

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 390/TT/2014

Coram:

**Shri A.S Bakshi, Member
Dr. M.K. Iyer, Member**

Date of Hearing : 02.12.2015

Date of Order : 30.12.2015

In the matter of:

Truing up of transmission tariff for 2009-14 tariff period and determination of transmission tariff for 2014-19 tariff period for transmission system associated with integration of Sikkim transmission system with Eastern Region by LILO of Siliguri- Gangtok section of 132 kV Rangit-Siliguri transmission line at Melli in Eastern Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

And in the matter of:

Power Grid Corporation of India Ltd.
'SAUDAMINI', Plot No-2,
Sector-29, Gurgaon -122 001 (Haryana).

.....**Petitioner**

Versus

1. Bihar State Electricity Board
Vidyut Bhawan, Bailey Road
Patna- 800001
2. West Bengal State Electricity Distribution Company Limited
Bidyut Bhawan, Bidhan Nagar,
Salt Lake City, Kolkata-700091
3. Grid Corporation of Orissa Ltd.
Shahid Nagar,
Bhubaneswar- 751007



4. Damodar Valley Corporation
DVC Tower, Maniktala
Civic Centre, VIP Road,
Kolkata-700054
5. Power Department
Govt of Sikkim,
Gangtok-737101
6. Jharkhand State Electricity Board
Doranda, Ranchi-834002

.....Respondents

The following were present:

For Petitioner: Shri Anshul Garg, PGCIL
 Shri Angaru Naresh Kumar, PGCIL
 Shri S.S Raju, PGCIL
 Shri S.K Niranjana, PGCIL
 Shri Jasbir Singh, PGCIL
 Shri M.M. Mondal, PGCIL
 Shri S.K. Venkatesan, PGCIL
 Shri Sashi Bhushan, PGCIL
 Shri R.Prasad, PGCIL

For Respondent: None

ORDER

The present petition has been preferred by Power Grid Corporation of India Ltd. ('the petitioner'), a transmission licensee, for trueing up of capital expenditure and tariff for transmission system associated with integration of Sikkim transmission system with Eastern Region by LILO of Siliguri- Gangtok section of 132 kV Rangit-Siliguri transmission line at Melli in Eastern Region (hereinafter referred as "transmission asset") under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations,



2009 (hereinafter referred to as “the 2009 Tariff Regulations”) and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019.

2. The respondents are distribution licensees, who are procuring transmission service from the petitioner, mainly beneficiaries of Eastern and North Eastern Region.

3. The petitioner has served the petition to the respondents and notice of this application has been published in the newspaper in accordance with Section 64 of Electricity Act, 2003 (“the Act”). No comments have been received from the public in response to the notices published by the petitioner under Section 64 of the Act. The hearing in this matter was held on 2.12.2015. None of the respondents have filed any reply to the petition. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

4. The brief facts of the case are as follows:

- a. The investment approval for execution of transmission asset associated with integration of Sikkim transmission system with Eastern Region by LILO of Siliguri- Gangtok section of 132 kV Rangit-Siliguri transmission line at Melli in Eastern Region was accorded by Board of Directors of the petitioner’s company vide letter dated 22.10.2002 at an estimated cost of ₹511.00 lakh, which included IDC of ₹36.00 lakh. The transmission asset was declared under commercial operation w.e.f 1.10.2005.



- b. The provisional transmission charges for the transmission assets was approved by the Commission vide order dated 21.9.2006 in Petition No. 42/2006.
- c. The tariff from COD to 31.3.2009 was allowed vide order dated 15.2.2008 in Petition No. 21/2007, which was revised vide order dated 1.4.2009 in Petition No. 143/2008 on account of additional capital expenditure incurred during 2006-07 and 2007-08.
- d. The tariff for 2009-14 tariff period was allowed vide order dated 15.3.2011 in Petition No. 190/2010 in accordance with the 2009 Tariff Regulations based on has admitted capital cost as ₹325.31 lakh as on 31.3.2009. The petitioner has not claimed additional capital expenditure. The tariff allowed vide order dated 15.3.2011 for the tariff period 2009-14 is as under:-

