

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 443/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 LILO of Kolaghat- Rengali 400 kV S/C line at Baripada and establishment of new 400/220/132 kV Sub-station at Baripada 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
Bidyut Bhawan, Bidhan Nagar
Block DJ, Sector-II, 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
Government 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 Jasbir Singh, PGCIL
Shri S K Niranjana, PGCIL
Shri S.K. Venkatesan, PGCIL
Shri M.M. Mondal, PGCIL
Shri Shashi Bhushan, PGCIL
Shri J. Mazumder, PGCIL
Shri Rakesh Prasad, PGCIL
Shri Sunil Kumar, PGCIL
Shri S.S. Raju, PGCIL
Shri A. Mazumdar, 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 LILO of Kolaghat- Rengali 400 kV S/C line at Baripada and establishment of new 400/220/132 kV Sub-station at Baripada 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”) based on actual capital expenditure for the period 1.4.2009 to 31.3.2014, 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 mostly distribution licensees who are procuring transmission service from the petitioner, mainly beneficiaries of the 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. None of the respondents have filed any reply to the petition. The hearing in this matter was held on 2.12.2015. 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 the transmission assets was accorded by Board of Directors of the petitioner company vide its letter dated 5.12.2001 at an estimated cost of ₹6624 lakh including IDC of ₹544 lakh. The petitioner has built the transmission asset in the Eastern Region. The transmission asset was put under commercial operation w.e.f. 1.7.2005.



- (b) The tariff from COD to 31.3.2009 was allowed vide order dated 15.10.2007 in Petition No. 1/2007 in accordance with CERC (Terms and Conditions of Tariff) Regulations, 2004.
- (c) The tariff for 2006-09 period was revised vide order dated 19.3.2009 in Petition No. 142/2008 on account of additional capital expenditure incurred during 2006-07 and 2007-08 in accordance with CERC (Terms and Conditions of Tariff) Regulations, 2004.
- (d) The tariff for 2009-14 period was allowed vide order dated 15.2.2011 in Petition No. 186/2010 in accordance with the 2009 Tariff Regulations. The tariff allowed for the tariff period 2009-14 is as under:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	263.28	265.13	266.98	266.98	266.98
Interest on Loan	214.81	197.59	180.09	160.63	141.18
Return on Equity	274.97	276.81	278.64	278.64	278.64
Interest on Working Capital	31.75	32.39	33.07	33.69	34.37
O & M Expenses	320.91	339.29	358.69	379.21	400.89
Total	1105.72	1111.21	1117.46	1119.15	1122.06

- (e) The Commission, vide order dated 15.2.2011 in Petition No. 186/2010, has determined the tariff for the tariff period 2009-14 based on admitted capital cost of ₹5333.04 lakh as on 31.3.2009 and additional capital expenditure of ₹70.00 lakh proposed during 2010-11 by the petitioner.
- (f) The MAT rate applicable as on 2008-09 was considered to arrive at rate of return on equity for the tariff period 2009-14, 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.

(g) The instant petition was filed on 3.11.2014. The Commission vide letter dated 27.11.2015 sought clarification on few issues. The Commission directed the petitioner to submit their reply on affidavit by 2.12.2015.

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 ₹5333.04 lakh as on 31.3.2009 for the purpose of tariff. Further, the petitioner has not claimed any additional capitalisation for 2009-14 tariff period.

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 19.3.2009 in Petition No. 142/2008 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 ₹5333.04 lakh as on 1.4.2009 has been considered to work out the trued up tariff for the tariff period 2009-14.

Additional Capital Expenditure

9. Additional capitalization of ₹70 lakh was allowed for 2010-11 vide order dated 15.2.2011. The petitioner has however not claimed any additional capital expenditure for 2009-14 tariff period, and hence, no additional capital expenditure has been considered for 2009-14 tariff period, as shown below:-

(₹ in lakh)

Cost as per Investment Approval is:- ₹6624 lakh								
Particulars	Admitted capital cost as on 31.3.2009	Additional capitalisation					Total additional capitalisation	Total capital cost including additional capitalisation as on 31.3.2014
		2009-10	2010-11	2011-12	2012-13	2013-14		
Approved in Order dated 15.2.2011	5333.04	0.00	70.00	0.00	0.00	0.00	70.00	5403.04
Actual	5333.04	0.00	0.00	0.00	0.00	0.00	0.00	5333.04

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 trued up Annual Fixed Charge based on debt-equity ratio of 70:30 different from 70.51:29.49 as on 31.3.2009, which was considered by the Commission in its order dated 15.2.2011 in Petition No.



