

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**PETITION NO.397/TT/2014**

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

**Date of Hearing : 21.12.2015**  
**Date of Order : 11.01.2016**

**In the Matter of:**

Truing up of transmission tariff for 2009-14 tariff block under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2009 and determination of transmission tariff for 2014-19 tariff block Region under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2014 for Vindhyaachal Stage-I Additional Transmission System in Western and Regulation-86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999

**And in the Matter of:**

Power Grid Corporation of India Ltd,  
SAUDAMINI, Plot No.-2, Sector-29,  
Gurgaon-122001 (Haryana)

**.....Petitioner**

**Versus**

1. Madhya Pradesh Power Management Company Limited,  
Shakti Bhawan, Rampur,  
Jabalpur - 482008
2. Maharashtra State Electricity Distribution Company Limited,  
Prakashgad, 4<sup>th</sup> Floor,  
Andheri (East), Mumbai - 400052
3. Gujarat Urja Vikas Nigam Limited,  
Sardar Patel Vidyut Bhawan,  
Race Course Road, Vadodara - 390007
4. Electricity Department,  
Government of Goa,  
Vidyut Bhawan, Panaji,



Near Mandvi Hotel, Goa - 403001

5. Electricity Department,  
Administration of Daman Diu,  
Daman -- 396210
6. Electricity Department,  
Administration of Dadra Nagar Haveli,  
U.T. Silvassa - 396230
7. Chhattisgarh State Electricity Board,  
P.O. Sundernagar, Dangania, Raipur,  
Chhattisgarh - 492013
8. Madhya Pradesh Audyogik Kendra,  
Vikas Nigam (Indore) Limited,  
3/54, Press Complex, Agra-Bombay Road,  
Indore – 452008

....Respondent(s)

The following were present:

For Petitioner:        Shri S.K. Niranjana, PGCIL  
                              Shri S.S. Raju, PGCIL  
                              Shri Anshul Garg, PGCIL  
                              Shri Rakesh Prasad, PGCIL  
                              Shri M.M. Mondal, PGCIL  
                              Shri S.K Venkatesan, PGCIL  
                              Shri Avinash M Pavgi, PGCIL  
                              Shri Piyush Awasthi, PGCIL  
                              Shri J. Mazumdar, PGCIL  
                              Shri Shashi Bhushan, PGCIL

For Respondents:    None

### **ORDER**

The petition has been preferred by Power Grid Corporation of India Limited (hereinafter referred to as “the petitioner”), a transmission licensee, for revision of tariff 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 trueing up of 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 in respect of Vindhyachal Stage-I Additional Transmission System in Western Region (hereinafter referred to as "the transmission asset").

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

3. The brief facts of the case are as follows:-

a) The transmission asset was put to commercial operation on 1.2.1998. The Commission, vide its order dated 28.10.2011 in Petition No. 144/2009, had approved the capital cost of ₹80815.03 lakh as on 31.3.2009 and debt:equity as under:-

<b>Admitted as on 31.3.2009</b>	<b>Amount (₹in lakh)</b>	<b>Percentage (%)</b>
Debt	75487.53	93.41
Equity	5327.5	6.59
<b>Capital Cost</b>	<b>80815.03</b>	<b>100.00</b>

b) The Commission has determined the tariff for the transmission asset for tariff period 2009-14, based on admitted capital cost of ₹80815.03 lakh as on 31.3.2009 and estimated additional capital expenditure of ₹372.10 lakh in 2010-11 and ₹682.67 lakh in 2011-12 as given below:-

<b>Particulars</b>	<b>(₹ in lakh)</b>				
	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Depreciation	4263.57	1022.42	1045.02	1060.38	1060.38
Interest on Loan	2097.02	1884.98	1829.16	1765.06	1696.77
Return on Equity	931.3	941.06	968.71	986.62	986.62
Interest on Working Capital	220.79	152.97	157.02	160.77	163.98
O & M Expenses	1375.65	1454.51	1537.8	1625.66	1718.23
<b>Total</b>	<b>8888.32</b>	<b>5455.93</b>	<b>5537.71</b>	<b>5598.48</b>	<b>5625.97</b>



4. As per Regulation 6 of the 2009 Tariff Regulations, the Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up. Further, as per Regulation 15 of the 2009 Tariff Regulations, the petitioner is required to adjust the yearly impact of MAT rate in the truing up petition for 2009-14 tariff period.

