

ORDER

This petition has been filed by Power Grid Corporation of India Limited (PGCIL) for determination of transmission tariff from the date of commercial operation to 31.3.2014 for (A) Combined elements (i) 160 MVA, 220/132 kV, 3-phase Auto transformer at Kopili with associated bays (date of commercial operation: 1.2.2010) (ii) 132 kV S/C Kopili-Khandong transmission line with associated bays (date of commercial operation:1.11.2010) (iii) 100 MVA, 220/132 kV, ICT at Dimapur sub-station (date of commercial operation:1.1.2011) and (B) Combined element consisting of (A) and (iv) LILO of 132kV, Dimapur (Nagaland) – Kohima (Nagaland) S/C line at Dimapur (POWERGRID) (anticipated date of commercial operation:1.2.2011) (hereinafter referred to as "transmission assets") under Missing Link Transmission System in NER for tariff block 2009-14 period under Regulation 86 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 (hereinafter referred to as "2009 Tariff Regulations").

2. The administrative/Investment Approval and expenditure sanction to the transmission project was accorded by Board of Directors of PGCIL vide their letter C/CP/MisLink-NER dated 29.5.2006 at an estimated cost of ₹5893 lakh including IDC of ₹222 lakh based on 2rd Quarter 2005 price level.

3. The scope of work covered under the project is as under:-

Transmission Lines

- (i) Kopili- Khandong 132 kV, S/C (second circuit) (Zebra Conductor)



- (ii) LILO of 132 kV Dimapur (Nagaland)- Kohima (Nagaland) S/C line at Dimapur (Powergrid)
- (iii) Augmentation of 220/132 kV Transformer capacity at Kopili by addition of 160 MVA, (single phase units of 53.3 MVA) transformer
- (iv) Augmentation of Transformer capacity at Dimapur sub-station (Powergrid) by 1X100 MVA, 220/132 kV transformer

4. The details of assets covered in the instant petition and their date of commercial operation are as under:-

Sr. No.	Element (Combined Asset-A(i+ii+iii))	Date of commercial operation
	Transmission Line:	
1	132 kV S/C, single conductor, - Khandong-II T/L	1.11.2010
	Sub-Station/ bays:	
	Sub-Station:	
1	220 kV, ICT-II, bay	1.2.2010
2	132 kV, ICT-II, bay	1.2.2010
3	132 kV, Khandong-II, bay	1.11.2010
4	132 kV, Khandong-I, bay	1.11.2010
	Khandong Sub-Station:	
1	132 kV, Kopili-II, bay	1.11.2010
	Dimapur Sub-Station:	
1	220 kV, ICT, bay	1.11.2010
2	132 kV, ICT, bay	1.11.2010

Sr. No.	Element (Combined Asset-B (i+ii+iii+iv))	Date of commercial operation
	Transmission Line:	
1	LILO of 132 kV D/C, single conductor, Dimapur- Kohima at Dimapur (PG) , T/L	1.4.2011
2	132 kV S/C , single conductor Kopili-Khandong –II, T/L	1.11.2010

Sub-Station/ bays:		
Dimapur Sub-Station:		
1	220 kV, ICT-I, bay	1.1.2011
2	132 kV, ICT, bay	1.1.2011
3	132 kV, Dimapur(Nagaland), bay	1.4.2011
4	132 kV, Kohima(Nagaland), bay	1.4.2011
Khandong Sub-Station:		
1	132 kV, Kopili-II, bay	1.11.2010
Kopili Sub-Station:		
1	220 kV, ICT-II, bay	1.2.2010
2	132 kV, ICT-II, bay	1.2.2010
3	132 kV, Khandong-II bay	1.11.2010
4	132 kV Khandong –I, bay	1.11.2010

5. The transmission tariff for Asset-(i) and Asset-(ii) was approved by the Commission by its order dated 28.12.2011 in Petition No. 347/2010. The petitioner, vide affidavit dated 29.9.2011, has submitted the Revised cost Estimate (RCE) approved in the Board meeting held on 7.7.2011. RCE of the project, based on 3rd Qtr 2010 price level, works out to ₹8171 lakh (including IDC of ₹519 lakh).

6. The instant petition covers determination of tariff based on actual expenditure incurred up to date of commercial operation and estimated additional capital expenditure projected to be incurred from date of commercial operation to 31.3.2014.