186/2010 as opening debt:equity ratio as on 1.4.2009. The transmission assets covered in the instant petition are existing assets, as the COD is prior to 1.4.2009. The admitted debt:equity ratio of 70.51:29.49 as on 31.3.2009 has been considered as opening debt:equity ratio as on 1.4.2009 for the purpose of truing up of the approved tariff of tariff period 2009-14, as given under:-

(₹ in lakh)

Funding	Amount	(%)
Debt	3760.07	70.51
Equity	1572.97	29.49
Total	5333.04	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 Commission in its earlier order dated 8.6.2011 in Petition No. 238/2010 has held that:-

“...in case of floating rate of interest, any change in the rates of interest during the tariff period will be considered at the time of true up”.

13. The petitioner has submitted the weighted average rate of interest on loan based on its actual loan portfolio and rate of interest.

14. 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 15.2.2011	214.81	197.59	180.09	160.63	141.18
As claimed by petitioner	214.81	195.86	176.75	157.56	138.39
Allowed after true up	214.81	195.86	176.75	157.56	138.39

15. The interest on loan has reduced due to reduction in loan as there is no additional capitalization in the tariff period 2009-14.

Return on Equity (“ROE”)

16. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provide 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 true up in accordance with Regulation 6 of these regulations.”



17. The petitioner has submitted that MAT rate of 11.330% applicable for 2008-09 was considered in the order dated 15.2.2011. However, for trueing 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 (t) %	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

18. Accordingly, the ROE as trueed up is as shown in the table below:-

Particulars	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.2.2011	274.97	276.81	278.64	278.64	278.64
As claimed by petitioner	293.74	304.50	304.79	304.79	308.46
Allowed after true up	293.74	304.50	304.79	304.79	308.46

The return on equity has increased due to increase in the applicable MAT rate for the purpose of grossing up of base rate of return on equity.

Depreciation

19. 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."

20. The Commission, in its order dated 15.2.2011, has worked out the depreciation in accordance with Regulation 17 of the 2009 Tariff Regulations.

21. As per Regulation 17 (4) of the 2009 Tariff Regulations, useful life for transmission line, sub-station and PLCC is 35 years, 25 years, and 15 years, respectively has been considered on the basis of weighted average useful life. 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 as under.

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.2.2011	263.28	265.13	266.98	266.98	266.98
As claimed by petitioner	263.29	263.29	263.29	263.29	263.29
Allowed after true up	263.28	263.28	263.28	263.28	263.28

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

22. The petitioner has computed O&M expenses for the assets mentioned in the petition and in accordance with the O&M norms for lines and bays specified in Regulation 19(g) of the 2009 Tariff Regulations. Accordingly, the O&M Expenses have been worked out as given in the table below:-



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
O&M Expense for line					
Norm (₹ lakh/km)					
Double Circuit (Twin and Triple Conductor)	0.627	0.663	0.701	0.741	0.783
Asset (km)					
400 kV LILO Kolaghat Rengali at Baripada	18.74	18.74	18.74	18.74	18.74
Total O&M Expense (line) (₹lakh)					
400 kV LILO Kolaghat Rengali at Baripada	11.75	12.43	13.14	13.89	14.68
O&M Expense for Bay					
Norm (₹lakh/Bay)					
400 kV	52.40	55.40	58.57	61.92	65.46
220 kV	36.68	38.78	41.00	43.34	45.82
132 kV	26.20	27.70	29.28	30.96	32.73
Bays					
400 kV	3	3	3	3	3
220 kV	2	2	2	2	2
132 kV	3	3	3	3	3
Total O&M expense (Bay) (₹lakh)	309.16	326.86	345.55	365.32	386.21
Total O&M expense (Line and bays) (₹ lakh)	320.91	339.29	358.69	379.21	400.89

23. The O&M Expenses claimed by the petitioner for tariff period 2009-14 is same as that approved in the tariff order dated 15.2.2011 in Petition No. 186/2010. Accordingly, the O&M Expenses claimed by the petitioner, allowed and trued up are the same, and they are as follows:-

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.2.2011	320.91	339.29	358.69	379.21	400.89
As claimed by petitioner	320.91	339.29	358.69	379.21	400.89
Allowed after true up	320.91	339.29	358.69	379.21	400.89



Interest on working capital(“IWC”)

24. 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 of working capital.