5. In this context, the petitioner has filed the instant petition on 22.9.2014, for revision of tariff for the tariff period 2009-14 in accordance with Regulation 6 of the 2009 Tariff Regulations.

6. 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 the Electricity Act 2003. No comments/objections have been received from the public in response to the notice in newspaper. No submissions have been made by the respondents. The hearing in this matter was held on 21.12.2015. In response to the query of the Commission the petitioner has made its reply vide affidavit dated 28.12.2015. Having heard the representatives of the petitioner and perused the material on record, we proceed to dispose of the petition.

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

7. Clause (3) of the Regulation 6 of the 2009 Tariff Regulations provides as under:-



“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors”.

8. The petitioner has submitted the information as required under the 2009 Tariff Regulations for truing up of annual fixed charges for 2009-14 tariff period. The tariff for 2009-14 tariff period has been trued up in the subsequent paragraphs.

### **Capital Cost**

9. The petitioner has claimed admitted capital cost of ₹80815.03 lakh as on 31.3.2009 for the purpose of tariff determination.

10. The last proviso to Regulation 7(2) 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”.

11. The capital cost of ₹80815.03 lakh admitted by the Commission as on 31.3.2009 has been considered as opening capital cost as on 1.4.2009 for truing up of tariff in accordance with Regulation 7 of the 2009 Tariff Regulations.

### **Additional Capital Expenditure**

12. Regulation 6(1) of the 2009 Regulations provides that:-

“The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014”

13. The petitioner has submitted that it has incurred an additional capital expenditure of ₹118.78 lakh in 2010-11 on account of entry tax, ₹68.64 lakh in 2012-13 on account of



commercial tax and ₹62.31 lakh in 2013-14 against balance payments towards tower strengthening works as depicted below:-

(₹ in lakh)

Capital cost admitted as on 31.3.2009	Particulars	Additional capital expenditure during 2009-14					Total cost as on 31.3.2014
		2009-10	2010-11	2011-12	2012-13	2013-14	
80815.03	Approved vide order dated 28.10.2011	-	372.10	682.67	-	-	81869.80
	Actual incurred during 2009-14	-	118.78	-	68.64	62.31	81064.76

14. The petitioner has submitted the Auditor's Certificate dated 19.7.2014 certifying the actual capital cost. The petitioner has submitted that the actual expenditure incurred is on account of entry tax and commercial tax payments made to Madhya Pradesh Government and towards tower strengthening works.

15. We have considered the submissions of the petitioner with regard to the actual capital expenditure during 2009-14 tariff period. The capital addition of ₹118.78 lakh in 2010-11, ₹68.64 lakh in 2012-13 are of the nature of statutory payment incurred by the petitioner and same has been considered to work out the tariff. The capital addition of ₹62.31 lakh in 2013-14 is based on actual capital expenditure incurred as per the Auditor Certificate dated 19.7.2014 against the estimated capital expenditure allowed by the Commission, the same is allowed for the purpose of revision of tariff in accordance with Regulation 6 of the 2009 Tariff Regulations.



16. The debt:equity ratio of 70:30 for additional capital expenditure as claimed by the petitioner is in accordance with the Regulation 12 (3) of the 2009 Tariff Regulations and hence, same has been considered towards financing of the additional capital expenditure.

### **Debt: Equity**

17. Regulation 12 of the 2009 Tariff Regulations provides as under:-

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

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

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

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

18. The debt:equity ratio of 93.41:6.59 admitted by the Commission vide order dated 28.10.2011 in Petition No. 144/2009 as on 31.3.2009 has been considered as on 1.4.2009 for determination of tariff in accordance with the Regulation 12 of the 2009 Tariff Regulations. In respect of the additional capitalization, debt: equity ratio of 70:30 has been considered in line with the 2009 Tariff Regulations.

19. The details of the debt:equity considered for the purpose of tariff for 2009-14 tariff period is as follows:-



(₹ in lakh)

<b>Funding</b>	<b>Capital cost as on 31.3.2009</b>	<b>(%)</b>	<b>Additional capital expenditure during 2009-14</b>	<b>(%)</b>	<b>Total Cost as on 31.3.2014</b>	<b>(%)</b>
Debt	75487.53	93.41	174.81	70.00	75662.34	93.34
Equity	5327.5	6.59	74.92	30.00	5402.42	6.66
<b>Total</b>	<b>80815.03</b>	<b>100.00</b>	<b>249.73</b>	<b>100.00</b>	<b>81064.76</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

20. Clause (3), (4) and (5) of the 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 maybe, 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.”