7. The details of apportioned approved cost as on date of commercial operation and estimated additional capital expenditure projected to be incurred for the above mentioned assets are given overleaf:-

(₹ in lakh)

Name of asset	Apportioned FR cost	Actual cost incurred up to date of commercial operation	Expenditure from date of commercial operation to 31.3.2011	Projected expenditure from 1.4.2011 to 31.3.2012	Projected expenditure from 1.4.2012 to 31.3.2013	Total estimated completion cost
Combined Asset-A (Notional date of commercial operation : 1.1.2011)	6866.657	5716.56	245.07	498.55	148.09	6608.27
Combined Asset-B (Notional date of commercial operation : 1.4.2011)	8171.20	6836.37	0.00	571.50	148.09	7555.96

8. The tariff for the Combined Asset-A (notional DOCO: 1.1.2011) would be applicable for the period 1.1.2011 to 31.3.2011. Tariff for Combined Asset-B (notional DOCO: 1.4.2011) would be applicable for the period 1.4.2011 to 31.3.2014. The tariff allowed in the instant petition shall supersede the tariff allowed in Petition NO.347/2010, with effect from 1.1.2011.

9. Details of the transmission charges claimed by the petitioner are as follows:-

(₹ in lakh)

Combined Asset-A	
Particulars	2010-11 (pro-rata for 3 months)
Depreciation	77.18
Interest on Loan	88.81
Return on equity	76.56
Interest on Working Capital	7.46
O & M Expenses	54.56
Total	304.57

(₹ in lakh)

Combined Asset-B (i+ii+iii+iv)			
Particulars	2011-12	2012-13	2013-14
Depreciation	376.92	395.92	399.86
Interest on Loan	415.54	403.19	371.69
Return on equity	373.49	392.36	396.24
Interest on Working Capital	37.16	38.47	38.83
O & M Expenses	289.38	305.96	323.46
Total	1492.49	1535.93	1530.08

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

Combined Asset-A	
Particulars	2010-11 (pro-rata for three months)
Maintenance Spares	32.74
O & M expenses	18.19
Receivables	203.05
Total	253.98
Interest	7.46
Rate of Interest	11.75%

(₹ in lakh)

Combined Asset-B			
Particulars	2011-12	2012-13	2013-14
Maintenance Spares	43.41	45.89	48.52
O & M expenses	24.12	25.50	26.96
Receivables	248.75	255.99	255.01
Total	316.28	327.38	330.49
Interest	37.16	38.47	38.83
Rate of Interest	11.75%	11.75%	11.75%

11. 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. None of the respondents have filed any reply to the petition.



12. Having heard the representatives of the parties and perused the material on records, we proceed to dispose of the petition.

CAPITAL COST

13. As regards capital cost, Regulation 7(1) (a) of the 2009 Tariff Regulations provides that:-

“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.”

14. Capital cost for Combined Asset-A has been considered as per Chartered Accountant certificate dated 18.1.2011 and for Combined Asset-B, as per Chartered Accountant certificate dated 19.1.2011 enclosed with the petition.

15. Petitioner initially submitted the Chartered Accountant certificate for Combined Asset-B on the basis of anticipated date of commercial operation (i.e. 1.2.2011). Later, vide affidavit dated 21.6.2011, has submitted that actual date of commercial operation of Asset-(iv) was 1.4.2011. Thus, the notional date of commercial operation of Combined Asset-B is 1.4.2011.

16. Petitioner has considered capital cost of ₹5716.56 lakh as on the date of commercial operation for Combined Asset-A (notional date of commercial operation 1.1.2011) and ₹6789.17 lakh for combined Asset-B (notional date of commercial operation 1.4.2011).

TIME OVER RUN

17. As per investment approval, the transmission scheme was scheduled to be commissioned within 24 months from the date of letter of award for transformer package i.e. 24.9.2007. Accordingly, the scheduled date of commercial operation of completion works out to 1.10.2009, against which the assets covered in the petition were put under commercial operation, as follows:-

S.N	Name of Asset	Schedule of Commissioning as per investment approval	Actual Date of commercial operation	Delay
1	100 MVA, 220/132 kV, 3 phase Auto Transformer with associated bays at Dimapur sub-station	1.10.2009	1.1.2011	15 Months
2	LILO of 132 kV, Dimapur (Nagaland) – Kohima (Nagaland) S/C line at Dimapur (Powergrid)	1.10.2009	1.4.2011	18 Months

18. The petitioner has submitted, vide affidavit dated 21.6.2011, the following reasons for time over run:-

(a) The entire corridor of the LILO line passes through the private land owned by Mrs. L Haralu, who denied accepting compensation admissible as per the Electricity Act, 2003 (hereinafter referred to as 'the Act'). Petitioner approached the District Authorities to resolve the issue, but the authorities suggested paying an amount of ₹87.00 lakh to the land owner, which was much more than what is permissible under the Act. To resolve the deadlock, other alternatives were explored including use of cable. However, these were not found cost effective and finally it was decided to pay compensation

as assessed by the district administration. LILO work involved 5 locations, all of which were affected by RoW problem. Work on the LILO was finally commenced in November 2010 and the line was charged in March 2011.