25. 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.

26. The Commission, vide order dated 15.2.2011 in Petition No. 186/2010, has approved rate of interest on working capital as 12.25% as applicable for 2008-09. In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations, as amended, 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 work out the interest on working capital in the instant case.

27. The IWC trued up is as under:-

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	48.14	50.89	53.80	56.88	60.13



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	26.74	28.27	29.89	31.60	33.41
Receivables	187.48	189.30	189.50	189.82	190.98
Total	262.36	268.47	273.19	278.31	284.52
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
Interest	32.14	32.89	33.47	34.09	34.85

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Approved vide order dated 15.2.2011	31.75	32.39	33.07	33.69	34.37
As claimed by petitioner	32.14	32.89	33.47	34.09	34.85
Allowed after true up	32.14	32.89	33.47	34.09	34.85

The IWC has increased on account of increase 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

28. 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	5333.04	5333.04	5333.04	5333.04	5333.04
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	5333.04	5333.04	5333.04	5333.04	5333.04
Average Gross Block	5333.04	5333.04	5333.04	5333.04	5333.04
Depreciation					
Rate of Depreciation (%)	4.937	4.937	4.937	4.937	4.937
Depreciable Value	4618.49	4618.49	4618.49	4618.49	4618.49
Elapsed Life at the beginning of the year	3	4	5	6	7
Weighted Balance Useful life of the assets	25	24	23	22	21
Remaining Depreciable Value	3921.24	3657.96	3394.68	3131.40	2868.11



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	263.28	263.28	263.28	263.28	263.28
Interest on Loan					
Gross Normative Loan	3760.07	3760.07	3760.07	3760.07	3760.07
Cumulative Repayment upto Previous Year	697.25	960.53	1223.82	1487.10	1750.38
Net Loan-Opening	3062.82	2799.54	2536.25	2272.97	2009.69
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Repayment during the year	263.28	263.28	263.28	263.28	263.28
Net Loan-Closing	2799.54	2536.25	2272.97	2009.69	1746.41
Average Loan	2931.18	2667.90	2404.61	2141.33	1878.05
Weighted Average Rate of Interest on Loan (%)	7.3286	7.3415	7.3504	7.3583	7.3688
Interest	214.81	195.86	176.75	157.56	138.39
Return on Equity					
Opening Equity	1572.97	1572.97	1572.97	1572.97	1572.97
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Equity	1572.97	1572.97	1572.97	1572.97	1572.97
Average Equity	1572.97	1572.97	1572.97	1572.97	1572.97
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT rate for the year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (Pre Tax) (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity (Pre Tax)	293.74	304.50	304.79	304.79	308.46
Interest on Working Capital					
Maintenance Spares	48.14	50.89	53.80	56.88	60.13
O & M expenses	26.74	28.27	29.89	31.60	33.41
Receivables	187.48	189.30	189.50	189.82	190.98
Total	262.36	268.47	273.19	278.31	284.52
Interest	32.14	32.89	33.47	34.09	34.85
Annual Transmission Charges					
Depreciation	263.28	263.28	263.28	263.28	263.28
Interest on Loan	214.81	195.86	176.75	157.56	138.39
Return on Equity	293.74	304.50	304.79	304.79	308.46
Interest on Working Capital	32.14	32.89	33.47	34.09	34.85
O & M Expenses	320.91	339.29	358.69	379.21	400.89
Total	1124.88	1135.82	1136.98	1138.94	1145.87



DETERMINATION OF ANNUAL TRANSMISSION CHARGES FOR 2014-19

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

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	266.02	268.75	268.75	268.75	145.17
Interest on Loan	121.81	105.09	85.73	66.78	54.42
Return on equity	311.50	314.54	314.54	314.54	314.54
Interest on Working Capital	36.48	36.91	37.16	37.45	35.06
O & M Expenses	369.02	381.27	393.92	407.00	420.52
Total	1104.83	1106.56	1100.10	1094.52	969.71

30. 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	55.35	57.19	59.09	61.05	63.08
O & M expenses	30.75	31.77	32.83	33.92	35.04
Receivables	184.14	184.43	183.35	182.42	161.62
Total	270.24	273.39	275.26	277.39	259.74
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	36.48	36.91	37.16	37.45	35.06

Capital Cost

31. Clause (1) & (3) of Regulation 9 of the 2014 Tariff Regulations specifies 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 trued 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.”