21. The variation in the tax rate during the 2009-14 tariff period applicable to the petitioner as per the Finance Act of the relevant year for the purpose of grossing up of return on equity (ROE) has been furnished as follows:-





Year	MAT Rate claimed in the current petition	Grossed up ROE (Base Rate/(1-t)) claimed in the current petition
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%

22. The petitioner has claimed the additional capital expenditure in the debt:equity ratio of 70:30, which is in line with Regulation 12 of the 2009 Tariff Regulations.

23. The ROE as trued up and allowed is as follows:-

	(₹ in lakh)				
Return on Equity	2009-10	2010-11	2011-12	2012-13	2013-14
As approved vide Order dated 28.10.2011	931.30	941.06	968.71	986.62	986.62
Claimed by the petitioner	994.86	1034.75	1039.21	1041.21	1057.58
Allowed after true up in this order	994.83	1034.76	1039.21	1041.21	1057.61

The difference in the approved ROE and that allowed after truing up is on account of actual grossed up ROE based on actual MAT rate.

### **Interest on Loan (“IoL”)**

24. Regulation 16 of the 2009 Tariff Regulations provides the methodology for working out weighted average rate of IoL. The Commission in its earlier order dated 8.6.2011 in Petition No. 238/2010 has dealt with similar issue and 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”.

25. The petitioner has submitted the weighted average rate of IoL, based on its actual loan portfolio and rate of interest. Accordingly, the IoL has been calculated based on



actual interest rate submitted by the petitioner, in accordance with the Regulation 16 of the 2009 Tariff Regulations. The details of weighted average rate of interest is placed in Annexure-1. The IoL worked out is as follows:-

	(₹ in lakh)				
<b>Interest on Loan</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
As approved vide Order dated 28.10.2011	2097.02	1884.98	1829.16	1765.06	1696.77
Claimed by the petitioner	2113.29	1967.13	1922.58	1833.99	1691.15
Allowed after true up in this order	2113.28	1967.13	1922.58	1833.99	1691.14

The difference in the approved IoL and that allowed after truing up is on account of change in the weighted average rate of interest which is computed based on actual loan portfolio and rate of interest.

### **Depreciation**

26. The depreciation has been worked out as per the methodology provided in the Regulation 17 of the 2009 Tariff Regulations. The depreciation allowed is as follows:-

	(₹ in lakh)				
<b>Depreciation</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
As approved vide Order dated 28.10.2011	4263.57	1022.42	1045.02	1060.38	1060.38
Claimed by the petitioner	4263.57	1017.23	1019.78	1021.32	1024.42
Allowed after true up in this order	4263.57	1017.23	1019.78	1021.32	1024.43

The difference in the approved depreciation and that allowed after truing up is on account of change gross block during the 2009-14 tariff period.

### **Interest on Working Capital (“IWC”)**

27. The IWC has been worked out as per the methodology provided in the Regulation 18 of the 2009 Tariff Regulations and allowed as under:-



(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
As approved vide Order dated 28.10.2011	220.79	152.97	157.02	160.77	163.98
Claimed by the petitioner	222.46	156.52	159.91	162.53	164.59
Allowed after true up in this order	222.45	156.52	159.91	162.53	164.59

The difference in the approved IWC and that allowed after truing up is on account of change in the receivables during the 2009-14 tariff period.

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

28. Clause (g) of Regulation 19 of the 2009 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The normative O&M Expenses are not required to be trued up. Accordingly, the total allowable O&M expenses for the instant assets have been worked out based on norms of O&M Expenses and the details are as follows:-

(₹ in lakh)

<b>O&amp;M Expenses</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
As approved vide Order dated 28.10.2011	1375.65	1454.51	1537.80	1625.66	1718.23
Claimed by the petitioner	1375.65	1454.51	1537.80	1625.66	1718.23
Allowed after true up in this order	1375.65	1454.51	1537.80	1625.66	1718.23