(b) Regarding delay in commissioning of ICT at Dimapur, the petitioner has submitted that in the special TCC meeting held on 9.7.2009 the petitioner had informed that the completion of the LILO of Dimapur (Nagaland) – Kohima line was held up due to RoW problems but that the ICT would be ready for commissioning by the end of July, 2009. Concurrence of the constituents was sought for commercial operation of the ICT, since it would ensure greater system reliability & stability. However, TCC stated that commercial operation of the ICT should be done along with the LILO. The matter was taken up once again in the NERPC meeting held in January 2010, where it was agreed to allow the petitioner to declare the 100 MVA transformer under commercial operation excluding the LILO line.

(c) The transformer, however, could not be put into operation immediately due to delay in obtaining clearance from Regional Inspectorial Organization (RIO), CEA. RIO raised the issue of not providing High Velocity Water Spray (HVWS) system for fire protection of the transformer. There was difference of opinion between the petitioner and RIO, which was resolved after intervention of Chief Electrical Inspector, CEA.

(d) After RIO clearance, the transformer was test charged on 8.6.2010. However, the transformer tripped on 15.6.2010. To identify the cause of tripping, investigation was carried out from 7.8.2010 in association with OEMs viz, Ganz (Hungary) for GIS, G&W (China) for 132 kV cable and Bharat Bijlee for transformer. Internal inspection revealed that there was a flashover in the GIS equipment and trace of oil leakage from the cable sealing end. For repair of cable sealing end some materials had to be imported from China which caused some delay and rectification could be completed only in end of September 2010. After repairs the transformer was charged once again on 30.9.2010 but was disconnected on 2.10.2010 after a hissing sound was observed. After a thorough investigation the problem was finally traced to an improper surge arrestor interface adapter. Certain components were imported from Hungary for rectification of the problem and it caused some delay. The transformer & GIS could finally be charged on 19.12.2010 and declared in commercial operation on 1.1.2011.

19. It is observed that delay in transmission line was due to ROW problem in whole stretch of line (5 locations and 0.347 km.). After the resolution of the problem, line was charged within 4 months period. The reason for delay is justified and hence it is condoned.

20. The delay in commissioning of ICT was initially delayed (from July, 2009 to January, 2010) as the TCC decided that the commercial operation of the ICT should

be done along with LILO. Then there was delay due to non-clearance for charging by RIO (from February to May, 2010) and subsequently, (from June, 2010 to December, 2010) due to faults. The reasons for delay up to May, 2010 i.e. non-concurrence by beneficiaries and non-clearance by RIO is beyond the control of the petitioner and hence the delay for this period is condoned.

21. The delay beyond May, 2010 i.e. from June to December, 2010, was due to defects in the equipments/cable, etc. The responsibility for supply and erection of the equipment was with different suppliers and contractors and the petitioner could have claimed compensation from them for deficiency of service. Any expenditure incurred by petitioner in the form of IDC and IEDC due to any fault on the part of supplier or contractor cannot be passed on to beneficiaries and adequate compensation may be recovered by the petitioner from these suppliers or contractors for deficiency of service. Therefore, we are of the opinion that the IDC and IEDC for the period June-December, 2010 is not allowed. The petitioner may recover compensation as per the provisions of the contract with suppliers and contractors. The amount of compensation, if any, may be adjusted against the IDC & IEDC not allowed, at the time of truing up.

22. As regards Combined Asset-A, the costs corresponding to Asset-(i) and Asset (i)+(ii) combined was provided by the petitioner in Petition No 347/2010, the tariff for which has already been approved by the Commission vide order dated 28.12.2011. In the instant petition, petitioner has submitted Chartered Accountant certificate for

Combined Asset-A and Combined Asset-B and segregated costs for Asset-(iii) and Asset-(iv) have not been given.

23. In order to reduce the IDC & IEDC values of Asset-(iii), the required figures have been derived from the Chartered Accountant certificate dated 28-11-2010 for Combined Asset- (i) & (ii) submitted by the petitioner in Petition No. 347/2010 and Chartered Accountant certificate dated 18.1.2011 for Combined Asset-A submitted by the petitioner in the instant petition.

24. Accordingly, IDC and IEDC for 7 months have been disallowed as shown below:-

(₹ in lakh)		
Detail of IDC and IEDC as per Chartered Accountant certificate dated 19.1.2011		
	IDC	IEDC
From date of investment approval to 31.12.2010	134.22	128.74
Total IDC and IEDC Claimed	134.22	128.74
Detail of IDC & IEDC Disallowed for 7 months		
From June 2010 to December 2010 (for 7 months)	24.09	23.11
Total Disallowed IDC & IEDC (for 7 months)	24.09	23.11

25. Disallowed IDC and IEDC of ₹24.09 lakh and ₹23.11 lakh, respectively, have been proportionally deducted from the elements (excluding land) of the Combined Asset-A. Details of the same are given overleaf:-