32. The petitioner has claimed capital expenditure of ₹5333.04lakh as on 31.3.2014 and additional capitalization of ₹103.40 lakh during 2014-15 for tariff period 2014-19 on account of balance and retention payment. The trued up capital cost of ₹5333.04 lakh as on 31.3.2014 is considered to workout tariff for tariff period 2014-19.

Additional Capital Expenditure

33. The petitioner has projected additional capitalization of ₹103.40 lakh during 2014-15 for the tariff period 2014-19 on account of balance and retention payment for contract closing of Sub-station package of ₹85.21 lakh and transformer package of ₹18.19 lakh. The petitioner was directed to submit the reasons for proposing balance/retention payment after significant period from COD along with the details of amount payable towards work/supply, release of payment, withholding of payment. In response, the petitioner vide affidavit dated 1.12.2015 has submitted that the balance and retention payment proposed is for the works which was completed within cut-off date and the same was within the original scope of work. Further, submitted that re-conciliation with contractor is still under process. The petitioner has further confirmed that there is no remaining balance payment to be claimed other than ₹103.40 lakh which is claimed during 2014-15 in the instant petition.

34. It is observed that total completion costof ₹5436.44 lakh as on 31.3.2019 including additional capitalization of ₹103.40 lakh is within the investment



approval of ₹6624 lakh. Accordingly, we have considered additional capitalization of ₹103.40 lakh for computation of tariff for tariff period 2014-19.

Debt:Equity Ratio

35. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies 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.”

36. The petitioner has considered debt:equity ratio as 70:30 as on 31.3.2014, which is in variance with the ratio of 70.51:29.49 approved by the Commission in its order dated 15.2.2011 in Petition No. 186/2010. The petitioner with regard to additional capitalization has submitted debt:equity ratio of 70:30. The admitted debt:equity ratio of 70.51:29.49 for the tariff period ending 31.3.2014 has been considered as opening debt:equity ratio as on 1.4.2014. Further, we have considered debt:equity ratio of 70:30 for additional capitalization during 2014-15. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

Particulars	As on 1.4.2014		Additional capitalization during 2014-15		As on 31.3.2019	
	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)	Amount (in ₹ lakh)	(%)
Debt	3760.07	70.51	72.38	70.00	3832.45	70.50
Equity	1572.97	29.49	31.02	30.00	1603.99	29.50
Total	5333.04	100.00	103.40	100.00	5436.44	100.00



Interest on Loan (“IOL”)

37. Clause (5) & (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.”

38. 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 loan opening	3760.07	3832.45	3832.45	3832.45	3832.45
Cumulative Repayment upto COD/previous year	2013.66	2279.68	2548.42	2817.16	3085.90
Net Loan-Opening	1746.41	1552.77	1284.03	1015.29	746.55
Additions during the year	72.38	0.00	0.00	0.00	0.00
Repayment during the year	266.01	268.74	268.74	268.74	101.60
Net Loan-Closing	1552.77	1284.03	1015.29	746.55	644.94
Average Loan	1649.59	1418.40	1149.66	880.92	695.75
Rate of Interest (%)	7.3842	7.4099	7.4566	7.5804	8.0743
Interest	121.81	105.10	85.73	66.78	56.18



Return on Equity("ROE")

39. Clause (1)& (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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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."

40. 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.

41. 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.

42. 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 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	1572.97	1603.99	1603.99	1603.99	1603.99
Addition due to Additional Capitalisation	31.02	0.00	0.00	0.00	0.00
Closing Equity	1603.99	1603.99	1603.99	1603.99	1603.99
Average Equity	1588.48	1603.99	1603.99	1603.99	1603.99
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 on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	311.50	314.54	314.54	314.54	314.54



Depreciation

43. 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."

44. The petitioner in the instant petition has submitted that the assets will complete 12 years on 30.6.2017. Accordingly, the depreciation during 2018-19 has been calculated based on remaining depreciable to be recovered over balance useful life in accordance with Regulation 27 of the 2014 Tariff Regulations. The petitioner has computed depreciation considering capital expenditure of ₹5333.04 lakh as on 31.3.2014 and additional capitalization of ₹103.40 lakh during 2014-15.