### **APPROVED ANNUAL FIXED CHARGES FOR 2009-14 TARIFF PERIOD**

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



(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Depreciation</b>					
Opening Gross Block	80815.03	80815.03	80933.81	80933.81	81002.45
Additional Capitalisation	0.00	118.78	0.00	68.64	62.31
Closing Gross Block	80815.03	80933.81	80933.81	81002.45	81064.76
Average Gross Block	80815.03	80874.42	80933.81	80968.13	81033.61
Rate of Depreciation (%)	5.28	1.26	1.26	1.26	1.26
Depreciable Value	72733.53	72786.98	72893.88	72871.32	72961.13
Balance useful life of the asset	23	22	21	20	19
Elapsed life	11	12	13	14	15
Remaining Depreciable Value	26589.28	22379.16	21415.38	20426.49	19464.09
Depreciation during the year	4263.57	1017.23	1019.78	1021.32	1024.43
Cumulative depreciation (incl. of AAD)	50407.82	51425.05	52444.83	53466.15	54490.58
<b>Interest on Loan</b>					
Gross Normative Loan	75487.53	75487.53	75570.68	75570.68	75618.72
Cumulative Repayments upto Previous Year	48342.01	52605.58	53622.81	54642.59	55663.91
Net Loan-Opening	27145.52	22881.95	21947.87	20928.09	19954.81
Additions	0.00	83.15	0.00	48.05	43.62
Repayment during the year	4263.57	1017.23	1019.78	1021.32	1024.43
Net Loan-Closing	22881.95	21947.87	20928.09	19954.81	18974.00
Average Loan	25013.74	22414.91	21437.98	20441.45	19464.41
Weighted Average Rate of Interest on Loan (%)	8.4485	8.7760	8.9681	8.9719	8.6884
Interest on Loan	2113.28	1967.13	1922.58	1833.99	1691.14
<b>Return on Equity</b>					
Opening Equity	5327.50	5327.50	5363.13	5363.13	5383.73
Additions	0.00	35.63	0.00	20.59	18.69
Closing Equity	5327.50	5363.13	5363.13	5383.73	5402.42
Average Equity	5327.50	5345.32	5363.13	5373.43	5393.07
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	16.995	19.931	20.008	20.008	20.961
Rate of Return on Equity (%)	18.674	19.358	19.377	19.377	19.610
Return on Equity	994.83	1034.76	1039.21	1041.21	1057.61
<b>Interest on Working Capital</b>					
O & M Expenses	114.64	121.21	128.15	135.47	143.19
Maintenance Spares	206.35	218.18	230.67	243.85	257.73
Receivables	1494.96	938.36	946.55	947.45	942.67
Total Working Capital	1815.95	1277.75	1305.37	1326.77	1343.59
Rate of Interest (%)	12.25	12.25	12.25	12.25	12.25
Interest of working capital	222.45	156.52	159.91	162.53	164.59



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
<b>Annual Transmission Charges</b>					
Depreciation	4263.57	1017.23	1019.78	1021.32	1024.43
Interest on Loan	2113.28	1967.13	1922.58	1833.99	1691.14
Return on Equity	994.83	1034.76	1039.21	1041.21	1057.61
Interest on Working Capital	222.45	156.52	159.91	162.53	164.59
O & M Expenses	1375.65	1454.51	1537.80	1625.66	1718.23
<b>Total</b>	<b>8969.78</b>	<b>5630.16</b>	<b>5679.28</b>	<b>5684.72</b>	<b>5655.99</b>

### **DETERMINATION OF ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD**

30. The petitioner has claimed the tariff charges for 2014-19 tariff period as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	1037.38	1058.21	1067.52	1067.52	1067.52
Interest on Loan	1645.56	1577.28	1493.57	1399.21	1304.83
Return on Equity	1072.83	1095.97	1105.71	1105.71	1105.71
Interest on Working Capital	173.08	175.42	176.90	177.79	178.79
O & M Expenses	1568.17	1620.74	1674.30	1729.86	1787.28
<b>Total</b>	<b>5497.02</b>	<b>5527.62</b>	<b>5518.00</b>	<b>5480.09</b>	<b>5444.13</b>

31. 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
Operation and Maintenance	130.68	135.06	139.53	144.16	148.94
Maintenance Spares	235.23	243.11	251.15	259.48	268.09
Receivables	916.17	921.27	919.67	913.35	907.36
Total working capital	1282.08	1299.44	1310.35	1316.99	1324.39
Rate of Interest	13.50	13.50	13.50	13.50	13.50
Interest of working capital	173.08	175.42	176.90	177.79	178.79

### **Capital Cost**

32. Clause (3) and (6) of Regulation 9 of 2014 Tariff Regulation provide as follows:-

“(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.”