(₹ in lakh)			
Particulars	Capital cost as on date of commercial operation as per Chartered accountant certificate dated 18.1.2011	Apportioned disallowed IDC and IEDC	Capital cost as on date of commercial operation after deducting disallowed IDC & IEDC
	(a)	(b)	(c)= (a)-(b)
Freehold Land	0.00	0.00	0.00
Leasehold Land	0.00	0.00	0.00
Building & Other Civil Works	0.00	0.00	0.00
Transmission Line	1157.60	9.56	1148.04
Sub-Station	4518.21	37.3	4480.91
PLCC	40.75	0.34	40.41
Total	5716.56	47.20	5669.36

COST OVER RUN

26. The total estimated completion cost of the combined assets was ₹7555.96 lakh against the total cost of ₹8171 lakh. The petitioner, vide his affidavit dated 21.6.2011, has submitted that the cost variation of the transformer (100 MVA) has been ₹1027 lakh. It has been submitted that bidding was done on Domestic Competitive Basis for the complete scope of work. Tender price was higher than the estimated price. The prices are based on higher tender price and increase on account of price variation.

27. The petitioner has submitted that the cost variation of Control Relay & Protection Panels and Sub-station Automation System has been ₹568 lakh and the cost increase was on account of price variation and higher tender prices. The petitioner has further submitted that due to space constraints in the existing control room of Kopili Power Station a sub-station automation scheme was adopted with all Control & Protection equipment installed in an outdoor kiosk in the switchyard. A

display & control terminal was installed in the control room with fiber optic interconnection. The system also incorporates a system for remote monitoring of the system since the station is not manned by POWERGRID personnel. The cost of automation system in Kopili is ₹350 lakh.

28. The reasons given by the petitioner for the cost variation is found to be justified and accordingly the increase in cost is allowed.

TREATMENT OF INITIAL SPARES

29. The petitioner, vide affidavit dated 21.6.2011, has submitted the breakup of initial spares and as per the affidavit, ₹142 lakh are towards sub-station spares and ₹16 lakh towards PLCC spares. Accordingly, the initial spares claimed by the petitioner was ₹158 lakh for sub-station inclusive of PLCC. Capital cost of Combined Asset-B as on cut-off date after deducting IDC and IEDC (in Combined Asset-A) works out to ₹6020.82 lakh and hence the pro-rata initial spares claimed would be ₹157.02 lakh. However, the spares work out to ₹150.35 lakh as per Regulation 8 of 2009 Tariff Regulations and the petitioner claim exceeds the upper limit by ₹6.66 lakh. Thus, excess initial spares have been deducted from the cost as on date of commercial operation for sub-station in case of Combined Asset (B).

30. Accordingly, the initial spare calculation is as under:-

(₹ in lakh)							
Particulars	Cost as on cutoff date for substation & PLCC	Initial spares claimed	Capital cost as on cut off date after deducting corresponding IDC and IEDC	Proportionate initial spares Claimed	Ceiling limits as per Regulation 8 2009 Tariff Regulations	Initial spares worked out	Excess initial spares claimed
(1)	(2)	(3)	(4)	(5)=(3)/(2)*(4)	(6)	(7)-(4)-(5)*(6)(100%-(6))	(8)=(5)-(7)
Sub-station	6058.46	158.00	6020.82	157.02	2.50%	150.35	6.66

31. Initial spares amounting to ₹80.77 lakh and ₹0.25 lakh pertaining to sub-station and transmission line respectively have already been adjusted in Petition No. 347/2010, however, as stated earlier the tariff allowed in the instant petition shall supersede the tariff allowed in Petition No. 347/2010.

32. Therefore, capital cost of Combined Asset-B as on the date of commercial operation considered for tariff calculation is ₹6782.51 lakh, after deducting excess initial spares.

PROJECTED ADDITIONAL CAPITAL EXPENDITURE

33. As per Regulation 9 (1) of 2009 Tariff Regulations

“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;
- (ii) XXX
- (iii) XXX
- (iv) XXX
- (v) XXX”

34. As per Regulations 2009,

“cut-off date means 31st march of the year closing after 2 years of the year of commercial operation of the project, and in-case 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”.

Therefore, cut-off date for the above mentioned assets is 31.3.2013.

35. The petitioner has submitted that the additional capital expenditure claimed is against balance and retention payments under Regulation 9(1) of the 2009 Tariff Regulations. Additional capital expenditure claimed falls within the cut-off date and hence the same is allowed and considered for the purpose of tariff calculation.