45. We have considered the submission made by the petitioner with reference to depreciation. Depreciation is allowed as provided under Regulation 27 of the



2014 Tariff Regulations. The details of the depreciation allowed is given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block	5333.04	5436.44	5436.44	5436.44	5436.44
Additional Capitalisation	103.40	0.00	0.00	0.00	0.00
Gross block at the end of the year	5436.44	5436.44	5436.44	5436.44	5436.44
Average gross block	5384.74	5436.44	5436.44	5436.44	5436.44
Freehold Land	201.38	201.38	201.38	201.38	201.38
Rate of Depreciation (%)	4.940	4.943	4.943	4.943	1.869
Depreciable Value	4665.02	4711.55	4711.55	4711.55	4711.55
Remaining Depreciable Value	2651.36	2431.88	2163.14	1894.39	1625.65
Depreciation	266.01	268.74	268.74	268.74	101.60

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

46. 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 have been worked out as given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expense for line					
Norm (₹ lakh/km)					
Double Circuit (Twin and Triple Conductor)	0.707	0.731	0.755	0.780	0.806
Asset (km)					
400 kV LILO Kolaghat Rengali at Baripada	18.74	18.74	18.74	18.74	18.74
Total O&M Expense (line) (₹lakh)					
400 kV LILO Kolaghat Rengali at Baripada	13.25	13.70	14.15	14.62	15.11
O&M Expense for Bay					
Norm (₹lakh/Bay)					
400 kV	60.30	62.30	64.37	66.51	68.71



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
220 kV	42.21	43.61	45.06	46.55	48.10
132 kV	30.15	31.15	32.18	33.25	34.36
Bays					
400 kV	3	3	3	3	3
220 kV	2	2	2	2	2
132 kV	3	3	3	3	3
Total O&M expense (Bay) (₹lakh)	355.77	367.57	379.77	392.38	405.41
Total O&M expense (Line and bays) (₹ lakh)	369.02	381.27	393.92	407.00	420.52

47. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 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.

48. 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.

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



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses Allowed	369.02	381.27	393.92	407.00	420.52

Interest on Working Capital (“IWC”)

50. 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;”

51. The petitioner has submitted that it has computed Interest on working capital 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 is 13.50%.

52. 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 by the Commission is shown in the table below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	55.35	57.19	59.09	61.05	63.08
O & M expenses	30.75	31.77	32.83	33.92	35.04
Receivables	184.14	184.43	183.35	182.42	154.49



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Total	270.24	273.39	275.26	277.38	252.61
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest	36.48	36.91	37.16	37.45	34.10

Annual Transmission Charges

53. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarised below:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Block					
Opening Gross Block	5333.04	5436.44	5436.44	5436.44	5436.44
Additional Capitalisation	103.40	0.00	0.00	0.00	0.00
Closing Gross Block	5436.44	5436.44	5436.44	5436.44	5436.44
Average Gross Block	5384.74	5436.44	5436.44	5436.44	5436.44
Depreciation					
Rate of Depreciation (%)	4.940	4.943	4.943	4.943	1.869
Depreciable Value	4665.02	4711.55	4711.55	4711.55	4711.55
Elapsed Life at the beginning of the year	8	9	10	11	12
Weighted Balance Useful life of the assets	20	19	18	17	16
Remaining Depreciable Value	2651.36	2431.88	2163.14	1894.39	1625.65
Depreciation	266.01	268.74	268.74	268.74	101.60
Interest on Loan					
Gross Normative Loan	3760.07	3832.45	3832.45	3832.45	3832.45
Cumulative Repayment upto Previous Year	2013.66	2279.68	2548.42	2817.16	3085.90
Net Loan-Opening	1746.41	1552.77	1284.03	1015.29	746.55
Additions	72.38	0.00	0.00	0.00	0.00
Repayment during the year	266.01	268.74	268.74	268.74	101.60
Net Loan-Closing	1552.77	1284.03	1015.29	746.55	644.94
Average Loan	1649.59	1418.40	1149.66	880.92	695.75
Weighted Average Rate of Interest on Loan (%)	7.3842	7.4099	7.4566	7.5804	8.0743
Interest	121.81	105.10	85.73	66.78	56.18



