
Name of Elements	2010-11	2011-12	2012-13	2013-14
	(Pro rata)			
400 kV bay 1 No	36.93	58.57	61.92	65.46
220 kV Bay 3 No.	77.56	123.00	130.02	137.46
Total	114.49	181.57	191.94	202.92

33. The petitioner has submitted that O & M expenditure for the year 2009-14 had been arrived at on the basis of normalized actual O & M expenses during the period 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking has also been considered while calculating the O & M charges for the tariff period 2009-14. The petitioner has further submitted that it reserves the right to approach the Commission for suitable revision in the norms for O & M expenditure in case the impact of wage hike with effect from 1.1.2007 is more than 50%. The petitioner has further submitted that in O & M norms for the period 2009-14, the cost associated with license fees had not been captured and therefore licence fee be allowed to be recovered separately from the respondents.



34. We observe that these issues have been raised by the petitioner in other petitions also. A view is yet to be taken by the Commission on reimbursement of the cost of wage hike and reimbursement of licence fees. The decision as and when taken will be applicable to the present case also.

INTEREST ON WORKING CAPITAL

35. As per the 2009 regulations the components of the working capital and the interest thereon are discussed hereunder:-

(i) Receivables As per Regulation 18(1) (c) (i) of the 2009 regulations, receivables will be equivalent to two months' of fixed cost. The petitioner has claimed the receivables on the basis of 2 months' transmission charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' transmission charges.

(ii) Maintenance spares Regulation 18(1)(c)(ii) of the 2009 regulations provides for maintenance spares @ 15% per annum of the O & M expenses from 1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses Regulation 18(1) (c) (iii) of the 2009 regulations provides for operation and maintenance expenses for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) **Rate of interest on working capital** In these calculations, SBI PLR as on 01-04-2011 (i.e.11.75%) has been considered for Combined Asset-1 and Single Asset-2, whereas for Combined Asset-3, in accordance with the 2009 regulations as amended vide the second amendment regulations notified in June 2011, interest rate of 11.00% (SBI Base Rate 7.50% as on 01-07-2010 plus 350 bps) has been considered for calculating interest on working capital.

36. Interest on working capital has been computed as under:-

(₹ in lakh)

Combined Asset 1				
	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	51.52	54.47	57.58	60.88
O & M expenses	28.62	30.26	31.99	33.82
Receivables	236.99	249.50	250.49	248.86
Total	317.14	334.23	340.06	343.56
Rate of Interest	11.75%	11.75%	11.75%	11.75%
Interest	37.26	39.27	39.96	40.37

Single Asset	2010-11*	1.4.2010 to 31.7.2010
Maintenance Spares	14.13	4.71
O & M expenses	7.85	2.62
Receivables	70.28	23.43
Total	92.25	30.75
Rate of Interest	11.75%	11.75%
Interest	10.84	3.61

* for the full year

Combined Asset – 2				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Maintenance Spares	25.76	27.24	28.79	30.44
O & M expenses	14.31	15.13	16.00	16.91
Receivables	95.75	103.45	105.83	105.58
Total	135.82	145.82	150.61	152.92
Rate of Interest	11.00%	11.00%	11.00%	11.00%
Interest	9.96	16.04	16.57	16.82

TRANSMISSION CHARGES

37. The transmission charges for the transmission assets have been allowed as given overleaf:-



(₹ in lakh)

Combined Asset 1				
	2010-11	2011-12	2012-13	2013-14
Depreciation	324.75	347.51	352.07	352.07
Interest on Loan	382.39	385.37	359.95	327.80
Return on equity	334.06	361.70	367.09	367.09
Interest on Working Capital	37.26	39.27	39.96	40.37
O & M Expenses	343.48	363.14	383.88	405.84
Total	1421.95	1497.00	1502.94	1493.16

Single Asset		
	2010-11*	1.4.2010 to 31.7.2010
Depreciation	101.42	33.81
Interest on Loan	114.51	38.17
Return on equity	100.73	33.58
Interest on Working Capital	10.84	3.61
O&M Expenses	94.18	3139
Total	421.68	140.56

* for the full year

Combined Asset 2				
	2010-11 (Pro rata)	2011-12	2012-13	2013-14
Depreciation	83.02	138.91	143.94	143.94
Interest on Loan	93.02	146.35	139.71	126.96
Return on equity	82.50	137.83	142.81	142.81
Interest on Working Capital	9.96	16.04	16.57	16.82
O & M Expenses	114.49	181.57	191.94	202.92
Total	382.99	620.70	634.97	633.45

OTHER ISSUES

38. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition. In accordance with the Commission's decision in order dated 11.1.2010 in Petition No. 109/2009, the petitioner shall be entitled to recover the filing fee from the beneficiaries. The petitioner shall also be entitled for reimbursement of expenses in connection with publication of notices of the present petition from the beneficiaries on pro rata basis.