36. Details of additional capital expenditure are as follows:-

(₹ in lakh)				
Combined Asset-A				
Particulars	Year	Work/Equipment proposed to be added after COD up to cut off date/beyond cut off date	Amount capitalized and proposed to be capitalized	Justification as per purpose
Combined Asset-A	2010-11	Sub-Station	180.05	Balance/Retention Payments
		Transmission line	65.02	Balance/Retention Payments
		Total	245.07	

(₹ in lakh)				
Combined Asset-B				
Particulars	Year	Work/Equipment proposed to be added after COD up to cut off date/beyond cut off date	Amount capital expenditure and proposed capital expenditure	Justification as per purpose
Combined Asset-B	2011-12	Sub-Station	467.76	Balance/Retention Payments
		Transmission line	96.49	Balance/Retention Payments
		PLCC	7.25	Balance/Retention Payments
		Total	571.50	
	2012-13	Sub-Station	148.09	Balance/Retention Payments
	Total	148.09		

DEBT- EQUITY RATIO

37. Regulation 12 of the 2009 Tariff Regulations provides that,

"(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.

(2) XXX."

38. The details of debt-equity of the assets considered for the purpose of tariff calculation as on the date of commercial operation is given below:-

(₹ in lakh)

Capital cost as on date of commercial operation		
Combined Asset-A		
Particulars	Amount	%
Debt	3968.55	70.00
Equity	1700.81	30.00
Total	5669.36	100.00
Combined Asset-B		
Particulars	Amount	%
Debt	4747.76	70.00
Equity	2034.75	30.00
Total	6782.51	100.00

39. Details of debt- equity ratio for projected additional capital expenditure are given hereunder: -

(₹ in lakh)

Combined Asset-A		
2010-11	Normative	
Particulars	Amount	%
Debt	171.55	70.00
Equity	73.52	30.00
Total	245.07	100.00

Combined Asset-B		
2011-12	Normative	
Particulars	Amount	%
Debt	400.05	70.00
Equity	171.45	30.00
Total	571.50	100.00
2012-13		
Particulars	Amount	%
Debt	103.66	70.00
Equity	44.43	30.00
Total	148.09	100.00

40. Detail of debt-equity ratio as on 31.3.2014 is as follows:-

(₹ in lakh)

Capital cost as on 31.3.2014		
Combined Asset-B		
Particulars	Amount	%
Debt	5251.47	70.00
Equity	2250.63	30.00
Total	7502.10	100.00

RETURN ON EQUITY

41. Regulation 15 of the 2009 Tariff Regulations 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 financial year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations"

42. Petitioner's prayer to allow grossing up the base rate of return on equity based on tax rates viz., MAT, surcharge, any other cess, charges, levies etc., as per relevant Finance Act, shall be settled in accordance with the provisions of Regulation 15 of 2009 Tariff Regulations.

43. In view of the above, the following amount of equity has been considered for calculation of return of equity:-

(₹ in lakh)	
Combined Asset-A	
Particulars	2010-11 (pro-rata for three months)
Opening Equity	1700.81
Addition due to Additional Capitalisation	73.52
Closing Equity	1774.33
Average Equity	1737.57
Return on Equity (Base Rate)	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%
Rate of Return on Equity (Pre-Tax)	17.481%
Return on Equity (Pre-Tax)	75.94

(₹ in lakh)

Combined Asset-B			
Particulars	2011-12	2012-13	2013-14
Opening Equity	2034.75	2206.20	2250.63
Addition due to Additional Capital expenditure	171.45	44.43	0.00
Closing Equity	2206.20	2250.63	2250.63
Average Equity	2120.48	2228.42	2250.63
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2008-09 (MAT)	11.33%	11.33%	11.33%
Rate of Return on Equity (Pre-Tax)	17.481%	17.481%	17.481%
Return on Equity (Pre-Tax)	370.68	389.55	393.43

INTEREST ON LOAN

44. Regulation 16 of the 2009 Tariff 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.”

45. In these calculations, interest on loan has been worked out as detailed are as under:-

- (i) Gross amount of loan, repayment of instalments and rate of interest and weighted average rate of interest on actual average loan have been considered as per the petition;
- (ii) Tariff is worked out considering normative loan and normative repayments. Depreciation allowed has been taken as normative repayment for the tariff period 2009-14 and
- (iii) Weighted average rate of interest on actual average loan worked out as above has been applied on the notional average loan during the year to arrive at the interest on loan.

46. Detailed calculation of the weighted average rate of interest has been given in Annexure I and II to this order.

47. Details of the interest on loan worked on the above basis are given as under:-

(₹ in lakh)

Combined Asset-A	
Particulars	2010-11 (pro-rata for three months)
Gross Normative Loan	3968.55
Cumulative Repayment upto previous year	108.23
Net Loan-Opening	3860.32
Addition due to additional capital expenditure	171.55
Repayment during the year	76.56
Net Loan-Closing	3955.31
Average Loan	3907.81
Weighted Average Rate of Interest on Loan	9.0165%
Interest	88.09

(₹ in lakh)

Combined Asset-B			
Particulars	2011-12	2012-13	2013-14
Gross Normative Loan	4747.76	5147.81	5251.47
Cumulative Repayment upto previous year	184.79	558.86	951.87
Net Loan-Opening	4562.96	4588.94	4299.50
Addition due to additional capital expenditure	400.05	103.66	0.00
Repayment during the year	374.07	393.11	397.02
Net Loan-Closing	4588.94	4299.50	3902.48
Average Loan	4575.95	4444.22	4100.99
Weighted Average Rate of Interest on Loan	9.0269%	9.0225%	9.0158%
Interest	413.07	400.98	369.74

DEPRECIATION

48. Regulation 17 (4) of the 2009 Tariff Regulations provides as under:-

"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 31th 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 asset".