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	17.53	17.53	17.53	17.53	17.53
Interest on Loan	12.85	11.63	10.39	9.16	7.92
Return on equity	15.51	15.51	15.51	15.51	15.51
Interest on Working Capital	3.61	3.74	3.87	4.02	4.17
O & M Expenses	53.07	56.11	59.31	62.72	66.30
Total	102.57	104.51	106.61	108.93	111.43

- e. The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the 2009-14 tariff period, which is required to be adjusted as per the actual MAT rate applicable for the respective year at the time of truing up of tariff for 2009-14 tariff period.
- f. The instant petition was filed on 25.9.2014.



TRUING UP OF ANNUAL FIXED CHARGES FOR TARIFF PERIOD 2009-14

5. The truing up of tariff for 2009-14 tariff period has been determined as discussed below:-

Capital Cost

6. The petitioner has claimed admitted capital cost of ₹325.31lakh as on 31.3.2009 for the purpose of tariff.

7. Last proviso to Clause (2) of Regulation 7 of the 2009 Tariff Regulations provides that:

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff”.

8. The capital cost admitted as on 31.3.2009 vide order dated 15.3.2011 has been considered as the opening capital cost as on 1.4.2009 for determination of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations. The admitted capital cost of ₹325.31lakh as on 1.4.2009 has been considered to work out the trued up tariff for the 2009-14tariff period.

Additional Capital Expenditure

9. The petitioner has not claimed any additional capital expenditure for the tariff period2009-14. No additional capital expenditure has been considered for the tariff period 2009-14.

Debt: Equity

10. Clause 2 of Regulation 12 of the 2009 Tariff Regulations provides that:



“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.”

11. The petitioner has claimed true up Annual Fixed Charge based on debt:equity ratio of 72.73:27.27 as on 31.3.2009 as considered by the Commission in its order dated 15.3.2011 in Petition No. 190/2010. The transmission assets covered in the instant petition were commissioned prior to 1.4.2009. The admitted debt:equity ratio 72.73:27.27 as on 31.3.2009 has been considered as opening debt:equity ratio as on 1.4.2009 for the purpose of true up of the approved tariff for tariff period 2009-14 as given under:-

Funding	Amount (₹in lakh)	(%)
Debt	236.60	72.73
Equity	88.71	27.27
Total	325.31	100.00

Interest on Loan (“IOL”)

12. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan. The petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest.

13. We have considered the submissions of the petitioner and accordingly calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations. The details of



weighted average rate of interest are placed at **Annexure-I** and the IOL has been worked out and allowed as follows:-.

(₹in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.3.2011	12.85	11.63	10.39	9.16	7.92
As claimed by petitioner	12.85	11.63	10.39	9.15	7.92
Allowed after true up	12.85	11.63	10.39	9.16	7.92

Return on Equity (“ROE”)

14. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provides that

“(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.”



15. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 15.9.2011. However, for truing up purpose, the computation of RoE for the tariff period 2009-14 has been done on the basis of actual MAT rate applicable during 2009-14. The petitioner has submitted the variation in the MAT rate during 2009-14 as per the Finance Act of the relevant year for the purpose of grossing up of ROE, as below:-

Particulars	MAT Rate(%)	Grossed up RoE (Base rate/(1-t))(%)
2009-10	16.995	18.674
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

16. Accordingly, the RoE as trued up is as shown in the table below:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.3.2011	15.51	15.51	15.51	15.51	15.51
As claimed by petitioner	16.57	17.17	17.19	17.19	17.40
Allowed after true up	16.57	17.17	17.19	17.19	17.40

The variation in return on equity worked out with reference to the return on equity allowed vide order 15.3.2011 is due to change increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

Depreciation

17. Clause (4) of Regulation 17 of the 2009 Tariff Regulations provides as follows:-



"17. Depreciation:

...
(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."