39. The petitioner has made a specific prayer to be allowed to bill and recover the Service tax on Transmission charges separately from the



respondents if the exemption granted to it is withdrawn and transmission of power is made a taxable service. We consider the prayer pre-mature. The petitioner is at liberty to approach the Commission for any relief at the appropriate time as per law.

40. As regards the prayer for reimbursement of licence fee, it is clarified that the matter is under consideration of the Commission and any decision taken will apply to this case as well.

41. The transmission charges allowed shall be recovered on monthly basis in accordance with Regulation 23 and shared by the beneficiaries in accordance with Regulation 33 of the 2009 regulations upto 30.6.2011. With effect from 1.7.2011, the billing, collection and disbursement of the transmission charges shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses, Regulations, 2010) and the Removal of Difficulties orders issued thereunder.

42. This order disposes of Petition No. 330/2010.

Sd/-

**(M Deena Dayalan)
Member**

Sd/-

**(V.S.Verma)
Member**

Sd/-

**(S. Jayaraman)
Member**



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

Combined Asset 1

(₹ in lakh)

	Details of Loan	2010-11	2011-12	2012-13	2013-14
1	Bond XXVIII				
	Gross loan opening	1384.00	1384.00	1384.00	1384.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	115.33
	Net Loan-Opening	1384.00	1384.00	1384.00	1268.67
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	115.33	115.33
	Net Loan-Closing	1384.00	1384.00	1268.67	1153.33
	Average Loan	1384.00	1384.00	1326.33	1211.00
	Rate of Interest	9.33%	9.33%	9.33%	9.33%
	Interest	129.13	129.13	123.75	112.99
	Rep Schedule	12 annual Instalments from 15.12.2012			
2	Bond XXIX				
	Gross loan opening	295.00	295.00	295.00	295.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	24.58
	Net Loan-Opening	295.00	295.00	295.00	270.42
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	24.58	24.58
	Net Loan-Closing	295.00	295.00	270.42	245.83
	Average Loan	295.00	295.00	282.71	258.13
	Rate of Interest	9.20%	9.20%	9.20%	9.20%
	Interest	27.14	27.14	26.01	23.75
	Rep Schedule	12 annual Instalments from 12.03.2013			
3	Bond XXX				
	Gross loan opening	1029.00	1029.00	1029.00	1029.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	1029.00	1029.00	1029.00	1029.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	85.75
	Net Loan-Closing	1029.00	1029.00	1029.00	943.25
	Average Loan	1029.00	1029.00	1029.00	986.13
	Rate of Interest	8.80%	8.80%	8.80%	8.80%
	Interest	90.55	90.55	90.55	86.78
	Rep Schedule	12 annual Instalments from 29.09.2013			

4	Bond XXXI				
	Gross loan opening	552.00	552.00	552.00	552.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	552.00	552.00	552.00	552.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	46.00
	Net Loan-Closing	552.00	552.00	552.00	506.00
	Average Loan	552.00	552.00	552.00	529.00
	Rate of Interest	8.90%	8.90%	8.90%	8.90%
	Interest	49.13	49.13	49.13	47.08
	Rep Schedule	12 annual Instalments from 25.02.2014			
	Total Loan				
	Gross loan opening	3260.00	3260.00	3260.00	3260.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	139.92
	Net Loan-Opening	3260.00	3260.00	3260.00	3120.08
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	139.92	271.67
	Net Loan-Closing	3260.00	3260.00	3120.08	2848.42
	Average Loan	3260.00	3260.00	3190.04	2984.25
	Rate of Interest	9.0781%	9.0781%	9.0731%	9.0674%
	Interest	295.95	295.95	289.44	270.59



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

Single Asset

(₹ in lakh)