49. Depreciation has been worked out as per Regulations 17(4) of the 2009 Tariff Regulations. The depreciation is computed for Combined Asset-A is ₹ 76.56 lakh (for 3 months) for the period 2010-11. Depreciation for Combined Asset-B works out to

₹374.07 lakh, ₹ 393.11 lakh and 397.02 lakh for the period 2011-12, 2012-13, 2013-14. Cumulative depreciation up to notional date of commercial operation for assets in Combined Assets-A and Combined Asset-B is ₹108.23 lakh, ₹184.79 lakh respectively and has been considered for tariff purpose.

50. Details of the depreciation worked out are as follows:-

(₹ in lakh)

Combined Asset-A	
Particulars	2010-11 (pro-rata for three months)
Opening Gross Block	5669.36
Addition during 2009-14 due to projected additional capital expenditure	245.07
Closing Gross Block	5914.43
Average Gross Block	5791.90
Rate of Depreciation	5.2873%
Depreciable Value	5212.71
Remaining Depreciable Value	5104.47
Depreciation	76.56

(₹ in lakh)

Combined Asset-B			
Particulars	2011-12	2012-13	2013-14
Opening Gross Block	6782.51	7354.01	7502.10
Addition during 2009-14 due to projected additional capital expenditure	571.50	148.09	0.00
Closing Gross Block	7354.01	7502.10	7502.10
Average Gross Block	7068.26	7428.05	7502.10
Rate of Depreciation	5.2923%	5.2922%	5.2921%
Depreciable Value	6361.43	6685.25	6751.89
Remaining Depreciable Value	6176.64	6126.38	5799.92
Depreciation	374.07	393.11	397.02

OPERATION & MAINTENANCE EXPENSES

51. Clause (g) of Regulation 19 of the 2009 Tariff Regulations prescribes the norms for operation and maintenance expenses based on the type of sub-station and line. The norms for the assets covered in the instant petition are as follows:-

Element	2010-11	2011-12	2012-13	2013-14
132 kV S/C, single conductor T/L (₹ lakh / km)	0.189	0.200	0.212	0.224
132 kV D/C, single conductor T/L (₹ lakh / km)	0.284	0.301	0.318	0.336
220 kV, bay (₹ lakh / bay)	38.78	41.00	43.34	45.82
132 kV & below , bay (₹ lakh / bay)	27.70	29.28	30.96	32.73

52. As per the existing norms of 2009 Tariff Regulations , allowable O&M expenses for the assets covered in this petition are as under:-

Combined Asset-A	2010-11 (pro-rata for 3 months)	2011-12	2012-13	2013-14
0.347 km, 132 kV, S/C single conductor T/L	0.55	2.31	2.45	2.59
2 nos., 220 kV, bays	19.39	82.00	86.68	91.64
5 nos., 132 kV, bays	34.63	146.40	154.80	163.65
Total O&M Expenditure (Combined Asset –A (i+ii+iii))	54.56	230.71	243.93	257.88

Combined Asset-B	2010-11	2011-12	2012-13	2013-14
0.347 km, 132 kV, D/C single conductor T/L	Nil	0.10	0.11	0.12
11.56 km, 132 kV, S/C single conductor T/L	Nil	2.31	2.45	2.59
2 nos., 220 kV, bays	Nil	82.00	86.68	91.64
7 nos., 132 kV, bays	Nil	204.96	216.72	229.11
Total O&M Expenditure (Combined asset-B(i+ii+iii+iv))	Nil	289.38	305.96	323.46

53. The petitioner submitted that the O&M expenses for 2009-14 tariff block had been arrived on the basis of normalized actual O&M expenses of the petitioner during the year 2003-04 to 2007-08. The wage hike of 50% on account of pay revision of the employees of public sector undertaking was also considered while calculating the O&M expenses for tariff period 2009-14. The petitioner has submitted that it would approach Commission for suitable revision in the norms for O&M expenses in case the impact of wage hike w.e.f 1.1.2007 is more than 50%. It is clarified that, if any, application for revision of norms of O&M expenditure is filed in future, it will be dealt in accordance with law. O&M expenses are allowed in the instant petition as per the prevailing regulations.