18. The Commission, vide order dated 15.3.2011, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations. As per Regulations 3(42) and 17 (4) of the 2009 Tariff Regulations, useful life for transmission line and sub-station is 35 years and 25 years, respectively. For the purpose of calculation, the useful life of Buildings and Civil Works and PLCC has been considered as 25 years. The weighted average of the life is considered as 27 years.

19. The depreciation for the tariff period 2009-14 has been worked out in accordance with Regulation 17 of the 2009 Tariff Regulations based on admitted capital expenditure and additional capitalization as under:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.3.2011	17.53	17.53	17.53	17.53	17.53
As claimed by petitioner	17.54	17.54	17.54	17.54	17.54
Allowed after true up	17.53	17.53	17.53	17.53	17.53

Operation & Maintenance Expenses ("O&M Expenses")

20. The petitioner has computed O&M Expenses for the assets mentioned in the petition in accordance with the O&M norms for 132 kV D/C single conductor transmission line and 132 kV bays specified in Regulation 19(g) of the 2009 Tariff Regulations. The petitioner has claimed O&M Expenses for 132 kV D/C single



conductor of 2.5 km line length and 2 bays of 132 kV level. Accordingly, the O&M Expenses have been worked out as given below:-

Particulars		(₹ in lakh)				
		2009-10	2010-11	2011-12	2012-13	2013-14
Actual line length (km)	132 kV Double Circuit(Single Conductor, AC)	2.5	2.5	2.5	2.5	2.5
Actual (No. of bays)	132 kV Bays	2	2	2	2	2
Norms as per Regulation	132 kV Double Circuit(Single Conductor, AC, DC) (₹lakh/km)	0.269	0.284	0.301	0.318	0.336
	132 kV Bays (₹lakh/bay)	26.20	27.70	29.28	30.96	32.73
Total (₹ in lakh)		53.07	56.11	59.31	62.72	66.30

21. The O&M Expenses claimed by the petitioner for tariff period 2009-14 are same as that approved in the tariff order dated 15.3.2011 in Petition No.190/2010. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and they are as follows:-

Particulars		(₹ in lakh)				
		2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.3.2011		53.07	56.11	59.31	62.72	66.30
As claimed by petitioner		53.07	56.11	59.31	62.72	66.30
Allowed after true up		53.07	56.11	59.31	62.72	66.30

Interest on working capital (“IWC”)

22. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission system and clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of interest on working capital.



23. The petitioner has submitted that the rate of interest on working capital has been considered as 12.25% as per Clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in accordance with sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations.

24. The Commission, vide order dated 15.3.2011 in Petition No. 190/2010 approved rate of interest on working capital of 12.25% applicable for 2008-09. In accordance with Clause (3) of Regulation 18 of the 2009 Tariff Regulations, rate of interest on working capital shall be on normative basis and in case of transmission assets declared under commercial operation prior to 1.4.2009, shall be equal to short-term Prime Lending Rate as applicable as on 1.4.2009. State Bank of India short-term Prime Lending Rate on 1.4.2009 was 12.25%. Therefore, interest rate of 12.25% has been considered to workout the interest on working capital in the instant case.

25. The IWC trued up is as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	7.96	8.42	8.90	9.41	9.95
O & M expenses	4.42	4.68	4.94	5.23	5.53
Receivables	17.28	17.70	18.06	18.44	18.89
Total	29.66	30.79	31.90	33.07	34.36
Rate of Interest(%)	12.25	12.25	12.25	12.25	12.25
Interest	3.63	3.77	3.91	4.05	4.21

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.3.2011	3.61	3.74	3.87	4.02	4.17



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
As claimed by the petitioner	3.63	3.77	3.91	4.05	4.21
Allowed after trued up	3.63	3.77	3.91	4.05	4.21

The variation in IWC is on account of change in receivables due to variation in ROE on account of applicable MAT rate during the 2009-14 tariff period.

ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD

26. The detailed computation of the various components of the trued up annual fixed charges for the transmission asset for the tariff period 2009-14 is summarised below:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Block					
Opening Gross block	325.31	325.31	325.31	325.31	325.31
Addition during 2009-14 due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Closing Gross block	325.31	325.31	325.31	325.31	325.31
Average Gross block	325.31	325.31	325.31	325.31	325.31
Depreciation					
Rate of Depreciation(%)	5.390	5.390	5.390	5.390	5.390
Depreciable Value	292.78	292.78	292.78	292.78	292.78
Elapsed Life (Beginning of the year)	3	4	5	6	7
Weighted Balance Useful life of the assets	24	23	22	21	20
Remaining Depreciable Value	246.66	229.12	211.59	194.06	176.52
Depreciation	17.53	17.53	17.53	17.53	17.53
Cumulative Depreciation	63.65	81.19	98.72	116.26	133.79
Interest on Loan					
Gross Normative Loan	236.60	236.60	236.60	236.60	236.60
Cumulative Repayment upto Previous Year	46.12	63.65	81.19	98.72	116.26



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Net Loan-Opening	190.48	172.94	155.41	137.88	120.34
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	17.53	17.53	17.53	17.53	17.53
Net Loan-Closing	172.94	155.41	137.88	120.34	102.81
Average Loan	181.71	164.18	146.64	129.11	111.57
Weighted Average Rate of Interest on Loan(%)	7.0728	7.0811	7.0854	7.0912	7.0992
Interest	12.85	11.63	10.39	9.16	7.92
Return on Equity					
Opening Equity	88.71	88.71	88.71	88.71	88.71
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	88.71	88.71	88.71	88.71	88.71
Average Equity	88.71	88.71	88.71	88.71	88.71
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	16.995	19.931	20.008	20.008	20.961
Return on Equity (Pre Tax) (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	16.57	17.17	17.19	17.19	17.40
Interest on Working Capital					
Maintenance Spares	7.96	8.42	8.90	9.41	9.95
O&M expenses	4.42	4.68	4.94	5.23	5.53
Receivables	17.28	17.70	18.06	18.44	18.89
Total	29.66	30.79	31.90	33.07	34.36
Interest	3.63	3.77	3.91	4.05	4.21
Annual Transmission Charges					
Depreciation	17.53	17.53	17.53	17.53	17.53
Interest on Loan	12.85	11.63	10.39	9.16	7.92
Return on Equity	16.57	17.17	17.19	17.19	17.40
Interest on Working Capital	3.63	3.77	3.91	4.05	4.21
O & M Expenses	53.07	56.11	59.31	62.72	66.30
Total	103.66	106.22	108.33	110.65	113.36



DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

27. The petitioner has claimed the transmission charges as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	17.54	17.54	17.54	17.54	5.91
Interest on Loan	6.69	5.45	4.23	3.02	2.31
Return on Equity	17.40	17.40	17.40	17.40	17.40
Interest on Working Capital	4.33	4.41	4.50	4.59	4.43
O&M Expenses	61.06	63.08	65.17	67.34	69.59
Total	107.02	107.88	108.84	109.89	99.64

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.16	9.46	9.78	10.10	10.44
O & M expenses	5.09	5.26	5.43	5.61	5.80
Receivables	17.84	17.98	18.14	18.32	16.61
Total	32.09	32.70	33.35	34.03	32.85
Rate of Interest(%)	13.50	13.50	13.50	13.50	13.50
Interest	4.33	4.41	4.50	4.59	4.43

Capital Cost

29. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations provide as follows:-

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”

“(3) The Capital cost of an existing project shall include the following:
(a) the capital cost admitted by the Commission prior to 1.4.2014 duly tried up by excluding liability, if any, as on 1.4.2014;
(b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
(c) expenditure on account of renovation and modernisation as admitted by this Commission in accordance with Regulation 15.”



30. The petitioner has claimed capital expenditure of ₹325.31lakh as on 31.3.2014 during the 2009-14tariff period. The trued up capital cost of ₹325.31lakh as on 1.4.2014 is considered for the purpose of tariff for tariff period 2014-19.