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity					
Opening Equity	1572.97	1603.99	1603.99	1603.99	1603.99
Additions	31.02	0.00	0.00	0.00	0.00
Closing Equity	1603.99	1603.99	1603.99	1603.99	1603.99
Average Equity	1588.48	1603.99	1603.99	1603.99	1603.99
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for the year 2013-14 (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (Pre Tax) (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity (Pre Tax)	311.50	314.54	314.54	314.54	314.54
Interest on Working Capital					
Maintenance Spares	55.35	57.19	59.09	61.05	63.08
O & M expenses	30.75	31.77	32.83	33.92	35.04
Receivables	184.14	184.43	183.35	182.42	154.49
Total	270.24	273.39	275.26	277.38	252.61
Interest	36.48	36.91	37.16	37.45	34.10
Annual Transmission Charges					
Depreciation	266.01	268.74	268.74	268.74	101.60
Interest on Loan	121.81	105.10	85.73	66.78	56.18
Return on Equity	311.50	314.54	314.54	314.54	314.54
Interest on Working Capital	36.48	36.91	37.16	37.45	34.10
O & M Expenses	369.02	381.27	393.92	407.00	420.52
Total	1104.83	1106.57	1100.09	1094.51	926.94

Filing Fee and Publication Expenses

54. 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



55. The petitioner has requested to allow the petitioner to bill and recover License 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

56. 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

57. 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 Regulation 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

58. 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 Regulations.

59. This Order disposes of Petition No. 443/TT/2014.

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

Sd/-
(A.S. Bakshi)
Member



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2009	Additions during the tariff period	Total
BOND XIII Option-I - DOCO	8.63	450.00	0.00	450.00
BOND XV – DOCO	6.68	1300.00	0.00	1300.00
BOND XVI – DOCO	7.10	1300.00	0.00	1300.00
BOND XVII – DOCO	7.39	300.00	0.00	300.00
BOND XVIII - ADDCAP FOR 2005-2006	8.15	85.00	0.00	85.00
BOND XIX - ADDCAP FOR 2006-2007	9.24	45.00	0.00	45.00
BOND XXII- ADDCAP FOR 2006-2007 DRAWL ON 31-MAR-2007	8.68	81.00	0.00	81.00
BOND XXVII- ADDCAP FOR 2007-2008	9.47	105.00	0.00	105.00
Total		3666.00	0.00	3666.00

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2009-14 (₹ in lakh)

Details of Loan	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	3666.00	3666.00	3666.00	3666.00	3666.00
Cumulative Repayment of loan upto previous year	459.17	772.08	1095.49	1427.65	1759.81
Net Loan Opening	3206.83	2893.92	2570.51	2238.35	1906.19
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	312.91	323.41	332.16	332.16	332.16
Net Loan Closing	2893.92	2570.51	2238.35	1906.19	1574.03
Average Loan	3050.38	2732.22	2404.43	2072.27	1740.11
Interest	223.55	200.59	176.74	152.48	128.22
Weighted Average Rate of Interest (%)	7.3286	7.3415	7.3504	7.3583	7.3688



DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND XIII Option-I - DOCO	8.63	450.00	0.00	450.00
BOND XV – DOCO	6.68	1300.00	0.00	1300.00
BOND XVI – DOCO	7.10	1300.00	0.00	1300.00
BOND XVII – DOCO	7.39	300.00	0.00	300.00
BOND XVIII - ADDCAP FOR 2005-2006	8.15	85.00	0.00	85.00
BOND XIX - ADDCAP FOR 2006-2007	9.24	45.00	0.00	45.00
BOND XXII- ADDCAP FOR 2006-2007 DRAWL ON 31-MAR-2007	8.68	81.00	0.00	81.00
BOND XXVII- ADDCAP FOR 2007-2008	9.47	105.00	0.00	105.00
Total		3666.00	0.00	3666.00

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN FOR TARIFF PERIOD 2014-19 (₹ in lakh)

Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	3666.00	3666.00	3666.00	3666.00	3666.00
Cumulative Repayment of loan upto previous year	2091.97	2424.13	2756.29	3088.45	3420.61
Net Loan Opening	1574.03	1241.87	909.71	577.55	245.39
Additions during the year	0.00	0.00	0.00	0.00	0.00
Repayment during the year	332.16	332.16	332.16	332.16	164.66
Net Loan Closing	1241.87	909.71	577.55	245.39	80.73
Average Loan	1407.95	1075.79	743.63	411.47	163.06
Interest	103.97	79.71	55.45	31.19	13.17
Weighted Average Rate of Interest (%)	7.3842	7.4099	7.4566	7.5804	8.0743