	Details of Loan	2010-11	2011-12	2012-13	2013-14
1	Bond XXVIII				
	Gross loan opening	47.00	47.00	47.00	47.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	3.92
	Net Loan-Opening	47.00	47.00	47.00	43.08
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	3.92	3.92
	Net Loan-Closing	47.00	47.00	43.08	39.17
	Average Loan	47.00	47.00	45.04	41.13
	Rate of Interest	9.33%	9.33%	9.33%	9.33%
	Interest	4.39	4.39	4.20	3.84
	Rep Schedule	12 annual Instalments from 15.12.2012			
2	Bond XXIX				
	Gross loan opening	10.00	10.00	10.00	10.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.83
	Net Loan-Opening	10.00	10.00	10.00	9.17
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.83	0.83
	Net Loan-Closing	10.00	10.00	9.17	8.33
	Average Loan	10.00	10.00	9.58	8.75
	Rate of Interest	9.20%	9.20%	9.20%	9.20%
	Interest	0.92	0.92	0.88	0.81
	Rep Schedule	12 annual Instalments from 12.03.2013			
3	Bond XXX				
	Gross loan opening	859.00	859.00	859.00	859.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	859.00	859.00	859.00	859.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	71.58
	Net Loan-Closing	859.00	859.00	859.00	787.42
	Average Loan	859.00	859.00	859.00	823.21
	Rate of Interest	8.80%	8.80%	8.80%	8.80%
	Interest	75.59	75.59	75.59	72.44
	Rep Schedule	12 annual Instalments from 29.09.2013			

4	Bond XXXI				
	Gross loan opening		333.40	333.40	333.40
	Cumulative Repayment upto DOCO/previous year		0.00	0.00	0.00
	Net Loan-Opening		333.40	333.40	333.40
	Additions during the year		0.00	0.00	0.00
	Repayment during the year		0.00	0.00	27.78
	Net Loan-Closing		333.40	333.40	305.62
	Average Loan		333.40	333.40	319.51
	Rate of Interest		8.90%	8.90%	8.90%
	Interest		29.67	29.67	28.44
	Rep Schedule	12 annual Instalments from 25.02.2014			
	Total Loan				
	Gross loan opening		1249.40	1249.40	1249.40
	Cumulative Repayment upto DOCO/previous year		0.00	0.00	4.75
	Net Loan-Opening		1249.40	1249.40	1244.65
	Additions during the year		0.00	0.00	0.00
	Repayment during the year		0.00	0.00	104.12
	Net Loan-Closing		1249.40	1249.40	1140.53
	Average Loan		1249.40	1249.40	1192.59
	Rate of Interest		8.8498%	8.8498%	8.8490%
	Interest		110.57	110.57	105.52



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

Combined Asset 2

(₹ in lakh)

1	Bond XXVIII				
	Gross loan opening	58.00	58.00	58.00	58.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	4.83
	Net Loan-Opening	58.00	58.00	58.00	53.17
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	4.83	4.83
	Net Loan-Closing	58.00	58.00	53.17	48.33
	Average Loan	58.00	58.00	55.58	50.75
	Rate of Interest	9.33%	9.33%	9.33%	9.33%
	Interest	5.41	5.41	5.19	4.73
	Rep Schedule	12 annual Instalments from 15.12.2012			
2	Bond XXIX				
	Gross loan opening	12.00	12.00	12.00	12.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	1.00
	Net Loan-Opening	12.00	12.00	12.00	11.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	1.00	1.00
	Net Loan-Closing	12.00	12.00	11.00	10.00
	Average Loan	12.00	12.00	11.50	10.50
	Rate of Interest	9.20%	9.20%	9.20%	9.20%
	Interest	1.10	1.10	1.06	0.97
	Rep Schedule	12 annual Instalments from 12.03.2013			
3	Bond XXX				
	Gross loan opening	1038.00	1038.00	1038.00	1038.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	1038.00	1038.00	1038.00	1038.00
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	86.50
	Net Loan-Closing	1038.00	1038.00	1038.00	951.50
	Average Loan	1038.00	1038.00	1038.00	994.75
	Rate of Interest	8.80%	8.80%	8.80%	8.80%
	Interest	91.34	91.34	91.34	87.54
	Rep Schedule	12 annual Instalments from 29.09.2013			

4	Bond XXXI				
	Gross loan opening	424.69	424.69	424.69	424.69
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
	Net Loan-Opening	424.69	424.69	424.69	424.69
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	35.39
	Net Loan-Closing	424.69	424.69	424.69	389.30
	Average Loan	424.69	424.69	424.69	406.99
	Rate of Interest	8.90%	8.90%	8.90%	8.90%
	Interest	37.80	37.80	37.80	36.22
	Rep Schedule	12 annual Instalments from 25.02.2014			
	Total Loan				
	Gross loan opening	1532.69	1532.69	1532.69	1532.69
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	5.83
	Net Loan-Opening	1532.69	1532.69	1532.69	1526.86
	Additions during the year	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	5.83	127.72
	Net Loan-Closing	1532.69	1532.69	1526.86	1399.13
	Average Loan	1532.69	1532.69	1529.77	1462.99
	Rate of Interest	8.8509%	8.8509%	8.8500%	8.8491%
	Interest	135.66	135.66	135.39	129.46