Additional Capital Expenditure

31. The petitioner has not claimed any additional expenditure for the tariff period 2014-19. No additional capital expenditure has been considered for the tariff period 2014-19.

Debt: Equity Ratio

32. Clause 3 and 4 of Regulation 19 of the 2014 Tariff Regulations provides as under:-

“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt:equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt:equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.”

33. The petitioner has considered debt:equity ratio as 72.73:27.27. Debt equity ratio of 72.73:27.27 as on 31.3.2009 was considered by the Commission in its order dated 15.3.2011 in Petition No. 190/2010. The admitted debt equity ratio of 72.73:27.27 for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-



(₹ in lakh)		
Funding	Amount	(%)
Debt	236.60	72.73
Equity	88.71	27.27
Total	325.31	100.00

Interest on Loan (“IOL”)

34. Clause (5) and (6) of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

“(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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.”

35. The weighted average rate of IOL has been considered on the basis of rate prevailing as on 1.4.2014. The IOL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest are placed at **Annexure-II** and the IOL has been worked out and allowed as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	236.60	236.60	236.60	236.60	236.60
Cumulative Repayment upto Previous Year	133.79	151.33	168.86	186.39	203.93
Net Loan-Opening	102.81	85.27	67.74	50.20	32.67



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	17.53	17.53	17.53	17.53	5.92
Net Loan-Closing	85.27	67.74	50.20	32.67	26.75
Average Loan	94.04	76.51	58.97	41.44	29.71
Weighted Average Rate of Interest on Loan(%)	7.1111	7.1309	7.1700	7.2834	7.7876
Interest	6.69	5.46	4.23	3.02	2.31

Return on Equity (“ROE”)

36. Clause (1) and (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:-

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system....
.....”

“25. Tax on Return on Equity:
(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:
Rate of pre-tax return on equity = Base rate / (1-t)
Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

37. The petitioner has computed ROE at the rate of 19.610% after grossing up the ROE with MAT rate as per the above Regulation. The petitioner has further submitted that the grossed up ROE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax



including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

38. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

39. We have considered the submissions made by the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of allowing return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the ROE determined by the Commission is given below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	88.71	88.71	88.71	88.71	88.71
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00



Closing Equity	88.71	88.71	88.71	88.71	88.71
Average Equity	88.71	88.71	88.71	88.71	88.71
Return on Equity Base Rate (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year(%)	20.961	20.961	20.961	20.961	20.961
Rate of Return of Equity(Pre-Tax)	19.610	19.610	19.610	19.610	19.610
Return on Equity(Pre-Tax)	17.40	17.40	17.40	17.40	17.40

Depreciation

40. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

...(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. 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

...

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-II** 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 the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets."

41. The petitioner has computed depreciation considering capital expenditure of ₹325.31 lakh as on 31.3.2014. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as per the methodology provided under Regulation 27 of the 2014 Tariff Regulations. The details of the depreciation allowed are given hereunder:-



(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	325.31	325.31	325.31	325.31	325.31
Additions during the year due to projected additional capitalization	0.00	0.00	0.00	0.00	0.00
Closing Gross block	325.31	325.31	325.31	325.31	325.31
Rate of Depreciation(%)	5.390	5.390	5.390	5.390	1.82
Depreciable Value	292.78	292.78	292.78	292.78	292.78
Remaining Depreciable Value	158.99	141.45	123.92	106.39	88.85
Depreciation	17.53	17.53	17.53	17.53	5.92

Operation & Maintenance Expenses (“O&M Expenses”)

42. The petitioner has computed normative O&M Expenses as per sub clause (a) of Clause (3) of Regulation 29 of the 2014 Tariff Regulations. Accordingly, the petitioner’s entitlement to O&M Expenses has been worked out as given hereunder:-

Particulars		2014-15	2015-16	2016-17	2017-18	2018-19
Actual line length (km)	132 kV Double Circuit (Single Conductor, AC)	2.5	2.5	2.5	2.5	2.5
Actual (No. of bays)	132 kV Bays	2	2	2	2	2
Norms as per Regulation	132 kV Double Circuit(Single Conductor, AC, DC) (₹lakh/km)	0.303	0.313	0.324	0.334	0.346
	132 kV Bays (₹lakh/bay)	30.15	31.15	32.18	33.25	34.36
Total (₹ in lakh)		61.06	63.08	65.17	67.34	69.59