“(6) The following shall be excluded or removed from the capital cost of the existing and new project:

- (a) The assets forming part of the project, but not in use; (b) Decapitalisation of Asset;”

33. The capital cost of ₹81064.76 lakh worked out by the Commission as on 31.3.2014 has been considered as opening capital cost as on 1.4.2014 for determination of tariff in accordance with Regulation 9 of the 2014 Tariff Regulations.

### **Additional Capital Expenditure**

34. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as under:-

“(1) The capital expenditure in respect of the new project or an existing project 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 recognized to be payable at a future date;
- (ii) Works deferred for execution;
- (iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation;
- (iv) Liabilities to meet award of arbitration or for compliance of the Order or decree of a court of law; and
- (v) Change in law or compliance of any existing law.”

35. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines

“Cut - off Date” means 31<sup>st</sup> March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of a year, the cut - off date shall be 31<sup>st</sup> March of the year closing after three years of the year of commercial operation.”



36. The petitioner has claimed additional capital expenditure amounting to ₹455.97 lakh during 2014-15 and ₹331.00 lakh during 2015-16 on account of tower strengthening works. The actual expenditure in 2009-14 tariff period and the estimated expenditure for 2014-19 tariff period towards tower strengthening amounts to ₹1036.70 lakh (₹249.73 lakh + ₹786.97 lakh) which is within the approved additional capital expenditure of ₹1054.77 lakh towards tower strengthening as approved by the Commission vide order dated 28.10.2011. The Commission has considered the submission of the petitioner and is allowing the same during the 2014-19 tariff period, subject to true up on actual basis.

37. The Commission had directed the petitioner to submit an undertaking duly depicting un-discharged liabilities if any to be recovered in future. In response, the petitioner has submitted vide affidavit dated 28.12.2015 that the expenditure for 2014-19 tariff period is proposed for 2014-15 and 2015-16 as certified by the Auditor's certificate and is yet to be finalised.

### **Debt: Equity**

38. Clause (1) and (3) of Regulation 19 of the 2014 Tariff Regulations provide as under:-\*

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:”

“(3) In case of the generating station and the transmission system including communication 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.”

“(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as maybe admitted by the Commission as additional capital expenditure for



determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

39. The petitioner has considered the debt:equity ratio of 70.00:30.00 as on 31.3.2014, which is in line with the 2014 Tariff Regulations.

40. The details of the debt:equity considered for the purpose of tariff for 2014-19 tariff period is as follows:-

(₹ in lakh)

Funding	Total Cost as on 31.3.2014	(%)	Estimated Additional capital expenditure during 2014-19	(%)	Estimated cost as on 31.3.2019	(%)
Debt	75662.34	93.34	550.88	70.00	76213.22	93.11
Equity	5402.42	6.66	236.09	30.00	5638.51	6.89
<b>Total</b>	<b>81064.76</b>	<b>100.00</b>	<b>786.97</b>	<b>100.00</b>	<b>81851.73</b>	<b>100.00</b>

### **Return on Equity (“ROE”)**

41. Clause (1) and (2) of Regulations 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.”

42. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during the 2013-14 has been considered for the purpose of ROE, which shall be trued up with actual tax rate in accordance with Clause (3) of Regulation 25 of the 2014 Tariff Regulations. The ROE has been worked out and allowed as follows:-

(₹ in lakh)

<b>Return on Equity</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Opening Equity	5402.42	5539.21	5638.51	5638.51	5638.51
Additions	136.79	99.30	0.00	0.00	0.00
Closing Equity	5539.21	5638.51	5638.51	5638.51	5638.51
Average Equity	5470.81	5588.86	5638.51	5638.51	5638.51
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	1072.85	1096.00	1105.74	1105.74	1105.74

### **Interest on Loan (“IoL”)**

43. Clause 5 and Clause 6 of Regulation 26 of the 2014 Tariff Regulations provides that:-

“(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.”



44. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2014. The petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2014-19 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up or next revision of tariff. By considering above, the IoL has been worked out in accordance with Regulation 26 of the 2014 Tariff Regulations. The details of weighted average rate of interest for 2014-19 tariff period are placed in Annexure 2 and the IoL has been worked out and allowed as follows:-

(₹ in lakh)					
<b>Interest on Loan</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Gross Normative Loan	75662.34	75981.52	76213.22	76213.22	76213.22
Cumulative Repayment upto Previous Year	56688.34	57725.72	58783.94	59851.46	60918.98
Net Loan-Opening	18974.00	18255.80	17429.28	16361.76	15294.24
Additions	319.18	231.70	0.00	0.00	0.00
Repayment during the year	1037.38	1058.21	1067.52	1067.52	1067.52
Net Loan-Closing	18255.80	17429.28	16361.76	15294.24	14226.71
Average Loan	18614.90	17842.54	16895.52	15828.00	14760.47
Weighted Average Rate of Interest on Loan (%)	8.8400	8.8400	8.8400	8.8400	8.8400
Interest on Loan	1645.56	1577.28	1493.56	1399.19	1304.83

### **Depreciation**

45. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide that:-

"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.”

46. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2014 and accumulated depreciation up to 31.3.2014. The transmission asset was put under commercial operation on 1.2.1998 and accordingly completed 12 years on 31.3.2010 and thus the remaining depreciable value of transmission system for 2010-11 onwards is spread over the balance useful life of the system. The detailed calculations for depreciation for the transmission asset are worked out and allowed as follows:-

(₹ in lakh)

Depreciation	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	81064.76	81520.73	81851.73	81851.73	81851.73
Additional Capitalization	455.97	331.00	0.00	0.00	0.00
Closing Gross Block	81520.73	81851.73	81851.73	81851.73	81851.73
Average Gross Block	81292.75	81686.23	81851.73	81851.73	81851.73
Freehold Land (Average Cost)	0.00	0.00	0.00	0.00	0.00
Rate of Depreciation (%)	1.28	1.30	1.30	1.30	1.30
Elapsed life	16	17	18	19	20
Balance Useful life of the asset	18	17	16	15	14
Remaining Depreciable Value	18672.89	17989.64	17080.38	16012.86	14945.33
Depreciation during the year	1037.38	1058.21	1067.52	1067.52	1067.52

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

47. Clause 3(a) of Regulation 29 of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The total allowable O&M Expenses for the instant assets have been worked out and allowed are as follows:-



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
<b>400 kV Bays:</b>					
No. of Bays	14	14	14	14	14
Norms (₹ lakh/Bay)	60.30	62.30	64.37	66.51	68.71
<b>Line: D/C (Twin/Triple Conductor):</b>					
Line Length (km)	1024	1024	1024	1024	1024
Norms (₹ lakh/km)	0.707	0.731	0.755	0.780	0.806
<b>Total O&amp;M Expenses (₹ lakh)</b>	1568.17	1620.74	1674.30	1729.86	1787.28

48. 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 from a future date has also not been factored in fixation of the normative O&M rate specified for the 2014-19 tariff period. The petitioner has also prayed that it will approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase. We would like to clarify that any application filed by the petitioner for revision of O&M Expenses on account of wage revision will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations. The O&M Expenses are allowed for the instant transmission asset as per prevailing norms.

### **Interest on Working Capital (“IWC”)**

49. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies 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;”



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

51. 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 components of the working capital and interest thereon have been worked as follows:-

(₹ in lakh)

<b>Interest on Working Capital</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
O & M expenses	130.68	135.06	139.53	144.16	148.94
Maintenance Spares	235.23	243.11	251.15	259.48	268.09
Receivables	916.17	921.28	919.67	913.35	907.36
Total	1282.08	1299.45	1310.34	1316.99	1324.39
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	173.08	175.43	176.90	177.79	178.79

### **ANNUAL FIXED CHARGES FOR THE 2014-19 TARIFF PERIOD**

52. The transmission charges allowed for the instant transmission assets for the 2014-19 tariff period are summarised below:-

(₹ in lakh)