INTEREST ON WORKING CAPITAL

54. As per the 2009 Tariff Regulations the components of the working capital and the interest thereon are discussed are given as under:-

(i) Receivables: As per Regulation 18 (1) (c) (i) of the 2009 Tariff 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 (i) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O& M

expenses from 1.4.2009. The value of maintenance spares has been worked out accordingly.

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

(i) Rate of interest on working capital: In the calculations, as per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011 dated 21.6.2011, SBI Base Rate (8.25%) Plus 350Bps i.e. 11.75% has been considered as the rate of interest on working capital.

55. Necessary computations in support of interest on working capital are given hereunder:-

(₹ in lakh)

Combined Asset-A	
Particulars	2010-11 (pro-rata for three months)
Maintenance Spares	32.74
O & M expenses	18.19
Receivables	201.71
Total	252.63
Interest	7.42

(₹ in lakh)

Combined Asset-B			
Particulars	2011- 12	2012-13	2013-14
Maintenance Spares	43.41	45.89	48.52
O & M expenses	24.12	25.50	26.96
Receivables	247.37	254.50	253.72
Total	314.89	326.04	329.20
Interest	37.00	38.31	38.68

TRANSMISSION CHARGES

56. The transmission charges being allowed for the transmission lines are summarized below:-

(₹ in lakh)

Combined Asset-A	
Particulars	2010-11 (pro-rata for three months)
Depreciation	76.56
Interest on Loan	88.09
Return on equity	75.94
Interest on Working Capital	7.42
O & M Expenses	54.56
Total	302.56

(₹ in lakh)

Combined Asset-B			
Particulars	2011-12	2012-13	2013-14
Depreciation	374.07	393.11	397.02
Interest on Loan	413.07	400.98	369.74
Return on equity	370.68	389.55	393.43
Interest on Working Capital	37.00	38.31	38.68
O & M Expenses	289.38	305.96	323.46
Total	1484.20	1527.91	1522.33

FILING FEE AND THE PUBLICATION EXPENSES:-

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

LICENCE FEE

58. The petitioner has submitted that in O&M norms for tariff block 2009-14, the cost associated with license fees had not been captured and the license fee may be allowed to be recovered separately from the respondents. The petitioner's prayer for licence fee shall be dealt with in accordance with our order dated 25.10.2011 in Petition No. 21/2011 and 22/2011.

SERVICE TAX

59. The petitioner has prayer that it be allowed to bill and recover the service tax on transmission charges separately from the respondents, if it is subjected to such service tax in future. We consider the prayer of the petitioner pre-mature and accordingly this prayer is rejected.

SHARING OF TRANSMISSION CHARGES

60. 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 Tariff Regulations up to 30.6.2011. With effect from 1.7.2011, the billing, collection & disbursement of the transmission charges shall be governed by the provision of Central Electricity Regulatory Commission (sharing of inter-state transmission charges and losses) Regulations, 2010 as amended from time to time.

61. This order disposes of Petition No. 31/TT/2011.

Sd/-

(M. Deena Dayalan)
Member

Sd/-

(S. Jayaraman)
Member

Sd/-

(Dr. Pramod Deo)
Chairperson



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

Bond XXVIII				
Gross loan opening	300.00	300.00	300.00	300.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	25.00
Net Loan-Opening	300.00	300.00	300.00	275.00
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	25.00	25.00
Net Loan-Closing	300.00	300.00	275.00	250.00
Average Loan	300.00	300.00	287.50	262.50
Rate of Interest	9.33%	9.33%	9.33%	9.33%
Interest	27.99	27.99	26.82	24.49
Rep Schedule	12 annual installments from 15.12.2012			
Bond XXIX				
Gross loan opening	1740.00	1740.00	1740.00	1740.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	145.00
Net Loan-Opening	1740.00	1740.00	1740.00	1595.00
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	145.00	145.00
Net Loan-Closing	1740.00	1740.00	1595.00	1450.00
Average Loan	1740.00	1740.00	1667.50	1522.50
Rate of Interest	9.20%	9.20%	9.20%	9.20%
Interest	160.08	160.08	153.41	140.07
Rep Schedule	12 annual installments from 12.03.2013			
Bond XXX				
Gross loan opening	1095.00	1095.00	1095.00	1095.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	1095.00	1095.00	1095.00	1095.00
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	91.25
Net Loan-Closing	1095.00	1095.00	1095.00	1003.75
Average Loan	1095.00	1095.00	1095.00	1049.38