43. The petitioner has submitted that O&M Expenses for the 2014-19 tariff period have been arrived on the basis of normalized actual O&M Expenses during the period 2008-13. The petitioner has further submitted that the wage revision of the employees of the petitioner Company is due during 2014-19 and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-



19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

44. The O&M Expenses have been worked out as per the norms of O&M Expenses specified in the 2014 Tariff Regulations. As regards impact of wage revision, we would like to clarify that any application filed by the petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.

45. The details of O&M Expenses allowed are given hereunder:-

(₹ in lakh)

Particulars	Year				
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses allowed	61.06	63.08	65.17	67.34	69.59

Interest on Working Capital (“IWC”)

46. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:-

“28. Interest on Working Capital

- (c)(i) Receivables equivalent to two months of fixed cost;
- (ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and
- (iii) Operation and maintenance expenses for one month”

“(5) ‘Bank Rate’ means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;”



47. The petitioner has submitted that it has computed IWC for the tariff period 2014-19 considering the SBI Base Rate as on 1.4.2014 plus 350 basis points. The rate of interest on working capital considered for the purpose of computation of tariff is 13.50%.

48. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital as determined is shown in the table below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.16	9.46	9.78	10.10	10.44
O & M expenses	5.09	5.26	5.43	5.61	5.80
Receivables	17.83	17.98	18.14	18.31	16.61
Total	32.08	32.70	33.34	34.02	32.85
Rate of Interest(%)	13.50	13.50	13.50	13.50	13.50
Interest	4.33	4.41	4.50	4.59	4.43

Annual Transmission Charges

49. The Annual Transmission Charges allowed for the transmission asset is given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	17.53	17.53	17.53	17.53	5.92
Interest on Loan	6.69	5.46	4.23	3.02	2.31
Return on Equity	17.40	17.40	17.40	17.40	17.40
Interest on Working Capital	4.33	4.41	4.50	4.59	4.43
O & M Expenses	61.06	63.08	65.17	67.34	69.59
Total	107.01	107.88	108.83	109.88	99.65



50. The detailed computation of various components of annual fixed charges for the tariff period 2014-19 is summarized below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross block	325.31	325.31	325.31	325.31	325.31
Addition during 2014-19 due to Projected Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Closing Gross block	325.31	325.31	325.31	325.31	325.31
Average Gross block	325.31	325.31	325.31	325.31	325.31
Depreciation					
Rate of Depreciation (%)	5.39	5.39	5.39	5.39	1.82
Depreciable Value	292.78	292.78	292.78	292.78	292.78
Elapsed Life (Beginning of the year)	8	9	10	11	12
Weighted Balance Useful life of the assets	19	18	17	16	15
Remaining Depreciable Value	158.99	141.45	123.92	106.39	88.85
Depreciation	17.53	17.53	17.53	17.53	5.92
Cumulative Depreciation	151.33	168.86	186.39	203.93	209.85
Interest on Loan					
Gross Normative Loan	236.60	236.60	236.60	236.60	236.60
Cumulative Repayment upto Previous Year	133.79	151.33	168.86	186.39	203.93
Net Loan-Opening	102.81	85.27	67.74	50.20	32.67
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Repayment during the year	17.53	17.53	17.53	17.53	5.92
Net Loan-Closing	85.27	67.74	50.20	32.67	26.75
Average Loan	94.04	76.51	58.97	41.44	29.71
Weighted Average Rate of Interest on Loan (%)	7.1111	7.1309	7.1700	7.2834	7.7876
Interest	6.69	5.46	4.23	3.02	2.31
Return on Equity					
Opening Equity	88.71	88.71	88.71	88.71	88.71
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	88.71	88.71	88.71	88.71	88.71