<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
<b>Depreciation</b>					
Opening Gross Block	81064.76	81520.73	81851.73	81851.73	81851.73
Additional Capitalisation	455.97	331.00	0.00	0.00	0.00
Closing Gross Block	81520.73	81851.73	81851.73	81851.73	81851.73
Average Gross Block	81292.75	81686.23	81851.73	81851.73	81851.73
Rate of Depreciation (%)	1.28	1.30	1.30	1.30	1.30
Depreciable Value	73191.51	73722.79	73815.51	73666.56	73666.56
Balance useful life of the asset	18	17	16	15	14
Elapsed life	16	17	18	19	20
Remaining Depreciable Value	18672.89	17989.64	17080.38	16012.86	14945.33
Depreciation during the year	1037.38	1058.21	1067.52	1067.52	1067.52



<b>Particulars</b>	<b>2014-15</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
Cumulative depreciation (incl. of AAD)	55527.96	56586.18	57653.70	58721.22	59788.75
<b>Interest on Loan</b>					
Gross Normative Loan	75662.34	75981.52	76213.22	76213.22	76213.22
Cumulative Repayments upto Previous Year	56688.34	57725.72	58783.94	59851.46	60918.98
Net Loan-Opening	18974.00	18255.80	17429.28	16361.76	15294.24
Additions	319.18	231.70	0.00	0.00	0.00
Repayment during the year	1037.38	1058.21	1067.52	1067.52	1067.52
Net Loan-Closing	18255.80	17429.28	16361.76	15294.24	14226.71
Average Loan	18614.90	17842.54	16895.52	15828.00	14760.47
Weighted Average Rate of Interest on Loan (%)	8.8400	8.8400	8.8400	8.8400	8.8400
Interest on Loan	1645.56	1577.28	1493.56	1399.19	1304.83
<b>Return on Equity</b>					
Opening Equity	5402.42	5539.21	5638.51	5638.51	5638.51
Additions	136.79	99.30	0.00	0.00	0.00
Closing Equity	5539.21	5638.51	5638.51	5638.51	5638.51
Average Equity	5470.81	5588.86	5638.51	5638.51	5638.51
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (%)	20.961	20.961	20.961	20.961	20.961
Rate of Return on Equity (%)	19.610	19.610	19.610	19.610	19.610
Return on Equity	1072.85	1096.00	1105.74	1105.74	1105.74
<b>Interest on Working Capital</b>					
O & M Expenses	130.68	135.06	139.53	144.16	148.94
Maintenance Spares	235.23	243.11	251.15	259.48	268.09
Receivables	916.17	921.28	919.67	913.35	907.36
Total Working Capital	1282.08	1299.45	1310.34	1316.99	1324.39
Rate of Interest (%)	13.50	13.50	13.50	13.50	13.50
Interest of working capital	173.08	175.43	176.90	177.79	178.79
<b>Annual Transmission Charges</b>					
Depreciation	1037.38	1058.21	1067.52	1067.52	1067.52
Interest on Loan	1645.56	1577.28	1493.56	1399.19	1304.83
Return on Equity	1072.85	1096.00	1105.74	1105.74	1105.74
Interest on Working Capital	173.08	175.43	176.90	177.79	178.79
O & M Expenses	1568.17	1620.74	1674.30	1729.86	1787.28
<b>Total</b>	<b>5497.04</b>	<b>5527.67</b>	<b>5518.02</b>	<b>5480.11</b>	<b>5444.16</b>



### **Deferred Tax Liability**

53. 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. 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 gets materialized directly from the beneficiaries or long term transmission customers /DICs.

### **Filing Fee and the Publication Expenses**

54. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. 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 Regulation 52 (1) of the 2014 Tariff Regulations.

### **Licence Fee & RLDC Fees and Charges**

55. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 52 (2) (b) of the 2014 Tariff Regulations for 2014-19 tariff period. The petitioner shall also be entitled for recovery of RLDC fee & charges in accordance with Regulations 52 (2) (a) of the 2014 Tariff Regulations for 2014-19 tariff period.

### **Service Tax**

56. The petitioner has prayed for reimbursement of service tax if it is subjected to such tax in future. We are of the view that the petitioner's prayer is premature.



## **Sharing of Transmission Charges**

57. 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.