Rate of Interest	8.80%	8.80%	8.80%	8.80%
Interest	96.36	96.36	96.36	92.35
Rep Schedule	12 annual installments from 29.09.2013			
Bond XXXI				
Gross loan opening	194.00	194.00	194.00	194.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	194.00	194.00	194.00	194.00
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	16.17
Net Loan-Closing	194.00	194.00	194.00	177.83
Average Loan	194.00	194.00	194.00	185.92
Rate of Interest	8.90%	8.90%	8.90%	8.90%
Interest	17.27	17.27	17.27	16.55
Rep Schedule	12 annual installments from 25.02.2014			
Bond XXXIII				
Gross loan opening	175.00	175.00	175.00	175.00
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	175.00	175.00	175.00	175.00
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00
Net Loan-Closing	175.00	175.00	175.00	175.00
Average Loan	175.00	175.00	175.00	175.00
Rate of Interest	8.64%	8.64%	8.64%	8.64%
Interest	15.12	15.12	15.12	15.12
Rep Schedule	12 annual installments from 08.07.2014			
Bond XXXIV				
Gross loan opening	497.50	497.50	497.50	497.50
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00
Net Loan-Opening	497.50	497.50	497.50	497.50
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	0.00	0.00
Net Loan-Closing	497.50	497.50	497.50	497.50
Average Loan	497.50	497.50	497.50	497.50
Rate of Interest	8.84%	8.84%	8.84%	8.84%
Interest	43.98	43.98	43.98	43.98
Rep Schedule	12 annual installments from 21.10.2014			



Total Loan				
Gross loan opening	4001.50	4001.50	4001.50	4001.50
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	170.00
Net Loan-Opening	4001.50	4001.50	4001.50	3831.50
Additions during the year	0.00	0.00	0.00	0.00
Repayment during the year	0.00	0.00	170.00	277.42
Net Loan-Closing	4001.50	4001.50	3831.50	3554.08
Average Loan	4001.50	4001.50	3916.50	3692.79
Rate of Interest	9.0165%	9.0165%	9.0121%	9.0054%
Interest	360.80	360.80	352.96	332.55



Annexure-II

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2011-12	2012-13	2013-14
1	Bond XXVIII			
	Gross loan opening	400.00	400.00	400.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	33.33
	Net Loan-Opening	400.00	400.00	366.67
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	33.33	33.33
	Net Loan-Closing	400.00	366.67	333.33
	Average Loan	400.00	383.33	350.00
	Rate of Interest	9.33%	9.33%	9.33%
	Interest	37.32	35.77	32.66
	Rep Schedule	12 annual installments from 15.12.2012		
2	Bond XXIX			
	Gross loan opening	2040.00	2040.00	2040.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	170.00
	Net Loan-Opening	2040.00	2040.00	1870.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	170.00	170.00
	Net Loan-Closing	2040.00	1870.00	1700.00
	Average Loan	2040.00	1955.00	1785.00
	Rate of Interest	9.20%	9.20%	9.20%
	Interest	187.68	179.86	164.22
	Rep Schedule	12 annual installments from 12.03.2013		
3	Bond XXX			
	Gross loan opening	1195.00	1195.00	1195.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	1195.00	1195.00	1195.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	99.58
	Net Loan-Closing	1195.00	1195.00	1095.42

	Average Loan	1195.00	1195.00	1145.21
	Rate of Interest	8.80%	8.80%	8.80%
	Interest	105.16	105.16	100.78
	Rep Schedule	12 annual installments from 29.09.2013		
4	Bond XXXI			
	Gross loan opening	194.00	194.00	194.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	194.00	194.00	194.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	16.17
	Net Loan-Closing	194.00	194.00	177.83
	Average Loan	194.00	194.00	185.92
	Rate of Interest	8.90%	8.90%	8.90%
	Interest	17.27	17.27	16.55
	Rep Schedule	12 annual installments from 25.02.2014		
5	Bond XXXIII			
	Gross loan opening	175.00	175.00	175.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	175.00	175.00	175.00
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	175.00	175.00	175.00
	Average Loan	175.00	175.00	175.00
	Rate of Interest	8.64%	8.64%	8.64%
	Interest	15.12	15.12	15.12
	Rep Schedule	12 annual installments from 08.07.2014		
6	Bond XXXIV			
	Gross loan opening	592.50	592.50	592.50
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00
	Net Loan-Opening	592.50	592.50	592.50
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	592.50	592.50	592.50
	Average Loan	592.50	592.50	592.50
	Rate of Interest	8.84%	8.84%	8.84%
	Interest	52.38	52.38	52.38

Rep Schedule	12 annual installments from 21.10.2014		
Total Loan			
Gross loan opening	4596.50	4596.50	4596.50
Cumulative Repayment upto DOCO/previous year	0.00	0.00	203.33
Net Loan-Opening	4596.50	4596.50	4393.17
Additions during the year	0.00	0.00	0.00
Repayment during the year	0.00	203.33	319.08
Net Loan-Closing	4596.50	4393.17	4074.08
Average Loan	4596.50	4494.83	4233.63
Rate of Interest	9.0269%	9.0225%	9.0158%
Interest	414.92	405.55	381.70