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Average Equity	88.71	88.71	88.71	88.71	88.71
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	17.40	17.40	17.40	17.40	17.40
Interest on Working Capital					
Maintenance Spares	9.16	9.46	9.78	10.10	10.44
O & M expenses	5.09	5.26	5.43	5.61	5.80
Receivables	17.83	17.98	18.14	18.31	16.61
Total	32.08	32.70	33.34	34.02	32.85
Interest	4.33	4.41	4.50	4.59	4.43
Annual Transmission Charges					
Depreciation	17.53	17.53	17.53	17.53	5.92
Interest on Loan	6.69	5.46	4.23	3.02	2.31
Return on Equity	17.40	17.40	17.40	17.40	17.40
Interest on Working Capital	4.33	4.41	4.50	4.59	4.43
O & M Expenses	61.06	63.08	65.17	67.34	69.59
Total	107.01	107.88	108.83	109.88	99.65

Filing Fee and Publication Expenses

51. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

52. The petitioner has requested to allow the petitioner to bill and recover licence fee and RLDC fees and charges, separately from the respondents. The



petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) respectively of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

53. The petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We are of the view that the petitioner's prayer is premature.

Deferred Tax Liability

54. The petitioner has sought recovery of deferred tax liability before 1.4.2009 from the beneficiaries or long term consumers/ DICs as and when materialized under Regulation 49 of the 2014 Tariff Regulations. The deferred tax liability shall be dealt as per Regulations 49 of the 2014 Tariff Regulations, as amended. Accordingly, the petitioner is entitled to recover the deferred tax liability upto 31.3.2009 whenever the same materializes, directly from the beneficiaries or long term transmission customers /DICs.

Sharing of Transmission Charges

55. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time, as provided in Regulation 43 of the 2014 Tariff Regulations.



56. This order disposes of Petition No. 390/TT/2014.

Sd/-
(Dr. M. K. Iyer)
Member

Sd/-
(A.S. Bakshi)
Member



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO DURING TARIFF
PERIOD 2009-14**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2009	Additions during the tariff period	Total
BOND XV-DOCO-	6.68	80.00	0.00	80.00
BOND XVI-DOCO-	7.10	125.00	0.00	125.00
BOND XXII-ADD CAP FOR 2006-07	8.68	13.68	0.00	13.68
Total		218.68	0.00	218.68

**WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING TARIFF
PERIOD 2009-14**

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	218.68	218.68	218.68	218.68	218.68
Cumulative Repayments of Loans upto previous year	25.83	45.00	65.31	85.62	105.93
Net Loans Opening	192.85	173.68	153.37	133.06	112.75
Add: Drawal(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	19.17	20.31	20.31	20.31	20.31
Net Closing Loan	173.68	153.37	133.06	112.75	92.44
Average Net Loan	183.27	163.53	143.22	122.91	102.60
Rate of Interest on Loan(%)	7.0728	7.0811	7.0854	7.0912	7.0992
Interest on Loan	12.96	11.58	10.15	8.72	7.28



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO DURING TARIFF PERIOD 2014-19

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XV-DOCO-	6.68	80.00	0.00	80.00
BOND XVI-DOCO-	7.10	125.00	0.00	125.00
BOND XXII-ADD CAP FOR 2006-07	8.68	13.68	0.00	13.68
Total		218.68	0.00	218.68

WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING TARIFF PERIOD 2014-19

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	218.68	218.68	218.68	218.68	218.68
Cumulative Repayments of Loans upto previous year	126.24	146.55	166.86	187.17	207.48
Net Loans Opening	92.44	72.13	51.82	31.51	11.20
Add: Drawal(s) during the year	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	20.31	20.31	20.31	20.31	7.81
Net Closing Loan	72.13	51.82	31.51	11.20	3.39
Average Net Loan	82.29	61.98	41.67	21.36	7.29
Rate of Interest on Loan(%)	7.1111	7.1309	7.1700	7.2834	7.7876
Interest on Loan	5.85	4.42	2.99	1.56	0.57