58. This order disposes of Petition No.397/TT/2014.

sd/-

**(Dr. M.K. Iyer)**  
**Member**

sd/-

**(A.S. Bakshi)**  
**Member**





## Annexure – 1

**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2009-14**

(₹ in lakh)

Particulars	Interest Rate (%)					Loan deployed as on 1.4.2009	Additions during the tariff period	Total
	2009-10	2010-11	2011-12	2012-13	2013-14			
BOND VI-DOCO-	13.13	13.13	13.13	13.13	13.13	777.00	0.00	777.00
BOND - XI - Option - II-DOCO-	9.20	9.20	9.20	9.20	9.20	1554.00	0.00	1554.00
BOND IV (1st TRANCH)-DOCO-	17.84	17.84	17.84	17.84	17.84	4132.00	0.00	4132.00
BOND-III series-I-DOCO-	9.75	9.75	9.75	9.75	9.75	1193.97	0.00	1193.97
BOND-III SERIES -(2nd) (9.75%)-DOCO-	13.50	13.50	13.50	13.50	13.50	191.03	0.00	191.03
IBRD I-DOCO-44.31	8.4056	8.7450	8.9548	8.9738	8.6800	56978.67	0.00	56978.67
BOND-II -DOCO-	10.50	10.50	10.50	10.50	10.50	3869.00	0.00	3869.00
LIC NEEPCO-DOCO-	14.00	14.00	14.00	14.00	14.00	272.00	0.00	272.00
BOND-III SERIES (2nd)(16.30%)-Loan-	7.51	7.51	7.51	7.51	7.51	3869.00	0.00	3869.00
BOND-XXXIV-ADDCAP FOR 2010-2011 Loan1-	8.84	8.84	8.84	8.84	8.84	0.00	83.00	83.00
<b>Total</b>						<b>72836.67</b>	<b>83.00</b>	<b>72919.67</b>

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

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Opening Loan	72836.67	72836.67	72919.67	72919.67	72919.67
Cumulative Repayments of Loans upto Previous Year	49100.74	53755.62	58756.79	64129.90	69826.75



<b>Particulars</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
<b>Net Loans Opening</b>	23735.93	19081.05	14162.88	8789.77	3092.92
Add: Draw(s) during the Year	0.00	83.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	4654.88	5001.17	5373.11	5696.85	3010.16
<b>Net Closing Loan</b>	19081.05	14162.88	8789.77	3092.92	83.00
Average Net Loan	21408.49	16621.97	11476.33	5941.35	1587.96
Rate of Interest on Loan (%)	8.4485	8.7760	8.9681	8.9719	8.6884
<b>Interest on Loan</b>	1808.69	1458.74	1029.21	533.05	137.97



**DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO FOR 2014-19**

(₹ in lakh)

Particulars	Interest Rate (%)	Loan deployed as on 1.4.2014	Additions during the tariff period	Total
BOND VI-DOCO-	13.13	777.00	0.00	777.00
BOND - XI - Option - II-DOCO-	9.20	1554.00	0.00	1554.00
BOND IV (1st TRANCH)-DOCO-	17.84	4132.00	0.00	4132.00
BOND-III series-I-DOCO-	9.75	1193.97	0.00	1193.97
BOND-III SERIES -(2nd) (9.75%)-DOCO-	13.50	191.03	0.00	191.03
IBRD I-DOCO-44.31	8.41	56978.67	0.00	56978.67
BOND-II -DOCO-	10.50	3869.00	0.00	3869.00
LIC NEEPCO-DOCO-	14.00	272.00	0.00	272.00
BOND-III SERIES (2nd)(16.30%)-Loan-	7.51	3869.00	0.00	3869.00
BOND-XXXIV-ADDCAP FOR 2010-2011 Loan1-	8.84	83.00	0.00	83.00
<b>Total</b>		<b>72919.67</b>	<b>0.00</b>	<b>72919.67</b>

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

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	72919.67	72919.67	72919.67	72919.67	72919.67
Cumulative Repayments of Loans upto Previous Year	72836.91	72843.83	72850.75	72857.67	72864.59
<b>Net Loans Opening</b>	83.00	76.08	69.16	62.24	55.32
Add: Draw(s) during the Year	0.00	0.00	0.00	0.00	0.00
Less: Repayments of Loan during the year	6.92	6.92	6.92	6.92	6.92
<b>Net Closing Loan</b>	76.08	69.16	62.24	55.32	48.40
Average Net Loan	79.54	72.62	65.70	58.78	51.86
Rate of Interest on Loan (%)	8.8400	8.8400	8.8400	8.8400	8.8400
<b>Interest on Loan</b>	7.03	6.42	5.81	5.20	4.58

